1984 A.B.A. Presidential Address: Burn Unit Success—A Problem of Management

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During the past 15 years the American Burn Association has promoted the development of the burn team concept to ensure optimum acute and chronic treatment of burn injury, as well as appropriate and efficacious social and physical rehabilitation. In fact, a successful clinical outcome is often dependent on the integrated interplay of a multidisciplinary group of professional, paramedical, and lay personnel. Too often, groups are assembled without adequate attention to the problems of management, which inevitably arise when such heterogenous personnel must work together. No team, whether professional, business, or athletic, will be a winner, regardless of the number of star players in the group, without competent and energetic management.

A burn unit, not unlike other organizations, requires management at many levels. Today, I would like to share with you my observations regarding a number of potential management problems including an assessment of the desirable and undesirable characteristics of managerial personnel, their current responsibilities, the future problems to be faced, and potential management failures which must be identified and solved.

Most of my remarks will represent personal opinion developed during my association with five burn centers as an associate and as director. In these roles, I have had ample opportunity to learn from numerous errors in managerial judgment, and to profit from occasional successful decisions. However, for the most part, I have gained a tremendous amount of insight from my coworkers and associates, many of whom are members of this great organization.

Therefore, I would like to express my appreciation to those members of the Board of Trustees with whom I have had the privilege of working during the past 6 years. They have labored unselfishly to maintain the highest standards for the A.B.A. with regard to policy, programming, prevention, and political action. Through them, I have become acquainted with most of the universal problems of burn units in this country, and with their counsel, we have been able to take many positive steps on a national level, this year, to begin to assist burn units in meeting potential future crises. As your President, I am indebted to them for their interest, devotion, and direction.

Also, it is my desire to humbly recognize my teachers, that is, members of this organization with whom I have been professionally associated during the past two decades. Rarely has one individual been so fortunate as to be able to work on a day-to-day basis with so many qualified members of the A.B.A., and each has contributed to my understanding of the functional aspects of the burn team. Therefore, I take this opportunity to express my appreciation to current members of the organization with whom I have had the privilege of working. At the same time, I would also salute another almost one hundred associates, who do not currently hold ABA membership.

May I conclude this short introduction by expressing to you my deep appreciation for the honor of serving as your President. It has been a most rewarding year. I believe I can state that your organization remains extraordinarily viable, and will remain the primary source of leadership in all aspects of burn trauma for many years in the future.

THE IMPORTANCE OF MANAGEMENT

There have been a number of major advancements in the delivery of burn care during the past two decades which have resulted in improved survival and decreased morbidity in patients with serious thermal injury. Many of the former presidents and honoraries of this association have been in the forefront of scientific investigation which has led to the development of improved diagnostic and therapeutic techniques. Included among these advances are better definition of fluid requirements to resuscitate burn victims from hypovolemic shock; the
development of advanced monitoring systems to more precisely quantitate fluid and respiratory management; the synthesis and manufacture of both topical and systemic antimicrobial agents which have the capability of modifying septic complications; the development of new operating techniques, including the utilization of tangential excision and the widespread application of mesh grafting technique to insure prompt removal of necrotic tissue and closure of the burn wound; the refinement of techniques to utilize both physiologic and synthetic skin substitutes to gain temporary or semipermanent closure of burn wounds when donor sites are inaccessible; a much more comprehensive understanding of hypermetabolism following injury, which has allowed better estimation of nutritional requirements during the convalescence of burn patients; and, finally, the development of comprehensive burn teams within facilities with dedicated beds, with potential benefits to the patient from the combined expertise of multidisciplinary individuals within a facility to which a critical mass of injured patients are referred. It is this latter concept, i.e., the success of burn team personnel in completing their mission, that I wish to address my remarks today. It is my contention that burn unit success is more than 90% dependent on the integrated cooperation of available personnel, if maximal benefits in clinical care, education, research, and preventative programs are to be obtained.

Multidisciplinary teams, by definition, consist of a heterogeneous group of individuals with varied educational backgrounds and different career objectives. Such groups cannot and will not function with even minimal efficiency unless a critical number of such personnel assume management responsibilities. Webster’s New Collegiate Dictionary defines management as the act or art, and I emphasize art, of supervising a functioning unit so as to most judiciously accomplish a stated end. A burn manager, then, is one who directs a burn team utilizing managerial skills, as well as scientific expertise.

Clinical scientists and health care professionals encounter great difficulty today in achieving success with regard to long-term goals in patient management and scientific investigation unless this heterogenous group, called the burn team, can be happily molded into a unified group of individuals. This situation has been a natural consequence of the increased complexity of both medicine and science requiring the full-time efforts of a number of individuals with unique expertise and varied interests. It is only through the communication and cooperative efforts of such a group that ‘state of the art’ clinical practice can be maintained and the cutting edge of scientific discovery and basic investigational disciplines can be efficiently and appropriately introduced in the clinical setting for use in the care of injured patients.

