Decisions to Treat Critically Ill Patients: A Comparison of Social Versus Medical Considerations

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A questionnaire survey shows that physicians in four medical specialties evaluate chronically and terminally ill patients not only in terms of the physiological aspects of illness but also in terms of the extent to which they are capable of interacting with others. A patient's potential capacity to perform his social roles depends upon his "salvageability," i.e., the likelihood that he will be able to resume his roles and the degree of irreversible physical or mental damage which indicates his capacity for resuming them. The priorities in terms of treatment are the following: (1) salvageable patients with physical damage; (2) salvageable patients with mental damage and unsalvageable patients with physical damage; (3) unsalvageable patients with mental damage. Within these categories variables such as patient attitude, family attitude, age, and social class, which define the social environment of the patient, also influence the physician's decision to treat him. Studies of hospital records of cases in two of the specialties were consistent with the survey findings.

The findings suggest that there is a disparity between the traditional ethic concerning the treatment of such patients and the actual behavior of many physicians. As a solution to the inconsistencies between ideal and actual behavior, the development of medical guidelines for the withdrawal of treatment with respect to certain specifically defined conditions is recommended.

In recent years, the subject of death and dying has become increasingly popular in the mass media. It appears that death is no longer, as it was once described (Lester, 1967), a matter of indifference to the average person. Numerous popular articles describe the plight of families facing the dilemmas posed by hospitalization of dying relatives. The number of courses on dying and death offered to college students has multiplied. At the same time, there has been an increase in interest in this subject among physicians and social scientists who have produced a steady stream of articles and books.

What are the reasons for the surge of interest in this topic? One

reason is that technology, which has affected virtually every aspect of modern life, has also altered the process of dying. Chronic rather than acute diseases are now the most prevalent causes of death in industrial societies (Lerner, 1970). As a result in part of the nature of chronic diseases and in part of the availability of increasingly sophisticated technology, the physician's control over the exact timing of death has increased. In some cases, if treatment is not withdrawn, the patient can be kept alive almost indefinitely. Unusually difficult interpersonal problems are thus created for the physician, for the patient, and for his family.

As the physician's capacity to treat illness and control the timing of death has increased, the traditional norms that guided medical practice have become more difficult to apply. In the past, when the majority of patients suffered from acute illness, aggressive treatment was almost always appropriate. Gradually it has become apparent that some chronically ill patients do not benefit from such treatment and that they or their families may in fact be adversely affected by such efforts.

Since, to a large extent, it is the physician who makes decisions concerning life and death, it is important to understand the factors which influence his decisions. This article reports the results of an inquiry concerning doctors' attitudes toward the prolongation and termination of life. Under what conditions does the physician do everything possible to save the life of the patient? Under what conditions does he withdraw medical treatment and permit the patient to die? Does the physician, under certain circumstances, actively bring about death—in popular terms, engage in the practice of euthanasia?

Decisions concerning what types of patients should receive aggressive therapy are difficult to make. They have been the subject of considerable controversy in recent years. The literature which explores this problem can be divided into two parts: one which upholds the traditional ethic that decisions should be made entirely on the basis of the physiological aspects of illness and another which suggests that social as well as physiological considerations should play a role in deciding whether or not a patient is treatable. In general, three types of patients are described in this literature: (1) the conscious terminal patient; (2) the irreversibly comatose terminal patient; (3) the brain-damaged or severely debilitated patient whose chances of long-term survival in his present state are good.

The conscious terminal patient who is suffering a slow and painful demise is the most frequently discussed of the three. How actively should such a person be treated and why? The conservative view is that treatment should be continued as long as it is possible to sustain respiration and heartbeat. Social considerations are irrelevant (Karnofsky, 1960). Others have argued that, as these lives become less and less satisfying for the patients and for their families, social aspects of the case should be taken into consideration in decisions to continue treatment (Morison, 1971).

The comatose terminal patient is less frequently discussed in the literature although he is no less of a problem to physicians. Fortunately, the cessation of electrical activity in the brain can be measured unambiguously, and this has become, for many physicians, a criterion for declaring such patients to be dead without waiting for cessation of heartbeat and respirations. This definition has, however, been the subject of considerable controversy.

