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HOSPITAL EMERGENCY FACILITIES IN
A DISASTER: AN ANALYSIS OF ORGANIZATIONAL
ADAPTATION TO STRESS

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Voluntary general hospitals may be viewed as emergency organizations in that the emergency treatment of the sick and injured is a part of their normal operations. The typical emergency patient most often becomes an input into the organization through the emergency facility of the hospital (Stallings, 1970). While under ordinary conditions an emergency case can be handled rather routinely in the emergency facility of the hospital, during crisis or large-scale disaster situations, the ongoing capability of the organization is likely to be inadequate to meet the sudden increase in demands it must now confront. When this situation occurs, the organization can be thought of as experiencing stress.

At this point, it might be well to consider the issue as to whether or not the emergency facility of a hospital constitutes an organization or if it is best viewed structurally as a subunit of the larger organization, the general hospital. While this question is certainly not a moot one, from an analytical standpoint it might be somewhat irrelevant. That is, a particular organizational model might very well be as meaningfully applied to a selected portion or subsegment of a complex organization. However, in reality, the extent to which the emergency facility of a general hospital is a relatively autonomous organizational entity is an empirical question. That is, the role of the emergency service in a general hospital varies from that of an emergency room which represents a rather minimum care emergency facility to an emergency department which tends to represent a high level of organized hospital emergency care; and these differences are evidenced in different staffing patterns, facilities, programs, and philosophies of medical care (Taubenhaus, 1971).

Types of Emergency Facilities

A threefold distinction has been made between existent emergency facilities; and these basic differences are often (though not always) implied by the name of the facility, that is whether it is an emergency room, emergency floor, or emergency service or department (Taubenhaus, 1971). As stated earlier, the emergency room represents the minimum-care facility usually consisting of a few rooms, often staffed by a single nurse with clerical support, and backed by the hospital attending staff who rotate on call often without regard to the fact that certain specialists, such as psychiatrists or dermatologists, might be relatively incompetent in handling serious medical or surgical emergencies. It has been suggested (Taubenhaus, 1971) that, in terms of ongoing capabilities, this facility would more appropriately be thought of as a "first aid station," rather than a suitable facility for an actual medical or surgical emergency.

The emergency floor tends to be a larger well equipped facility. Staffing usually consists of a permanent nursing and supporting staff. If staffed by attending physicians present on the premises, they tend to rotate on this assignment. However, in a teaching hospital, staffing usually consists of interns and residents who are relatively unsupervised. It has been suggested that this type of service provides a more adequate facility for treatment of medical and surgical emergencies, but that this type of service still does not evidence a high priority to emergency care, for frequently patients are accused of misuse of the facility for non-urgent conditions (Taubenhaus, 1971).

The emergency service or department represents the more highly organized level of hospital care. Not only is the facility usually fairly well-equipped and somewhat adequately "housed," but staffing typically includes full-time clerical, nursing, and ancillary or supportive staff, such as X-ray, lab technicians, and sometimes social workers. Medical staff usually consists of senior residents, well-supervised junior house staff, or full-time attending staff. It has been suggested, therefore, that this type of facility is not only usually more capable of providing the highest quality of medical and surgical emergency care, but that it reflects a higher priority to providing care to even those patients who present themselves

with non-urgent problems (Taubenhaus, 1971). Since there has been a dramatic increase in the utilization of emergency facilities of hospitals as a major point of entry into the medical care system, the highly organized hospital emergency department tends to most nearly function as a modern general practitioner, particularly to the urban population (Gibson, 1971; Taubenhaus, 1971, AHA 1962).

The number of emergency department visits were reported to have increased by 312 percent over the 15 year period from 1954-1969. In 1954 emergency department visits represented less than one-fifth of all outpatient visits; whereas in 1969, they represented over one-third. In 1954, there were 0.5 emergency visits per admission, while by 1969 this had increased to 1.4; and the hospital emergency department now accounts for about 3 percent nationwide of all physician visits by patients (Gibson, 1971). The growing number of patients treated for non-emergency medical problems is, likewise, documented (Webb, 1969; Roth, 1967; Kirkpatrick and Taubenhaus, 1967).