By way of comparison, I would like to momentarily divert your attention from burn care to professional football. I believe that there are few who would dispute that the most successful professional team in this country during the past one and a half decades has been the Dallas Cowboy organization. They have been involved in championship play almost every year, following their birth as an expansion team two decades ago, with the exception of a half dozen years in which management carefully nurtured the early development of the entire organization. Perhaps there are some lessons to be learned from examining the structure of this organization. First, it is important to note that the ownership of this team has supplied needed capital and resources to allow the managers to maximally effect an integrated football power; while at the same time, ownership interfered very rarely with operative policy within the organization. Top and middle management possess great expertise in evaluating the potential of unpublicized college players, usually from small colleges, who were recruited as low draft choices and as free agents. In other words, management was successful in recognizing talent which could be developed given adequate opportunity and resources. Only two or three trades for established players have been made by the Cowboys organization during the past two decades. They have prided themselves in recognizing and developing raw talent within their organization so as to both maximize a rate of potential development while maintaining a strong spirit of team interdependence which is so necessary for success in team play. No established stars have been sought or obtained by trade with other teams, but rather the few absolutely outstanding players of this organization were educated, supported, and nurtured through the system. It is important to note that the Cowboys rarely have a disproportionate number of all-pro players from year to year, despite their outstanding winning record. The strength of the organization, at all levels of management, resides in the success that has been obtained in maintaining communication, cooperation, and common objectives among the team as a whole. This has resulted in team performance that would be greater than that expected by adding up the potential contributions of each individual.

In many ways, the functioning of a burn team within a dedicated facility must adopt similar procedures. Like a successful athletic team, there should be benevolent ownership which endeavors to provide the financial and physical resources required for clinical and investigational pursuit. Management must be dedicated to establishing policy within which all personnel can function, and which will provide maximum benefit to patients receiving care. They must also dedicate themselves to establishing lines of communication and cooperation which will allow a final effort which is greater than the sum of the individuals within the burn unit. Furthermore, they must be dedicated to the development of their own stars in the future, rather than depending upon recruiting such individuals from other places. Certainly, some burn team members might be recruited without significantly upsetting the true function of the burn team, but such individuals must be recruited with full
understanding that they will have to fit into the established patterns of function which insure success in the environment of the burn unit. It should be emphasized that managers of the burn team must be quick to recognize those who cannot or will not amalgamate into the multidisciplinary function of such a team, and must encourage a change in career development among such personnel regardless of individual capability, in order to preserve the concept of team medicine.

It is my intention, as a long-time observer and participant, to outline those deficiencies in managerial expression which are frequently noted in operative burn centers. Such weaknesses frequently contribute to the lack of productivity, despite the presence of personnel with great expertise, integrity, and enthusiasm. Managerial weakness often results from inherent personality disorders of managerial personnel, failure of managers to recognize and prioritize objectives and aims of the burn team over and above those of his or others’ personal ambitions, and inability of managers to select optimum administrative procedures to achieve identified burn team goals.

MANAGERIAL PERSONNEL

Before examining any deficiencies manifest by burn unit managers, it is necessary to identify the managers of a burn unit. Managerial and administrative expertise is demanded at every level of the burn unit team. Usually, there is an overall director who is responsible for developing long-range policy and insuring that submanagers are not working at cross purposes. In addition, there are frequently one or more administrative managers involved with physician services, nursing services, paramedical services, psychological support activities, financial management, and public relations. Many larger burn centers will also have administrative positions for inservice and outreach educational programs, as well as for resident and medical or nursing student teaching programs. These managers together must assure appropriate resources to allow completion of both individual and group objectives among the burn team.

There are obviously many different styles which are effective in providing vigorous leadership for a burn unit team. Whereas some styles may work in one environment, other managerial characteristics may be more effective in another. However, rarely can a manager be effective when he or she exhibits an extreme personality trait in an attempt to gain a predictable response from the unit personnel. I will next describe some personality extremes observed among burn unit managers which have proven to be relatively ineffective. I will attempt to describe these personality traits in terms of physician managers, nursing managers, and other medical professionals who must participate in administrative decision-making.

The first undesirable physician manager I shall label the Geheimrat of burns. He is generally very self-confident in areas with which he is thoroughly familiar, but rapidly loses his confidence when exposed to unfamiliar crises. In these situations, he will attempt to rule by pronouncement, demanding prompt response to unreasonable dictums. He frequently will become accusatory under such circumstances without an adequate base of knowledge with which to recognize individual error. Sometimes he might respond in a derogatory or nonassertive manner at a time or place which would be considered undesirable under calmer circumstances. Doctor Gehemrat is threatened whenever submanagers suggest alterations in policy or procedure which are either unfamiliar to him or have not been initiated by him.