Probably the most difficult cases are those which are least discussed in the literature on the treatment of the critically ill patient, those of brain-damaged or severely debilitated patients whose chances of survival for a considerable period of time are very good in their present partially functioning state. These patients can be considered to be critically ill, not in the sense that their death is imminent but in the sense that they require considerable medical care and expense in order to maintain their conditions. Into this category fall many senile, severely debilitated geriatric patients as well as mentally defective or severely deformed newborns. Here again, there are differences of opinion concerning whether, for example, severely damaged newborns should be treated. Some physicians argue that such infants should not be treated because it is unlikely that they will be able to participate in the lives of their families in a satisfactory manner (Duff and Campbell, 1973; Shaw, 1972).

There is clearly a dilemma regarding the appropriateness of social as compared to physiological criteria in deciding to treat critically ill patients. Most discussions of this issue are presented in evaluative terms, in other words, in terms of what the physician ought to do rather than in terms of what he actually does. In this article, the criteria which physicians say they use in treating critically ill patients will be examined. Do they evaluate their patients' potential entirely in physiological terms or do social considerations play a role? How much consensus about these matters is there among them? Does analysis of the records of hospital pa-

tients confirm or contradict their statements of their attitudes?

The hypothesis being tested here is that physicians evaluate the chronically ill or terminally ill patient not only in terms of the physiological aspects of illness but also in terms of the extent to which he is capable of interacting with others. In other words, the treatable patient is one who, if treated, is capable of resuming his social roles even minimally and temporarily. The untreatable patient is one for whom this possibility must be permanently excluded. For example, the severely brain-damaged patient is completely incapable of performing his social roles while the physically damaged person may be able to resume some of them. For the terminal patient, resumption of social roles is of necessity temporary. For the chronically ill patient, it may be possible for a considerable period of time.

Sociological studies of medicine have been strongly influenced by two models, one which defines the social nature of illness and another which delineates the professional role of the physician. At least in part as a result of Parsons' model of the sick role, there is a sizable literature on the factors affecting the patient's decision to seek medical care (Kasl and Cobb, 1966). On the other hand, there has been very little research on how the doctor perceives the patient and how he decides to treat the patient. What has been lacking is a model which could predict the conditions under which an individual will be likely to receive treatment, given different categories of debilitating conditions, such as acute illness, chronic conditions, and terminal illness.

Both Parsons' sick-role model and his model of the physician's role (Parsons, 1951: Chapter 10; 1958) bypass the ethical issues surrounding the treatment of critically ill patients. The sick-role model emphasizes that it is normative for the patient to seek treatment while the practitioner model emphasizes that the physician should limit his attention to medical rather than social characteristics of the patient. Consequently these models implicitly accept the traditional medical ethic that life should be preserved as long as it is possible to do so.

The patient's potential capacity to perform his social roles can be determined in a number of ways. First, the physician attempts to decide whether or not the patient is "salvageable." Can the patient be restored to health or can a chronic condition be maintained for an indefinite period of time? Alternatively, is the patient's condi-

tion one which will sooner or later be the cause of his death? In general, decisions concerning salvageability are based on the known prognoses of various types of diseases. Obviously, from time to time, the prognoses of certain diseases change, but at any particular time there is likely to be a high degree of consensus among physicians concerning the prognoses of most diseases.

A second decision concerns the quality of life which the patient can expect to lead. Is the patient physically damaged or mentally damaged in the sense that he has suffered irreversible physical or intellectual impairment or both?

These factors obviously affect the individual's capacity to perform his social roles. The salvageability of the patient indicates whether it is likely that the individual will resume his social roles; the degree of irreversible damage indicates his capacity for resuming them. If physicians are following the traditional medical norm regarding medical treatment, that is, defining the patient's potential solely in physiological terms, no distinction should be made among cases which differ on these two variables with respect to level of treatment. If the patient's potential is being evaluated in social terms, distinctions will be made depending upon the patient's prognosis and the type of damage which he has sustained. The priorities based on the extent to which the patient is likely to be incapacitated in the performance of his social roles are shown in Fig. 1: (1) salvageable patients with physical damage; (2) salvageable patients with mental damage; (3) unsalvageable patients with physical damage; (4) unsalvageable patients with mental damage.

In addition, certain variables which define the social environment of the patient will be expected to influence the decision to treat within these categories. For example, the attitude of the patient toward his illness, the attitude of his family toward him, the age of the patient, and perhaps his social class might all be expected to influence the physician's decision to treat the patient.