Therefore, in order to utilize a capability-demand model to analyze the emergency facility of a general hospital and its response to organizational stress that might occur as a result of a large-scale disaster, the distinction between organizational capabilities is essential. If, as it seems evident, the effectiveness of an organization's response to crises demands depends upon its resources under ordinary conditions, it would be necessary to be aware of these structural and functional differences that exist initially.

The trend seems to be that of developing a full-scale emergency department or service to meet some of the current demands for recognition of the importance of care for the non-urgent, non-accident patient, as well as for other reasons, such as patient financial considerations, the lack of a private physician, and a need for the emergency facility as a referral service, etc. (Kirkpatrick and Taubenhaus, 1967; AHA, 1962, Gibson, 1971). The field work carried out under this study, however, has revealed that even in relatively large metropolitan areas and large hospitals, emergency facilities are not consistently organized as autonomous departments.

It is recognized that the treatment of even an emergency department as has been described above as a separate unit might potentially ignore the fact that major subunits of the department such as administration, various medical staff (surgery, medicine, etc.) nursing service, X-ray, lab technicians, clerks, maintenance, etc. are related in varying degrees of interdependence to their respective departments or areas in the larger hospital. Therefore, the relative autonomy of these subunits in the other two types of facilities mentioned above is usually even less, as the relative autonomy of the overall emergency facility decreases. It would seem, however, that to consider the emergency facility (perhaps excluding the first-type) as a system in its own right, as a natural unit which consists of heterogeneous task roles, is justifiable (Stallings, 1970). Moreover, the variation among emergency facilities manifested in empirical reality (i.e., the above mentioned three-fold distinction) does seem to be a crucial one, both in terms of the organizations ongoing capabilities and its subsequent response to crises situations. In fact, certain basic differences in the focal point of activities in a disaster situation, even as prescribed by disaster plans, seem to reflect this variation in organizational capability depending upon the type of emergency facility a hospital has.

Collection of Data

Field work for this study was carried out within a six month period in 1972 by the author and one other research associate at the Disaster Research Center. The focus of the field work was on determining both the pre-disaster structural variations among hospital emergency facilities, as well as obtaining information with regard to organizational adaptations of emergency facilities to a disaster. Two

sources of data were utilized. First, semi-structured interviews averaging about an hour and 45 minutes were conducted and tape-recorded with various levels of medical and administrative personnel both within the emergency facility and in the larger hospital. Cooperation was excellent among all those interviewed. The second major source of data consisted of supportive materials, such as organizational charts, disaster manuals, floor plans, and post-disaster critiques and evaluations.

The emergency facilities of four hospitals were examined in three cities, varying significantly both in population and area of the country. It will be noted, moreover, that public and private (church and non-church) hospitals of varying sizes were selected for this pilot study.

A Description of the Emergency Facilities

Specifically, of the four hospitals examined in the field study, two were found which could be considered to have emergency departments and two which had what was earlier described as an emergency floor. The two hospitals which had facilities equivalent to the emergency floor pattern were, first, City Hospital A (which includes five interconnected hospitals under the same governing board and administration) and Church Hospital B, both located in a large metropolitan area in the South. Although there seemed to be a movement in both hospitals in the direction of granting full department status to the respective emergency facilities, at present the staffing pattern, facilities, programs, and philosophies of medical care were consistent with the emergency floor type of facility.