Next, I would like to introduce Doctor Wealthy. He is the practitioner whose primary concern is personal remuneration, often from a practice consisting largely of other than burned patients. He has agreed to become a physician-manager of the burn unit because of its prestige within the community or because people of his specialty are expected to be associated with burns. His major problem resides in the fact that he has little personal interest in burn injury and may or may not have sufficient experience either as a group manager or as a burn clinician. However, he convinces himself that he is performing a charitable function in that probably no one else would manage the burn unit if he had not volunteered, or he has been convinced by an eager administrator to accept such a position. This physician often solicits cooperation by offering monetary rewards in the form of clinical trips or by arranging with the hospital administrator to provide improved salaries or work conditions for burn unit personnel as compared to other nursing units. Although the latter is not necessarily an inappropriate aim, in view of the demanding work of the burn nurse in a critical care unit, it is an ineffective way to maintain loyalty and cohesiveness among the burn unit staff. Doctor Wealthy would do far better to focus his energies toward identifying another M.D., nurse, or other medical professional to assume management leadership within the burn unit.

The third type of M.D. manager, I will label Doctor Lover. He might also be labeled Doctor Nice Guy since all his efforts are devoted to feeding his underlying desire to be admired by the burn unit personnel. He frequently runs into difficulty when decisions must be made which cannot be popular with all members of the burn unit team. Rather than encouraging communication and conciliation among the burn unit members, he approaches these problems by appeasing each of the subunits in hopes that underlying conflict will disappear. Doctor Lover is rarely effective in successfully arguing for a fair share of resources from the hospital administrator.

Next, let us identify the physician-manager who exhibits a style that employs self-effacement. He attempts to manage by publicizing the fact that he has been victimized by imagined enemies. When faced with a
nursing crisis, he pleads that the nursing service cannot understand or appreciate the specific problems of nursing in the burn unit and offers this as an excuse for his own ineffective management. He rarely faces the problem with other administrators within the hospital in a constructive manner. He attempts to manage the unit by generating pity for himself among the burn unit staff as a result of his constant public outcries of persecution. The utilization of this type of defense mechanism to manage rarely results in effective leadership.

The next type of management style is characterized by a physician who cannot be described as anything but Doctor Lazy. He has accepted a management position because it offers him security with minimum personal effort. Frequently, he has succeeded a physician-director who has established a reasonably well-run burn unit. Doctor Lazy's only aim is to keep the unit running in a similar manner with the least emotional or physical effort. He finds adversity early after assuming his position, since management chores are ongoing and require constant reevaluation with reformation of future goals and aims as community, hospital, regional, and national demands on the burn unit become defined. Doctor Lazy often delegates his responsibilities to submanagers without giving them appropriate support to be effective with their new-found responsibility.

Another type of physician-manager is particularly devastating to a burn unit. He is the physician whose major aim is to improve his own standing in the medical burn community as a result of the functions of his burn unit team. This is a physician whose major role is self-aggrandizement. He will frequently pirate the results obtained by other members of the burn team and disseminate these without appropriate credit given to his junior associates. A burn manager must develop, as a primary aim, the ability to focus a large amount of his energy into the development of others within the burn center. Such efforts demand sacrifice with regard to self-achievement but, in the long run, will result in greater progress of the functioning burn unit.

Another ineffective physician-manager suffers from tunnel vision. He focuses his attention on only one aspect of the organization at a time and, consequently, his decisions are often short sighted and only result in temporary resolution. He often chooses a management course which is simultaneously beneficial to one aspect of burn unit function and detrimental to others. Thus, his direction of the burn unit results in random short-term policy and few, if any, long-term objectives. The personnel under his leadership exist in a state of confusion with regard to the long- and short-term goals expected of them.

Perhaps no physician-manager is more ineffective than the doctor who proves to be clinically inept. A part of management is directly related to the ability of the physician leaders to maintain the respect of burn unit personnel. Such respect requires that the physician demonstrate, at periodic intervals, an ability to function appropriately in the 'trench' along with younger unit individuals during their early development. No physician can hope to gain the cooperation of the unit personnel with regard to administration, if unit personnel perceive that he cannot function clinically within the same environment and under identical circumstances. Furthermore, a major function of burn unit managers is the provision of educational programs to various groups of clinical personnel at a number of educational levels. An effective educator, in clinical sciences, must be able to exhibit adequate clinical performance, if his pupils are to have confidence in his teaching ability. One should not confuse clinical adeptness with scientific knowledge. Although an excellent scientific data base is required by the physician to adequately perform, the successful physician will also acquire the ability to integrate this data base with the patient's clinical presentation during the process of problem solving, in order to achieve correct diagnostic and therapeutic decisions. There is no question that a large part of burn unit morale is dependent on reasonably successful clinical results. On the contrary, burn units with high mortality rates exhibit difficulty in maintaining a reasonable esprit de corps and, as a result, burn unit personnel are usually not retained long enough for maximum personal development.

Another type of physician-manager could be labeled Doctor Male Chauvinist Pig. He is unable to recognize the major contributions to burn unit function by physicians, nurses, and paramedical personnel of the female gender. He exhibits favoritism to his male counterparts and becomes threatened by managerial contributions of the female members of his burn unit staff. This physician-manager is doomed since he has already eliminated more than one half of his personnel from potential managerial input.