Methods of Research

In order to test these hypotheses, questionnaires were mailed to samples of physicians in internal medicine, pediatrics, neurosurgery, and pediatric heart surgery. After exploratory interviews, questionnaires were developed with the aid of physicians for each specialty using the following format: (a) several case histories; (b)

Type of damage sustained by patient	*Prognosis of Patient*	
	Salvageable	*Unsalvageable*
Physical only	1	3
Mental or Physical and mental	2	4

FIG. 1. Priorities in the treatment of critically ill patients: Hypotheses

attitude questions; (c) social and professional background questions. The case histories for physicians in pediatrics are concerned with the treatment of infants born with congenital anomalies and severe birth defects. The case histories for physicians in internal medicine examine the treatment of progressive chronic disease. The case histories for neurosurgery and pediatric heart surgery are concerned with the types of cases which occur in the practice of these specialties. The patients described in the case histories vary in terms of brain damage, physical damage, physical pain, patient attitude, family attitude, social class, and age. In order to test the influence of social variables, three versions of the internist questionnaire and two versions of the pediatric questionnaire were developed. The same medical cases were presented in each version, but the social variables were changed.

In neurosurgery, two of the salvageable cases were based on a patient who was described by a neurosurgeon in an interview with the author. The patient had developed a large hematoma (a swelling filled with blood) in his brain. The location of the hematoma in the brain was such that his mental faculties were affected before and after its surgical removal. After recovering from the operation, the patient had an I.Q. of 90, he could no longer practice his profession, and his right arm was paralyzed. If the operation had not been performed, the patient would have died. As a result of the operation, he can be expected to live a normal life span. The informant, a neurosurgeon, said that he sometimes wondered whether or not he had done the man a favor by operating upon him.

Since this condition can affect the physical capacities of the patient rather than the mental faculties, depending upon the loca-

tion of the hematoma in the brain, a parallel case was constructed in which the patient had suffered visual impairment and some paralysis on the left side of his body but no intellectual or speech impairment.

The neurosurgical unsalvageable cases involved a patient with a solitary metastatic brain tumor. The presence of metastases indicates the transfer of cancer cells from one part of the body to another and is considered to be a sign that the disease is irreversible and terminal. Again, depending upon the location of the tumor in the brain, the patient's physical or mental capacities are affected. Both possibilities were presented to the neurosurgical respondents and they were asked to indicate whether or not they would remove such a tumor in a 40-year-old man. The same pair of cases was repeated with the subject being a 65-year-old man. Another unsalvageable case, that involving a metastatic tumor in the spine which had produced paraplegia in the patient, was also included, since it could be corrected by a fairly simple surgical procedure and therefore was more likely to be performed.

In internal medicine, the salvageable patient with physical damage was suffering from chronic pulmonary fibrosis, a severe respiratory disease. The case is described as follows in one version of the questionnaire:

> A 35 year old man is brought to the hospital by his wife. He has a history of severe chronic pulmonary fibrosis and for three years has been unable to climb stairs or walk more than 10 feet due to shortness of breath. He is found to have pneumococcal pneumonia, but during his first hospital day he becomes cyanotic and semicomatose. If a tracheostomy is performed, he will probably survive without further impairment of lung function. His wife is reluctant to authorize this procedure. Which of the following would you be likely to perform? (Check yes, maybe, or no for each of the following.)
>
> 60. Would you attempt to persuade his wife to authorize tracheostomy?
> 61. Intravenous feeding for dehydration.
> 62. Antibiotics.
> 63. Arterial puncture for blood gas analysis.
> 64. Urine culture for pyuria.
> 65. Urethral catheter for urinary obstruction.
> 66. Appendectomy for incidental suspected appendicitis.
> 67. Small bowel resection for suspected infarcted bowel.

68. If cardiac arrest occurred, would you begin resuscitation?
69. If resuscitation was unsuccessful after 15 minutes, would you continue?

Although the patient is severely debilitated, he is considered salvageable, since patients with this chronic condition can be maintained over considerable periods of time.

The salvageable internal medicine patient with moderate mental damage is described as follows in one version of the questionnaire:

> A 65 year old woman had a severe stroke one year ago. As a result, she cannot walk, eats with difficulty, and has mild difficulty expressing herself. She is admitted to the ward service dehydrated and septic. Her family is unwilling to care for her at home if discharged from the hospital following treatment.

A list of appropriate treatments followed. In two versions of the case, the willingness of the family to care for the patient was presented negatively and positively, respectively.

In a third version of the case, a similar patient with more severe brain damage was presented as "a 65 year old woman with severe cerebral atrophy (who) cannot walk, feed herself, or communicate meaningfully with others."