At City Hospital A which is affiliated with the state university medical school, staffing consisted of rotating interns required to perform this function as a part of their education with rotating residents "on call". Nurses suggested that interns, however, tended to be relatively unsupervised by residents, and there has been no full-time director of the emergency facility for two years, since the last director (a physician) left. There is a full-time supervisor of nursing along with a nursing staff responsible to the director of nursing services in the hospital, as well as to the physician in charge of the emergency floor (when the position is filled). An emergency department committee which is chaired by a physician and composed of physicians from other departments (e.g., surgery, medicine, etc.), a representative from the respective administrative area of the hospital, and the supervisor of nursing in the emergency department meets regularly with the current staff of the emergency floor; however, its main function seems to be that of making recommendations to the respective hospital administrator. There is apparently no written procedural manual currently in use. Ancillary services, such as X-ray and laboratory have mini-stations located in the emergency area, but not on a 24-hour basis; they are, therefore, largely reliant upon the larger hospital's facilities. The bed-capacity of the hospital is between 700 and 800; the emergency facility handles about 200 patients per day in an extremely overcrowded, ill-equipped facility with a less than adequate entrance (located on a dead-end traffic congested street) and waiting area. Patients are largely urban indigent with about 80 percent being non-urgent walk-ins with an informal triage performed basically by nurses. The only volunteers which are used are pre-med students from the state university medical school.

Church Hospital B, one of the largest private hospitals in the country, has a bed capacity of approximately 2,000 and has an emergency facility structured similar to the one just described with a few exceptions. First, there is a physician who is in charge of the emergency floor and, subsequently, supervises the rotating residents and interns. He is also chairman of an emergency department committee composed of the director of nursing and physicians from the respective departments, (surgery, medicine, etc.), which is responsible for writing a procedure manual and making

policy recommendations to the hospital administration. There are no ancillary services, except an X-ray machine located in the immediate area. The facility handles about 100 to 150 patients per day which are largely pay patients with about 75 percent non-urgent walk-ins. There is frequent use of the facility as a "treatment area" or source of admittance to the hospital by private physicians, as most patients who present themselves do not receive major medical or surgical treatment from the two attending residents on duty 24-hours a day. There is an informal agreement that the police and city ambulances transport all emergency cases to City Hospital A unless they are conscious and request a private hospital. Church Hospital B, likewise, transports indigent patients from within the city area to City Hospital A when they present themselves for treatment. There exists, however, no formal agreement regarding this type of transfer of patients, and it apparently creates some hostility between the two.

On the other hand, Private Hospital X which is located in one of the largest metropolitan areas in the country, as well as in the heart of a major business district (and is largely financed by these corporations and their heads) is a 200-bed private general hospital which specializes in trauma and emergencies. It is the only hospital in the downtown area; and the emergency facility, which handles 150 to 200 patients daily, can be considered an emergency department in the sense described above. Private Hospital X has a new, well-designed and extremely adequately equipped emergency facility with separate entrances for ambulatory cases and more serious ambulance cases, a central control nursing station flanked by nine examination cubicles, holding areas (for the observation of patients who might later require admittance), conference rooms, press and police rooms, X-ray and cardiac rooms, a psychiatric "quiet room," etc. Staffing of the department consists of a full-time paid physician-administrator, a full-time supervisor of nursing and her staff, rotating clinical and surgical residents with attending physicians and specialists on call. The director of community health services, who is the full-time physician administrator in charge of the emergency department is both chairman of the emergency department committee and the disaster committee. He, moreover, operates first-aid training programs for both hospital ambulance personnel (they operate four ambulances, their primary source of patient input along with police ambulances) and office personnel in the downtown business area. The few volunteers utilized are pre-med students at a nearby college. Contrary to the typical pattern, and mainly due to its location, Private Hospital X is primarily a day-time facility due to the commuter population it serves. Moreover, the emergency department seems to operate on the basis of the philosophy that both urgent and non-urgent (or non-emergency) cases should expect treatment from a hospital emergency facility. In fact, Private Hospital X has built dual facilities and designed an architectural triage for initial separation of serious cases requiring more immediate treatment from the less serious cases.

Finally, City Hospital Y located in a Midwestern City of approximately 250,000 only recently has received full department status. While the emergency department at City Hospital Y has more modest facilities than City Hospital X it is located near ancillary services, such as surgery, X-ray, lab, etc. The department is staffed by three full-time paid physicians one of whom is the director, a nursing supervisor and nursing staff, paid private rotating physicians "on call," as well as various specialists "on call." Since it is a city hospital, a fairly large portion of the approximately 50 patients per day are indigent. The emergency department committee primarily consists of the full-time paid physicians and the emergency department nursing supervisor, with the physician who is the director of the department as chairman. The committee primarily functions informally and is responsible for a procedure manual and recommendations to the hospital administration.