What are the characteristics of the successful physician-manager? In truth, he must have many of the personality traits exhibited by the less successful directors with management styles outlined above, but these characteristics must be carefully balanced so that none are exhibited in their extreme. The excellent physician-manager will be firm and confident with sufficient income that will allow him to direct all of his professional energies toward the development of the burn center. He will have a sense of humor which allows him to laugh at his own mistakes. He will take time to recognize the contributions of each member of the staff whenever possible. He will effectively protect the burn center from encroachment by other hospital divisions, while at the same time constructively participate in hospital administrative decision making with the recognition that he may have to compromise on some issues in order to satisfy the best interests of the hospital center. This person will also recognize that many of his own individual interests will be less rapidly satisfied, in order that he can support the individual growth of those that he manages. The suc-
cessful manager will be able to display compassion for personnel with individual emotional or professional problems while at the same time firmly direct the activities of the entire burn staff, in order that the function of the burn unit remains in harmony. He must constantly direct his attention to the performance of the burn center as a whole, in order that long-term goals are not lost in the confusion of day-to-day activities.

A major part of burn unit management is provided by nursing personnel. In addition to clinical leadership, nursing personnel are often responsible for managerial decisions related to in-service, patient, family and lay education. They are frequently involved in outreach community programs, as well as prevention efforts in the school and the community. Nursing managers are often in closer contact with burn unit personnel than physician-managers and, as a result, their managerial styles are frequently publicly displayed in the burn unit setting. As a result, it is even more important that they avoid the extremes in managerial style that we will now examine.

The first type of nurse-manager may be labeled Ms. Queen. She characteristically places herself on a pedestal, where she remains above the concerns of her staff. She is unconcerned with inadequate policies that interfere with daily routine and is unwilling to become involved with interpersonal problems that develop among younger members of the unit. She manages by decree without benefit of input from less experienced personnel, who may be closer to the scene of clinical action, and thus more knowledgeable with regard to potential alternative solutions to problems. This person attempts to maintain respect by putting distance between herself and the personnel for whom she is responsible.

A similar managerial style is utilized by the nurse who lacks confidence in her ability to lead. Such an individual frequently attempts to manage by publicly displaying her problems in hopes that she will elicit pity and cooperation from her personnel. She directs attention away from her lack of managerial skill. Such an individual will frequently complain of the lack of cooperation from the physician and paramedical staff, the inconsiderate manner in which she is dealt with by the nursing administration, and the multitude of responsibilities which have been assigned to her. She lacks the ability to provide constructive input into administrative planning since she is overwhelmed by the managerial requirements for day-to-day crises.

Let us identify the nurse-manager who is the counterpart of Doctor Male Chauvinist Pig. This individual exhibits an inability to work effectively with males in an organizational sense. She interprets group administrative decisions as being prejudicial to female members of the staff and possesses an inability to separate policymaking related to long-term burn unit objectives from that related to guarantee of equal opportunity for female personnel. These considerations are important and often related, but must be kept in a proper perspective.

Nurse-managers also may suffer from tunnel vision. They fail to recognize that their managerial responsibility for the entire burn team must be foremost in decision-making, and that the protection or enhancement of opportunity for an individual group within the burn unit must be only of secondary importance. No individual group of burn unit personnel will profit from a managerial decision which does not simultaneously profit the entire unit team.

Lack of clinical adeptness may also be observed among nurse management personnel. Often, in this day of bureaucracy, nurse-managers are appointed on the basis of educational prerequisites with disregard to clinical experience. Like the successful physician-manager, the nurse-manager must be able to participate in clinical activities and to provide troubleshooting for less experienced members of her staff during critical problem-solving in the clinical setting. Nursing graduates from baccalaureate nursing schools today may never have been exposed to burn nursing before graduation. Nevertheless, to some such graduates, a career in burn nursing appears attractive because it involves critical care, a close relationship with physicians, and an opportunity to experience real need by dependent patients. Unfortunately, too often, such individuals assume managerial roles within the burn unit without appropriate experience. Although they may be extraordinarily competent in performing minor functions required by hospital nursing administration, they fail in their leadership responsibility because of clinical ineptness. Like inept physicians, they cannot command respect from the people they must lead.

Another type of nurse manager may be labeled Ms. Nurse-Doctor. You will recognize her because of her insatiable desire to be a part of the physician team instead of pursuing her role as an invaluable part of the burn team. She is often a frustrated physician who would be better served by returning to medical school and fulfilling her underlying ambitions. Such an individual does not argue strongly for nursing resources in burn unit administrative meetings for fear of losing the respect of her physician counterparts. On the other hand, she frequently advocates the assumption of more and more traditional physician responsibilities by nursing personnel, whether or not available personnel can capably assume such responsibility from an educational or emotional standpoint. In the past several decades, we have had the privilege of observing the increased medical capabilities of graduate nurses with respect to monitoring, diagnosing, and initiating emergency therapeutic intervention. These increased clinical responsibilities assumed by the nursing staff have succeeded, in large part, because of improved on-the-job training in critical care units and the dedication of national nursing and hospital organizations to the provision of continuing medical education programs. It is not unreasonable to expect
internships and residencies will arise in the future. Nevertheless, until such postgraduate programs are in place, critical decisions regarding medical care must remain in the hands of physicians, unless specific areas can be identified for nurse-management following the completion of intensive in-training course material.