Two cases of unsalvageable physical damage were presented to the internists. The first case involved a particularly painful form of cancer, cancer of the esophagus (part of the passage through which food is transmitted from the mouth to the stomach). A second unsalvageable case with physical damage presented a man with "melanoma (a type of cancer) of the leg that has metastasized to the spinal cord," causing paraplegia. This case was presented in two versions which varied in terms of the patient's desire to be treated. A third version of this question presented another unsalvageable disease involving physical damage, multiple sclerosis (which causes severe muscular weakness and lack of physical coordination) in order to compare physicians' reactions to a terminal disease which does not have such negative connotations as cancer.

In pediatrics, the salvageable patient with physical damage was an infant who had been born with myelomeningocele, a hernial protrusion of the spinal cord through the vertebral column, usually containing a watery fluid. The infant is described as having "no nerve function in his legs and no bladder or rectal sphincter con-

trol." If an operation to close the defect is performed soon after birth, the child's condition can be maintained for many years, although the associated paraplegia and absence of bladder and bowel control remain. If the operation is not performed, the infant may eventually die a slow and painful death.

Two cases of salvageable infants with mental damage were presented to the pediatric respondents. One was an infant with mongolism (Down's syndrome). The other was a case in which, as a result of difficulties during delivery, the infant had been deprived of oxygen. The case is described as follows in one version of the questionnaire:

> As a result of premature separation of the placenta, an infant was without oxygen in the uterus for an indeterminate period. He weighs 1500 grams. Seizures develop within two or three hours of birth and persist in spite of therapy. Marked spasticity and hypertonia develop. An electroencephalogram is highly abnormal. This is the first birth for a professional woman who has had several miscarriages. She wants the child very much. Which of the following would you be likely to perform? (Check yes, maybe, or no for each item.)
>
> 38. Intravenous fluids for maintenance.
> 39. Monitor blood pH and correct as needed.
> 40. Antibiotics for infection.
> 41. If he develops pneumothorax, would you aspirate the chest?
> 42. If he stops breathing for more than two minutes, would you bag-breathe him for two to three hours?
> 43. Would you place him on a respirator if he continues to have apneic spells?
> 44. If he then has a cardiac arrest, would you resuscitate him?

The different versions of these two cases were varied in terms of the social class of the parents and the mother's desire to have the child.

The two unsalvageable pediatric cases were (a) the statistically rare but philosophically interesting case of the anencephalic child, who, because it is born without portions of the brain that control conscious and voluntary processes and coordinate muscular movements, can be considered to be subhuman; (b) the case of a rare and incurable heart defect, hypoplastic left ventricle, which is difficult to diagnose without performing a catheterization, which in turn may be fatal to the patient if he has the condition. The condition, like that of anencephaly, leads rapidly to the demise of the patient.

Finally, the cases which were presented to the pediatric heart

surgeons were all cases of salvageable patients with physical or mental damage associated with cardiac defects, since unsalvageable cases are uncommon in their practice. Two cases of children with mongolism were described as having associated heart defects of varying degrees of severity (tetralogy of Fallot is less severe than atrio-ventricular canal). These cases were varied in terms of parental interest in and concern for the child. The same types of cardiac defects were also presented in association with a physical defect, a "severe but treatable urogenital anomaly." In these cases, parental concern and financial resources were varied. Finally, a case of relatively minor cardiac defect, patent ductus arteriosus, combined with rubella syndrome (congenital effects upon the infant of German measles contracted furing pregnancy by the mother) was presented in two parts: with and without associated mental retardation.

Obviously case histories of this sort can only partially simulate the actual medical situation which the physician faces. The details of the cases and the treatments suggested were realistic. However, there is an element of artificiality in the use of such case histories in that the physician generally interacts with a patient over a period of time, during which his assessment of the case gradually changes. On the other hand, regardless of the difficulties involved in using this technique, it is superior to the very general questions on euthanasia which have been used in previous studies (Williams, 1969; Brown et al., 1970).