Although the previous summary has been brief, hopefully it has provided at least an initial picture of the more general structural variations existent in the field studies. It seems that the distinctions between these types of emergency facilities suggest some possible implications for the nature and extent of the

changes in structure and functioning of the organizations in disaster situations which will later be discussed. Perhaps the more limited facility, the emergency room, that one often finds in very small private hospitals might not be particularly relevant for the purposes of this study. However, it has been the case that, for example, in the Indianapolis Colliseum explosion, similar facilities have been called on to respond. Likewise, it might be (and is frequently the case) that a city-wide disaster plan would take this into account when providing for distribution of patients according to the respective hospital's capabilities.

The Capability - Demand Model

While it has been suggested that these different types of emergency facilities have varying organizational capabilities, it is assumed that under normal conditions, the capability of an organization exists in a dynamic interrelationship with the demands upon it, such that its capability is equal to (if not greater than) the demands made upon it. Granted that the extent to which this dynamic equivalence between capability and demands might be, in fact, an empirical question, and certainly one that has become a growing concern with regard to emergency facilities, then this assumption for even analytical purposes must not be unwittingly accepted without qualification. That is, the intent is not to assume the somewhat structural - functional position that the existent structure and functioning of an emergency facility (e.g., City Hospital A, which is grossly overcrowded, understaffed, financially desperate, and often apparently relatively inefficient as a result of the above) is one of an optimum capability - demand ratio nor is the intent to imply organizational efficiency, a rather elusive and subjective dimension. Instead, the focus will be on specifying changes in structure and functioning as a result of a relative increase in organizational stress as the ratio becomes more grossly at variance during rather large - scale disaster or crisis situations.

It is conceivable that a change in the environment (e.g., a disaster) could either increase the demands made on the emergency facility, or lessen its capabilities, or both. Thus, the capability-demand model will be used as a general perspective in providing crucial dimensions for describing the adaptations of an emergency facility which occur as a result of organizational stress in the current field studies. While this model might be difficult to operationalize in terms of certain organizations whose internal subunits might experience radically uneven stress, this difficulty does not seem to be as evident when applied to the emergency facility as a subunit, particularly since it is a rather standard input into the hospital, and, normally, the first to experience stress (unless, of course, there is an internal disaster). Moreover, three possible sources of demands may be considered as potentially affecting or contributing to structural and functional change in the emergency room: the larger hospital, external demands of the situation (e.g., patients, the organizational set of the emergency facility, which would include police, fire, press, other hospitals, etc.), and the self-imposed organizational demands of the emergency facility itself. The capability-demand model would seemingly provide for the incorporation and combination of these various sources or explanations of change.

If organizational capability is considered broadly to refer to the level of task performance with a specified structural design, then three somewhat standard aspects of organizations might be used as indicators of capability: personnel, resources, and information. An organizations dynamic capability might include more than that which is directly observed in "normal" times. Therefore, latent capabilities (those prescribed by a disaster plan, e.g.) and emergent capabilities (those which may be specifically the result of the demands of the disaster or crisis situation) should be taken into account. For example, it might be possible that, while the source of "normal" and latent capabilities are self-imposed by the organization or the hospital, the source of emergent capabilities might be the result of external, situational demands.

If organizational demands are considered to be requests or commands for action (or output) from the emergency facility, they may vary along three axes: quantitative (e.g. a larger number of patients per unit of time), qualitative (e.g., demands for press releases not ordinarily imposed on the facility), and relative priorities (e.g., triage or sorting to provide treatment to those most likely to survive).