Some nurse-managers become ineffective because of an arrest in career development. That is, they have climbed to the top of the ladder with respect to burn nursing management at their institution. They perceive themselves as having no place to go, thus their efforts are expended toward maintaining a happy family among other nursing staff who, as a result, have limited opportunity to increase their own areas of responsibility. This nurse-manager has difficulty in maintaining junior personnel with considerable experience. Such personnel become disillusioned and seek other job opportunities with upward career probability. The arrested nurse-manager frequently loses her sense of originality and exhibits decreasing ability to consider and accept alternative ideas. Rather than being challenged by increasing responsibility in more advanced general nursing administration, while still maintaining an interest in the burn unit, she adopts a philosophy that embodies unwillingness to change or take reasonable managerial risks.

The effective nurse-manager retains clinical confidence, while at the same time is able to give up some clinical responsibilities, in order to adequately care for her administrative responsibilities. She is able to participate in multidisciplinary administrative conferences with a sense of fairness and will ensure that all divisions of the burn unit may maximally profit from policy decisions. She regularly reviews the development of her staff and encourages upward development of careers among the most competent. She must maintain an intense interest in the development of her burn unit, as well as the advancement of burn medicine on a regional and national level. Because she has risen to a position of responsibility, she must recognize her capabilities should not necessarily remain limited to local burn unit function, but may expand to administrative responsibilities for the entire hospital or institution, where her influence on the development of the burn unit may become even more manifest.

During the past several decades, the burn team has accumulated more and more non-medical and non-nursing professionals, who provide expertise and services which have become indispensable to successful clinical outcome. Such members of the burn team must also assume managerial roles to ensure a balanced and harmonious clinical and investigative output. Let us, for a moment, look at some undesirable characteristics of these middle-managers.

First, there is the paraprofessional who refuses to participate in the administrative structure of the burn unit. This person is characterized by a singleness of purpose which allows only the delivery of services to the patient. Regardless of the undesirability of policies which are promulgated by the physician and nursing staff, such a person maintains an attitude of indifference and faithfully tries to respond even though exposed to conflicting long-term goals. Most unfortunate is the fact that the burn unit does not profit by the input into administrative decision making by such a competent and well-educated individual.

Another divisive style among paraprofessional individuals is characterized by the member of the burn team who refuses to appreciate the long-term goals of the burn unit. This individual is not a team player, but, instead, derives satisfaction from individual performance which may or may not be in synchrony with the burn unit. Although this member of the burn team may achieve ‘star status,’ rarely does the team itself compete well when compared to progress made at other similar facilities.

Some burn professionals are incapable of demanding the resources and support which are required to achieve the expertise necessary for adequate clinical performance. These individuals remain on a constant treadmill as they attempt to satisfy a variety of administrative units. For example, physical or occupational therapists within the hospital may have varying demands placed on them by a variety of hospital divisions. If these individuals do not administratively express their requirements with respect to personnel, equipment, and dedicated time, they will find themselves in a position of trying to satisfy increasing demands with little hope of providing expert service in any one area. Such a situation leads to frustration and, ultimately, to personal and professional dissatisfaction.

Another undesirable characteristic of the paraprofessional manager is characterized by the individual who thrives on martyrdom. This individual not only does not make known his requirements for time and resources, but actually thrives on the fact that he is overworked, underpaid, and under-recognized. He frequently lacks self-confidence and, as a defense mechanism, allows the misuse of his time, in order that he may excuse self-recognized inadequacies by a perceived overbearing workload.

The paramedical professional manager who is most desirable is characterized by adequate to superior professional expertise, an interest in the activities of the entire burn unit, and a desire to share his or her administrative and clinical knowledge with regional and national counterparts. Such an individual will personally participate in administrative policy making and will provide input so as to minimize incoordination with respect to the activities of the burn team.

MANAGERIAL RESPONSIBILITY

The responsibilities of burn unit managers have been briefly outlined above as a part of the description of
managerial styles. However, we might take this opportunity to summarize the myriad of managerial duties within the burn unit. Obviously, these managers have a major responsibility to ensure excellence in clinical care and to maintain a mortality and morbidity rate which is, at least, as low as comparable burn centers across the country. To accomplish this end, it is required that all subunits of the burn center participate actively in both short- and long-term planning. The morale of burn center personnel must be maintained so as to ensure that cooperation and collaboration between the subunits are constructive. Interpersonal competition should be minimized in order that the competitive drives of the unit can be directed toward improved performance by the team as a whole.

Educational programs also comprise an extraordinarily important activity. Without the opportunity for continuing medical education, burn team members will become outdated with regard to their cognitive knowledge of new diagnostic and therapeutic advances and, even worse, the burn team will exhibit a rigidity in clinical and scientific activity which will stifle creativity. Continuing medical education must occur on a regular basis within the confines of the burn unit, but should be intermixed with educational opportunities for key managers at regional and national meetings. Moreover, educational efforts should also be directed at medical and lay members outside the burn unit. Because the burn team expects continued support from the hospital administration, their activities must be relayed to administrative departments within the institution. These include, but are not limited to, administrative personnel in the departments of nursing, physical therapy, occupational therapy, social service, pediatrics, and financial affairs. In addition, educational efforts should be extended to the community to include major businesses, unions, service organizations, foundations, and various charitable groups. The importance of the latter cannot be stressed enough, since it is clear that continued funding of clinical burn units by the hospital is most perilous and future assistance from alternative sources will be required for most of the burn facilities in this country.