In the neurosurgery and pediatric heart surgery questionnaires, physicians were asked to indicate whether they would usually, sometimes, or rarely perform such an operation. The internist and pediatric questionnaires provided lists of appropriate treatments for each case. Physicians were asked to indicate which treatments they would use for the patients described in the case histories. They were given three alternatives: yes, maybe, or no. For both the pediatric and internist questionnaires, all items representing hypothetical treatments for the entire set of cases were factor-analyzed as a single group. The factor analysis indicated that each of the cases represented a separate dimension of behavior, although not all items under a single case were included in that dimension. A scale of activism was developed for each question which included only those items which were highly correlated with one another as shown by the factor analysis. The tables which

are presented in the following section show the proportions of pediatric physicians who would perform all of the items on a particular scale for the patients described (i.e., a "yes" response) and the proportions of internists who would perform all or all but one of the items on a particular scale. There were fewer items in the pediatric scales than in the internal medicine scales.

Since the specialties of neurosurgery and pediatric heart surgery are small, lists of members of these specialties were sampled. Pediatrics and internal medicine are large specialties, comprising physicians who practice in a wide variety of medical settings. Samples of hospitals were drawn from the American Medical Association's *Directory of Approved Internships and Residencies.* Hospitals were asked to provide lists of their residents in pediatrics and internal medicine and of physicians who had admitting privileges in these specialties. Samples of residents and physicians were drawn from these lists. Since many physicians practice in more than one hospital, respondents in these samples were asked to respond in terms of their practice in the sample hospital which was named in the covering letter.

Questionnaires were mailed to members of all four samples during the winter of 1970-71. Over 70 percent of the physicians returned the questionnaire in all four specialties. The samples are large: pediatrics: 922; internal medicine: 1,410; neurosurgery: 650; pediatric heart surgery: 207.

Results

Prognosis and Type of Damage

It was hypothesized that the following priorities would be observed in the treatment of critically ill patients: (1) salvageable patients with physical damage; (2) salvageable patients with mental damage; (3) unsalvageable patients with physical damage; (4) unsalvageable patients with mental damage. Among the neurosurgeons and the internists, it appears that salvageable patients with physical damage are clearly more likely to be actively treated than any of the other types of patients (refer to Tables 1 and 2). A salvageable patient with physical damage was more likely to be actively treated than a salvageable patient with mental damage. Among unsalvageable patients, a similar distinction was made between those who were physically or mentally damaged.

TABLE 1

Percentage of Neurosurgeons Who Would Usually Operate,
by Patient's Prognosis and Type of Damage
(N = 650)

	PATIENT'S PROGNOSIS: SALVAGEABLE		PATIENT'S PROGNOSIS: UNSALVAGEABLE		
	Type of Damage		Type of Damage		
	Physical	*Mental*	*Physical*		*Mental*
			Case 1	*Case 2*	
Percentage Neurosurgeons	89	55	76	50	22
Cause of Damage	Cerebral hematoma		Tumor metastatic from kidney to thoracic epidural space, producing paraplegia	Solitary metastatic brain tumor	

Salv.-Physical vs. Salv.-Mental: Cell 1 vs. Cell 2, z[a] = 14.66*

Salv.-Physical vs. Unsalv.-Physical: Cell 1 vs. Cell 3, z = 6.45*
Cell 1 vs. Cell 4, z = 16.33*

Salv.-Mental vs. Unsalv.-Mental: Cell 2 vs. Cell 5, z = 13.37*

Unsalv.-Physical vs. Unsalv.-Mental: Cell 3 vs. Cell 5, z = 22.31*
Cell 4 vs. Cell 5, z = 11.44*

*$p < .01$

[a]In this and subsequent tables, the z statistic measures the difference between correlated means or independent means, depending on which samples or subsamples are being compared (see McNemar, 1962: 80-83).

TABLE 2

Percentage of Internists[a] Who Would Treat Very Actively
By Patient's Prognosis and Type of Damage[b]

PATIENT'S PROGNOSIS: SALVAGEABLE			PATIENT'S PROGNOSIS: UNSALVAGEABLE		
Type of Damage			Type of Damage		
Moderate Physical	*Moderate Mental*	*Severe Mental*	*Moderate Physical*		*Severe Physical*
			Case 1	*Case 2*	
67	30	16	36	28	3
(1,410)	(909)	(501)	(909)	(501)	(1,410)

Salv.-Physical vs. Salv.-Mental: Cell 1 vs. Cell 2, $z = 28.68$*
Cell 1 vs. Cell 3, $z = 33.13$*
Cell 2 vs. Cell 3, $z = 18.15$*

Salv.-Physical vs. Unsalv.-Physical: Cell 1 vs. Cell 4, $z = 24.70$*
Cell 1 vs. Cell 5, $z = 20.95$*
Cell 1 vs. Cell 6, $z = 72.30$*