Findings: Organizational Adaptation in Disaster

While only one of the hospitals studied had actually implemented their disaster plan (Private Hospital X), a general pattern seemed to emerge which distinguishes the emergency room type facility from the more autonomous emergency department facilities. No cases were found to represent what had been referred to as the "emergency room" type of facility. In the two having "an emergency floor" facility, the source of additional capabilities in a crisis situation was predominantly the larger hospital in the form of almost replacing the emergency facility. That is, the disaster plan calls for the movement of the entire operation to a larger and more adequately equipped area of the hospital, rather than for expansion of emergency floor personnel and operations. The hospital administrator has primary responsibility for the implementation of the plan and continuing command over the hospital during the crisis as in normal times. The director of the emergency floor aids in triage, while the administrators and chief medical officers of the departments maintain their respective positions and correspondent functions according to the plan. Finally, the disaster plan is conceived as primarily applicable to city-wide disaster, as personnel did not generally view the implementation of the disaster plan as an emergent capability of the emergency facility to be utilized in increased demand situations other than large-scale disasters (e.g., a car accident which might tax the facility). In both cases, while the facilities have experienced a large influx of patients at one time or another (a tornado in a nearby town and civil disturbances), the implementation of the plan did not occur, due to the availability of adequate emergent resources. Granted it might be the case that, in reality, the structure and functioning of the hospital as it assumes the responsibility for the care of emergency victims under the disaster plan might emerge quite differently than prescribed by the formal plan (which seems rather likely according to past research); however, this could not be tested for lack of an empirical instance (i.e., implementation of the disaster plan).

Some more general comments with regard to these two hospitals' capabilities might be in order, however. Both hospitals have rather standard disaster plans which are not rehearsed regularly and, when they are, tend to be "paper drills" (although City Hospital A is slightly more concerned about this recently). Revision of plans tends to occur simultaneous with visits regarding hospital accreditation. City-wide disaster planning has recently begun to include, at least, City Hospital A; and civil defense is making plans to furnish a radio-telephone communication network between hospitals. However, at present, there seems to be very little, if any, coordination between hospitals aside from the apparently automatic transferring of indigent patients who present themselves from private hospitals to the city emergency facility (an informal procedure which seems to precipitate some hostility between the two organizations). There is a rather unique situation in that almost all of the twenty-six hospitals, several research clinics and the medical, dental, and pharmacy schools of the state university are located within several blocks of one another forming one of the largest medical complexes in the country. Two factors stand out in relation to this point. First, there are no formal agreements between the hospitals with regard to patient care and distribution of equipment and supplies. For example, the fact that Church Hospital B had to assume almost sole responsibility for emergency care during a strike of city employees for several weeks did not even precipitate coordination. Second, there has been relative inattention, aside from two small portable hospitals, to the possibility of all facilities being wiped out simultaneously in an area which is potentially threatened by large aircraft crashes, possible tornadoes, etc.

On the other hand, Private Hospital X, which was distinguished as an emergency department in the sense described earlier has implemented their disaster plan at least three times since the new emergency department facility has been in operation. Perhaps due to their apparent capability in normal operations, rather than being replaced by the facilities of the larger hospital, the focal point for treatment of emergency disaster victims occurs in the emergency department as prescribed by the plan with, of course, expansion of personnel and facilities of the larger hospital as deemed necessary. However, what seems to contrast with the previous emergency room type of facility is the fact that the emergency department is, in fact, the command post for activities in a disaster situation. The director of community health services (the physician who is director of the emergency department) is the person who makes the recommendations to implement the plan to the senior administrative officer of the hospital in charge of nonmedical operations; and he is, likewise, the medical control officer in charge during disaster procedures along with the aforementioned administrator. The plans call for implementation in four stages with only the last stage requiring disruption of hospital-wide routine and the use of additional hospital facilities. Additional personnel are provided within the confines of the emergency department at the previous stages. Even in the fourth stage, however, while the chiefs of surgery and medicine (as well as the hospital nursing supervisor, the senior administrative supervisor, and security director) locate in the emergency department, the director of the department remains in charge of medical operations; and all department heads are responsible to him and the administrative control officer, dependent upon the nature of the question or decision (i.e., medical or administrative).