Managerial decisions are also required to achieve reasonable success with regard to outreach programs. It is obvious that programs emphasizing burn prevention are badly needed in this country. However, it is unreasonable to expect that local specialized burn facilities can provide either the expertise or the financial support to make a significant impact in the area of burn prevention. These programs are relatively expensive, in that they require sizable resources in the form of educational materials, as well as a significant amount of manpower. In addition, educational and public relations expertise are necessary to be effective in the area of burn prevention. Nevertheless, there are opportunities at the local level to engage in educational programs of burn prevention at low cost, usually via the invitation of concerned citizen groups.

There must be an arm of the burn unit which is prepared to accept such invitations to participate in this important activity on the local level. Also, burn units should be aware of the activities of national organizations which are now forming coalitions to more effectively inaugurate a national burn prevention campaign. Such organizations will be able to provide necessary resources to a community for burn prevention programs and will require the cooperation of local burn facilities to assist in the distribution and utilization of these educational tools.

Finally, managerial decisions will be required to decide on the priority of investigative efforts by the burn unit. Not all burn facilities will be able to conduct basic research in that they lack the appropriate facilities, personnel, or resources. However, every specialized burn facility should engage in clinical investigation, to include careful evaluation of clinical performance. Only by careful followup evaluation of patient outcome can any unit evaluate its effectiveness and constructively critique its performance. Without careful self-review of clinical expertise, it is unlikely that managers can make appropriate decisions to improve performance. In addition, managers of larger burn facilities must prioritize the expenditures of money to support clinical and basic research. Resources for research in burn medicine have never been particularly plentiful, and certainly have lagged far behind funding provided for research in heart disease, stroke, cancer, and various neurological diseases. Burn center managers must identify those members of the burn team with both the inclination and talent to successfully compete for research grants and, in addition, they must be aware of industrial, foundation, and charitable organizations that offer support for research, in order that they might wisely advise potential participants within the burn team.

The greatest responsibilities of burn team managers lie in the area of interfacing the burn unit with the hospital administration, as well as responsible members of the city or community from which their patients are derived. Furthermore, it is becoming more apparent that the survival of burn facilities may become dependent on decision making by government at both the state and national levels. Therefore, it is mandatory that burn unit managers exhibit a strong interest in alternatives of health delivery care, as well as new methodology for providing reimbursement to hospital and medical personnel. Failure to monitor the changing winds emanating from federal and state governments and to actively participate in this decision-making arena may well result in the financial failure of a significant number of burn facilities in this country during the next decade.

**FUTURE MANAGERIAL PROBLEM AREAS**

At the present time, there are 145 specialized burn facilities in this country which have arisen spontaneously and sporadically over the past three decades. These
specialized facilities range in size from two beds, with no intensive care facilities, to more than 40 beds with extensive critical care capabilities. Critical management decisions of any burn director are closely related to a determination of the level of specialized expertise that can be supported by the population of patients in his burn unit. There is no question that a critical mass of patients is required before a manager can afford the luxury of full-time specialized personnel. In addition, the burn unit manager also must deal with the annoying problem of unevenness in occupancy. The number of patients hospitalized may vary significantly from season to season in various areas of the country, at times overtaxing the facilities of the burn unit while, at other times, leaving much of the burn facility unoccupied. It is my opinion that these two problems, i.e., a lack of a critical mass of patients to afford specialty multidisciplinary expertise and inefficient utilization of bed capacity, must be addressed by burn unit managers during the next several years. As a result, one would expect that some small, relatively inefficient burn facilities will close in favor of utilization of regional centers. We will see in a moment that this will place additional financial pressures on referral burn units and will require solution at the legislative level. In addition, there will be greater demand for efficient transportation systems, in order that patients may be referred to such regional facilities in a timely manner. It is unclear where the financial support for such medical evacuation programs will be derived.

In 1983, the national government instituted measures which they believed would reduce the cost of medical care. As you are all aware, medical costs have continued to climb at a rate that was far above the rate of inflation and now accounts for a very significant part of the gross national product in this country. The Medicare Trust was in danger of bankruptcy and it is clear that mechanisms must be brought into play to reduce expenditures for health-related problems. In an effort to reduce Medicare costs, the DRG’s were introduced to control hospital reimbursement in October, 1983. Hospital reimbursement for diagnostic related groups in the form of a single payment for each patient admitted to the hospital is determined by the admission diagnosis. The hospital receives this amount of reimbursement regardless of the number of days of hospitalization required for treatment of that patient. It appears highly probable that the DRG system will be extended to include Medicaid and third-party insurers, as well as Medicare, in the not too distant future. Pressure is then placed on hospital administrators to increase the number of hospital admissions, while markedly reducing average length of stay.