Salv.-Mental vs. Unsalv.-Physical: Cell 2 vs. Cell 4, $z = 3.57$*
Cell 2 vs. Cell 5, $z = 2.78$*
Cell 3 vs. Cell 6, $z = 3.82$*

Cell 1: Salvageable Prognosis-Mod. Physical: chronic pulmonary fibrosis
Cell 2: Salvageable Prognosis-Mod. Mental: stroke with moderate brain damage
Cell 3: Salvageable Prognosis-Severe Mental: severe cerebral atrophy
Cell 4: Unsalvageable Prognosis-Mod. Physical (Case 1): melanoma of the leg metastized to the spinal cord
Cell 5: Unsalvageable Prognosis-Mod. Physical (Case 2): multiple sclerosis
Cell 6: Unsalvageable Prognosis-Severe Physical: cancer of the esophagus

*$p < .01$
[a]Physicians and residents combined.
[b]There are no cases of unsalvageable prognosis with mental damage in this questionnaire.

However, these physicians were less likely to distinguish between salvageable patients with mental damage and unsalvageable patients with physical damage. For example, a salvageable patient who has suffered severe mental damage (cerebral atrophy) is less likely to be actively treated than a terminal cancer patient with moderate physical damage only (refer to Table 2). This suggests that the mentally damaged, salvageable patient is seen as being less capable of resuming his social roles than the terminally ill, physically damaged patient. Both of these types of cases are more actively treated than the terminally ill, mentally damaged patient. A neurosurgeon commented during an interview:

> If the patient is unsalvageable, you just have to accept it . . . A lot of our patients are severely ill and incapacitated. Frequently death is the better way out.

Among the pediatric cases, a very clear distinction was made between salvageable and unsalvageable patients (refer to Table 3). In this specialty, the physically damaged, salvageable patient was not more likely to be actively treated than the mongoloid, salvageable patient. The explanation may lie in the choice of the physically damaged, salvageable case. The physically damaged, salvageable pediatric patient had a myelomeningocele and was described as having no nerve function in his legs and no bladder or rectal sphincter control. He was thus unlikely to have a more meaningful social existence than the mongoloid infant with whom this patient was compared. However, the expected priorities do appear in the comparison between the infant with a myelomeningocele and an infant whose brain had been damaged at birth as well as in the comparisons between the former and the other two infants in the decision to resuscitate these infants. Twenty-nine percent of these physicians said that they would resuscitate the patient with a myelomeningocele compared to 16 percent who would resuscitate the mongoloid infant and the brain-damaged infant.

Neither the anencephalic nor the infant with incurable heart disease (hypoplastic left ventricle) will live more than a few days on the average unless extraordinary efforts are taken on their behalf. Even so, the infant with physical damage receives more attention than the one with mental damage (refer to Table 3), although this is possibly a result of uncertainties surrounding the diagnosis of the former condition.

TABLE 3

Percentage of Pediatricians[a] Who Would Treat Very Actively
by Patient's Prognosis and Type of Damage[b]

PATIENT'S PROGNOSIS: SALVAGEABLE			PATIENT'S PROGNOSIS: UNSALVAGEABLE	
Type of Damage			Type of Damage	
Physical	*Mental*		*Physical*	*Mental*
	Case 1	*Case 2*		
55 (922)	52 (922)	47 (922)	25 (376)[c]	4 (458)

Salv.-Physical vs. Salv.-Mental: Cell 1 vs. Cell 3, $z = 4.64$*

Unsalv.-Physical vs. Unsalv.-Mental: Cell 4 vs. Cell 5, $z = 47.91$*

Salv.-Physical vs. Unsalv.-Physical: Cell 1 vs. Cell 4, $z = 3.27$*

Salv.-Mental vs. Unsalv.-Mental: Cell 2 vs. Cell 5, $z = 47.85$*
Cell 3 vs. Cell 5, $z = 63.66$*

*$p < .01$

[a]Physicians and residents combined.

[b]Cell 1: Salvageable Prognosis-Physical: myelomeningocele
Cell 2: Salvageable Prognosis-Mental (Case 1): mongoloid with severe respiratory disease
Cell 3: Salvageable Prognosis-Mental (Case 2): seizures with spasticity and hypertonia
Cell 4: Unsalvageable Pr ognosis-Physical: hypoplastic left ventricle
Cell 5: Unsalvageable Prognosis-Mental: anencephaly

[c]Non-respondents excluded among the residents.