Essentially, what is being suggested here is that, in contrast to what has previously been cited in the emergency floor type of facility, the latent capability (as prescribed by the disaster plan) provided by the hospital is not a substitution or replacement for the ongoing emergency facilities. Instead, in this case, there is a provision for additional personnel and expansive facilities by the hospital with a great deal of authority and decision-making residing in the emergency department itself. In other words, this distinction seems to point to, as mentioned earlier, some inherent difference in ongoing organizational capability during normal times in these types of facilities. This is, of course, an empirical question; however, it would appear that based on the current research some initial propositions about basic differences in change of structure and functioning during disaster situations of these types of facilities might be suggested. Whereas, the earlier types of structures (i.e., emergency floors) appear to be changed (by replacement) with certain new functions emerging (e.g. triage), the more elaborate emergency department type of facility appears not to change its structure and functioning as radically. Of course, certain expected alterations were evident, such as the occurrence of decision-making at lower levels of the bureaucratic structure; and new structures emerged to meet new functions, which will be discussed later.

Private Hospital X seems to be rather conscientious about disaster planning. Three reasons were offered to explain their concern. First, their strategic location in the heart of one of the world's major business complexes and on the skirts of a large ethnic neighborhood, tends to enhance the possibility of their being confronted with major disasters. Secondly, their past disaster experiences (or emergency capability) has stimulated frequent criticism and revision of their plans, a process which, by the way, does not occur otherwise at regular intervals in this hospital. And, finally, the favorable publicity given the hospital by the media following competently handled disasters enhances their public image and subsequently, attracts patients. In other words, this hospital has accepted the function of their emergency department as being that of the "front door" of the hospital.

Subsequently, while the latent capabilities of Private Hospital X as prescribed by the plan were reported to have become manifest for the most part during their recent disaster experiences, the reason given was that the normal capabilities of the unit are such that the department did not face an extreme disproportion of

demands which they could not meet. Two explanations were offered for this: first, the plan does not designate very radical alteration of the normal structure and functioning of the emergency department which would require considerable innovative behavior on the part of staff. Moreover, the director seems convinced that persons who choose to staff emergency facilities tend to be more flexible and highly professional individuals who are accustomed to and quite capable of handling stress; however, this certainly is in itself, an empirical question untested in the current study.

This is not to imply that there were no emergent capabilities as a result of new and greater demands; and, in fact, these are precisely the sources of the subsequent revisions of the plan. A brief outline of some of the more salient findings during an explosion in a downtown bar in which the disaster plan was implemented in Private Hospital X are presented below.

I. Organizational Capabilities

A. Personnel

1. There were certainly adequate numbers of personnel available, since all three disasters (an explosion in a downtown bar, a subway fire, and a demonstration downtown) occurred during the daytime hours. During the bar explosion convergence of mainly hospital medical staff reduced organizational effectiveness, but additional security was supplied by the city police who arrived unsolicited by the hospital. The plan was revised to specify these positions which should report to the emergency department.
2. There was no use of additional volunteers aside from the few who are trained and ordinarily work in the department.
3. The reallocation of personnel as prescribed by the plan occurred.
4. The emergency department doors were locked, and other cases were referred to the outpatient clinic.
5. A reserve pool of housekeeping personnel was set up in a passageway behind the department to perform a variety of duties, such as cleaning, security, and "running messages."

B. Information

1. Warning was received from police just after the first patient walked in (the explosion was a few blocks away).
2. The disaster team sent out by a nearby larger hospital (as prescribed by the disaster plan) was unable to supply information about the number and types of injuries, since it arrived after all patients had been taken to the hospital.

3. There were the usual difficulties in obtaining needed background medical information on patients due to a lack of detail on the disaster tag (which was since then revised).

C. Resources

1. Physical facilities were expanded through the use of the surgical recovery room and physical medicine department as prescribed by the plan.
2. Existing medical supplies were adequate in that the department obtained them from the hospital central supply. There was no implication that this did not follow fairly routine procedures.
3. A two-way radio from the ambulances to the hospital was available and utilized.