To investigate the impact of DRG’s on hospital reimbursement, I have reviewed our own experience at the University of South Alabama Medical Center between 1 October 1983 and 31 December 1983 (Table 1). During that period of time, eight Medicare patients were admitted to the University of South Alabama Burn Center. One of these patients had extensive burns (DRG 457), three suffered nonextensive burns with skin grafts (DRG 458), two diagnosed as having nonextensive burns were debrided in the operating room (DRG 459), and two had nonextensive burns without operating-room procedures (DRG 460). Costs were calculated for the hospitalization of each of these patients and compared with DRG payments. Total costs, calculated by the hospital, were equivalent to hospital reimbursement under the old Medicare procedures for reimbursement. The patient with extensive burns had a total cost of $24,670 and the DRG reimbursement amounted to $18,407, resulting in a loss of $6,263 to the hospital. The patient’s total length of stay was 25 days compared to a DRG allowable length of stay of 12.6 days. This resulted in a length of stay variance of −12.4 days.

The three patients with nonextensive burns requiring skin grafts cost the hospital a total of $34,603. Total payments from DRG reimbursement were $22,989 leaving a deficit to the hospital of $11,614. The total length of stay for all three patients was 59 days. Since under DRG regulations, only 18.3 days per patient, or a total of 54.9 days of hospitalization, were allowed, there was a length of stay variance of −4.1 days. Two patients were diagnosed as having nonextensive burns, but requiring operating room debridement. Total costs for these patients was $14,033 compared to DRG payments of $14,788, resulting in a gain to the hospital of $755. The total length of stay of the two patients was 20 days compared to a DRG allowable length of stay of 25.4 days, resulting in a +5.4 day length of stay variance. Finally, two patients with nonextensive burns not requiring operating room debridement, had a total hospitalization cost of $22,575. The DRG payment was $7,630, resulting in a net loss to the hospital of $14,945. It should be emphasized that one of these patients had a 15-day length of stay and the other a 49-day length of stay, the latter due to the presence of simultaneous severe smoke inhalation. DRG allowable length of stay for both patients was 9 days and, thus, there was a −46 day length of stay variance. Ironically, in this regional burn center, the greatest losses were incurred for treatment of the less severely injured patients as measured by the body surface burn. This might be expected since it is unlikely that this center would be referred nonextensive burns, not requiring operating room treatment, unless there were a considerable number of complicating factors which would increase the length of hospitalization.

When one looks at this total Medicare population of eight patients, five of the eight patients resulted in a deficit payment under the DRG reimbursement plan, while three provided the hospital with slight gains. The cost of all eight patients, as calculated by previous allowable charges to Medicare, was $95,881. Total DRG payments to the hospital were $63,814, resulting in a loss of $32,067. The total length of stay of all eight patients was 168 days as compared to a DRG-allowable length of stay.
TABLE I  
DRG reimbursement

<table>
<thead>
<tr>
<th>Injury</th>
<th>Cost ($)</th>
<th>DRG Payment ($)</th>
<th>Hosp. Profit</th>
<th>LOS (days)</th>
<th>DRG-LOS (days)</th>
<th>Variance (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>457</td>
<td>24,670</td>
<td>18,407</td>
<td>(6,263)</td>
<td>25</td>
<td>12.6</td>
<td>−12.4</td>
</tr>
<tr>
<td>458</td>
<td>34,603</td>
<td>22,989</td>
<td>(11,614)</td>
<td>59</td>
<td>54.9</td>
<td>−4.1</td>
</tr>
<tr>
<td>459</td>
<td>14,083</td>
<td>14,788</td>
<td>755</td>
<td>20</td>
<td>25.4</td>
<td>+5.4</td>
</tr>
<tr>
<td>460</td>
<td>22,575</td>
<td>7,630</td>
<td>(14,945)</td>
<td>64</td>
<td>18</td>
<td>−46.0</td>
</tr>
<tr>
<td>Totals</td>
<td>95,881</td>
<td>63,814</td>
<td>(32,067)</td>
<td>168</td>
<td>110.9</td>
<td>−57.1</td>
</tr>
</tbody>
</table>

DRG = Diagnostic Related Groups.  
LOS = Length of stay (hospital).

of 110.9 days. Thus the hospital had a negative length of stay variance as compared to DRG allowable length of stay of 57.1 days. It is possible that a slight modification of these figures may be required to include subsequent payment for ‘outliers.’

Lest the University of South Alabama Medical Center be accused of inefficiency, let me hastily note that other institutions are reporting similar findings as they evaluate their experience with the DRG system. Doctor Alan Dimick has shared with me a similar analysis of two patients with extensive burns admitted to the University of Alabama Medical Center in Birmingham. Cost of care for these patients was $92,828. DRG payments to the hospital amounted to $51,000, resulting in a loss to the hospital of $41,828. Length of stay was 60 days compared to a DRG allowable length of stay of 25.2 days resulting in a negative length of stay variance of −34.8 days.

Mr. Peter Brigham has analyzed DRG-based reimbursement for four Pennsylvania burn centers located in Philadelphia. Estimates indicated that, under DRG-based reimbursement, hospitals with burn centers will recover less than 50% of their costs in treatment of Medicare burn patients. These projections would result in an annual loss of over one million dollars by the four Pennsylvania burn centers who have only a 15% Medicare case load. Extension of this system to state Medicaid programs and private-sector insurers, without special provisions for hospitals with burn centers, could result in disastrous consequences for the hospital. It is obvious that extension of this system is contemplated, at the present time, by a number of state legislatures beset with problems in financing Medicaid or welfare patients. Doctor Phil Parshley, Director of the burn unit in Portland, Oregon, has reported to me that the state of Oregon has already limited hospital payments for burned patients on welfare in that state to a single, unreasonably low payment, regardless of magnitude of injury or number of complications which might lead to an increased length of stay.

Paradoxically, the implementation of DRG’s will foster the transfer of patients with significant burn injury or higher risk factors to the burn center. One of the major goals of specialized burn facilities throughout the United States has been the timely transfer of such patients to these units, in as rapid a fashion as possible, so as to seize opportunity to initiate early expert care. The American Burn Association has encouraged physicians throughout the country to consider medical transfer of any patient with extensive burn, extreme of age, concurrent injury (e.g., smoke inhalation), severe pre-existing medical illness, and involvement of special body areas. These factors often substantially influence the length and intensity of the hospital stay. Unfortunately, the five groups developed for the major diagnostic burn category in the DRG system do not incorporate the severity factors which are most significant in terms of length of stay. The key problem is that the mix of patients referred to burn centers will be prejudicial to them with regard to receiving fair remuneration for hospitalization. It became apparent, in late 1983, that the American Burn Association should be active with respect to reimbursement for burn center care. I am indebted to Mr. Peter Brigham for focusing our attention to this major problem at a relatively early time after the institution of the DRG system. As a result of several meetings, a number of steps have been taken to interface the American Burn Association and other interested individuals with Medicare administrators. First, Mr. Brigham composed a written response to HCFA, regarding the development of the final Medicare regulations, stating that there would need to be necessary changes in DRG methodolgy affecting burn injury and that well documented input would be provided in the near future which would outline the problems posed by the current methodology. Second, under the auspices of the Burn Foundation, a grant application was prepared and submitted to the Glenmede Trust Company which proposed the assessment of the impact of DRG-based reimbursement of hospitals with burn centers, and to determine the feasibility of studying alternative case mix methodologies. I am happy to report that this application was successful and $85,000 has been awarded for a 6-month period beginning in March, 1984. Several members of the American Burn Association, who have previously been involved with activities of the Committee on Organization and Delivery of Burn Care were contacted to participate in the accumulation and analysis of data required to successfully argue for alteration in the DRG reimbursement to hospitals with specialized burn facilities. Finally, we have appealed to hospital administrators who have responsibility for burn centers.
to form a coalition or association to support a Washington presence for burn center hospitals in the prospective reimbursement battles that are anticipated during the next several years. Since the American Burn Association addresses primarily the clinical and scientific interests of its members and has neither a permanent office nor paid professional staff, it seems essential that support for investigative data collection and administrative education in Washington be provided by hospitals with a vital interest in maintaining the financial integrity of their burn treatment facilities. Burn facilities have never been, and probably will never be, a revenue-earning subunit of the hospital structure. However, it is in our self-interest to assist hospital administrators in decreasing the deficit associated with burn centers as much as possible, in order to ensure continued support for these facilities and, in this way, maintain high levels of clinical care.

It is obvious that burn unit managers will need to keep abreast of the developments in hospital reimbursement, if they are to communicate intelligently and to offer constructive alternatives to the beleagured hospital administrator. It should be emphasized that burn unit managers must also become familiar with the rapid rise in popularity of prepaid health delivery systems. It is estimated that, at the present time, 10% of the population in this country participates in an HMO or other form of prepaid medical insurance. As much as 20 to 40% of the population will participate in prepaid medical insurance plans by the year 1990. Since such plans involve fixed reimbursement for both hospitals and physicians, burn unit managers must be familiar with the financial intricacies of HMO's, if they wish to participate in the care of this segment of the patient population. Health maintenance organizations have succeeded in decreasing the cost of medical care by utilizing improved management systems to eliminate inefficiency in the delivery of health care. They have achieved this by decreasing the hospitalization of their members whenever feasible, and by increasing the intensity of diagnostic and therapeutic endeavors during relatively short hospital stays. Obviously, such systems require strong managerial input, if financial solvency is to be maintained.

**SUMMARY**

In summary, the burn unit succeeds or fails on the basis of managerial capability. Managers are responsible for accumulating resources, educating personnel, maintaining morale, and integrating the burn unit with the rest of the hospital. Moreover, it has become apparent that burn unit managers must become financial managers as well, if we are to: 1) maintain reasonable resources for the conduct of research; 2) participate in a variety of health delivery systems; 3) curtail health delivery costs; 4) maintain the current excellence of clinical care in an efficient manner; and 5) guarantee access of patients to the burn care delivery system at a cost that the country can afford.