D. Demands

1. While the emergency facility routinely handles 150 to 200 patients daily, there was a quantitative increase in demands in that 53 casualties presented themselves relatively simultaneously.
2. Likewise there were quantitative changes in that all of the casualties were somewhat homogeneous (smoke inhalation) which tended to require treatment from medical personnel in a single department (while in this particular case it was not as serious as it might be with other types of injuries, such as fractures).
3. Qualitatively new demands emerged, such as the need for dissemination of information to families regarding patient conditions, as well as informing the press, fire department, and police, tasks which normally are not as high in priority as they were during the disaster situation. New structures emerged to handle these demands. Social workers and non-medical personnel were assigned to tag patients and keep records current for distribution to police and fire departments. The flood of telephone calls and convergence of visitors inquiring about injured were handled respectively by police relations personnel and two surgeons who surveyed the recovery room and privately notified families about the condition of patients. The public relations department took charge of a room adjacent to the emergency department where media crews were allowed to interview patients and staff, as well as scan the area with cameras. (The director of the emergency department felt this was essential, as publicity of this nature seems very important in recruiting patients.)
4. There was, likewise, a convergence of police and

fire personnel who forced their way upon the floor to obtain information, which was handled respectively by the sargent from the precinct station (requested by the security director) and the fire marshall.

Thus, having briefly reviewed the major findings with regard to Private Hospital X, it is suggested that in terms of organizational adaptation, the structure changed more-or-less as was prescribed by the plan; however, additional new structures emerged as mentioned above (e.g., those medical personnel dealing with relatives) to handle the more unpredicted qualitatively different functions. Moreover, existent structures performed old functions (e.g., public relations dealing with the press); and other existing structures performed new functions (e.g., tagging and identification by social services). These emergent capabilities of the organization, therefore, as a result of the demands of the situation existed alongside those latent structural and functional changes prescribed by the plan.

While it has been mentioned that the authority structure did not alter radically, but that decision-making did tend to occur at lower levels of the organizational structure, one other structural feature emerged during the disaster. The interdependence of ancillary services or subunits of the department with their respective hospital departments, such as X-ray and laboratory, increased dramatically in order to provide needed additional capabilities.

Conclusions

To summarize the overall findings, a few things that were not considered with previous expectations based on other disasters studied by the Disaster Research Center might be mentioned. First, the use of highly trained medical staff for tasks which could have been performed by less skilled personnel was not radically evident. Second, nurses did not seem to perform key command functions inconsistent with their ongoing responsibilities producing, therefore, a somewhat radical change in the authority structure. Some more general findings which had been anticipated and were substantiated were: first, the lack of legitimate city-wide disaster planning and the, subsequent, poor coordination of hospitals; and, second, the lack of regular and serious hospital disaster drills, in spite of the requirements for accreditation. Moreover, only limited findings have been reported with regard to inter-organizational relationships, that is, the relationship between the emergency facility and the police, fire department, ambulance services, etc. If it were to be hypothesized that these various input agencies tend to distribute patients to hospitals in a disaster on the basis of the same criteria used in normal times or that there are different criteria (either formal, informal, or emergent) operating, additional data would be needed from the respective organizations.

Perhaps, at least, a brief explanation of why these findings did not substantiate some of the aforementioned expected patterns might be the result of methodological considerations. On the other hand, it would seem fairly accurate to assume that Private Hospital X might be an atypical facility in terms of its apparent high capability. Unfortunately, there is not enough data available to compare the other emergency department type of facility (i.e., City Hospital Y) with that of Private Hospital X, since City Hospital Y has not experienced a recent disaster. Moreover, aside from the previously mentioned need for additional data from relevant outside organizations and the documentary, observational, and interview data collected, it seems necessary that the next step to test the findings and analytical model set forth in this report would be to observe and interview emergency facilities, when possible, during the actual crisis situation.

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