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SYMPOSIUM: ALIGNING PHYSICIAN AND HOSPITAL INCENTIVES

The Classic

A Study in Hospital Efficiency: As Demonstrated by the Case Report of First Five Years of Private Hospital

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Abstract This is an abridged version of the Classic Article by E.A. Codman, *A Study in Hospital Efficiency: As Demonstrated by the Case Report of the First Five Years of a Private Hospital*. The full article is available as supplemental material for the abridged version in the online version of *CORR*®. An accompanying biographical sketch of E.A. Codman is available at DOI 10.1007/s11999-012-2750-4. The Classic Article is © 1918 and is reprinted courtesy of Thomas Todd Co. from E.A. Codman. *A Study in Hospital Efficiency: As Demonstrated by the Case Report of the First Five Years of a Private Hospital*. Boston: Thomas Todd Co.; 1918: 4–10,108,162.

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Introduction

The argument in our previous Reports has been somewhat as follows:

That the Trustees of our Charitable Hospitals do not consider it their duty to see that good results are obtained in the treatment of their patients. They see to it that their financial accounts are audited, but they take no inventory of the Product for which their money is expended. Since the Product is given away, they do not bother to standardize it and to see whether it is good enough to be sold.

It is against the individual interests of the medical and surgical staffs of hospitals to follow up, compare, analyze, and standardize all their results, because:

1. It is seldom that any single individual's results have been so strikingly better than those of his colleagues, that he would desire such comparison and analysis. Perhaps the results as a whole would not be good enough to impress the public very favorably.
2. An effort to thus analyze is difficult, time-consuming, and troublesome, and would lead, by pointing out lines for improvement, to much onerous committee work by members of the staff that would be still more time-consuming, difficult, and troublesome.
3. Neither Trustees of Hospitals nor the Public are as yet willing to pay for this kind of work.

Although the staff would admit that such follow-up and analysis was a good thing for all, yet each "practical" man (and the practical men always hold the power) would wait for somebody else to do the work.

The superintendent would lose his position, if he undertook to insist on "good results." It is already more than he can do to listen to the wails of "lack of economy," "lack of politeness," "lack of common sense" with which the trustees, staff, and patients deafen him.

Therefore, if the trustees, the staff, and the superintendent all avoid the analysis of results, *and it is only for the interest of the patients, the public, and medical science,—why bother about it?*

The truth is, the patients and the public do not yet understand the problem. They suppose that of course *somebody* is looking into this important matter. They do not realize that the responsibility is not fixed upon any person or department.

As for Medical Science's not caring,—this is the consequence of our medical schools' paying their teachers by giving them the opportunity to advertise. Our method of teaching medical science is as fraught with evil as if our Professors of Chemistry were permitted to organize a monopoly of the Trade in Chemicals, so as to illustrate to their students the "practice" of chemistry. As unpaid or partially paid medical teaching is the custom in most parts of the world, we have become used to it. If the professors advertised only the goods they actually could deliver, such a practice would be defensible; but it is a rare teacher who can avoid the assumption of knowledge which he does not possess, as this is the time-honored habit of our profession.

We have not offered this destructive criticism without a constructive remedy:

The End Result System

We have advocated a simple system of hospital organization first recommended by the Committee on Standardization of Hospitals of the Clinical Congress of Surgeons.

In brief, it is this:

That the Trustees of Hospitals should see to it that an effort is made to follow up each patient they treat, long enough to determine whether the treatment given has permanently relieved the condition or symptoms complained of.

That they should give the members of the Staff credit for taking the responsibility of successful treatment and promote them accordingly. Likewise they should see that all cases in which the treatment is found to have been unsuccessful or unsatisfactory are carefully analyzed, in order to fix the responsibility for failure on:

1. The physician or surgeon responsible for the treatment.
2. The organization carrying out the detail of the treatment.
3. The disease or condition of the patient.
4. The personal or social conditions preventing the coöperation of the patient.

This will give a definite basis on which to make effort at improvement.

Technically, to start this System in a hospital, it is necessary to introduce the use of an "End Result Card" which is kept for each patient, and on which is recorded in the briefest possible terms (see pages 72–73):

The symptoms or conditions for which he seeks relief.
The diagnosis of the pathologic conditions which the doctor who gives the treatment believes to be the cause of the symptoms, and on which he bases his treatment.
The general plan or important points of the treatment given.
The complications which followed before the patient left the hospital.
The diagnosis which proved correct or final at discharge.
The result each year afterward.

Obviously, the number of details given under these headings might be infinite in extent, but still no case is so complex, that it cannot be reduced to an abstract referring to a detailed record. To take two extremes:

A simple case of appendicitis may be abstracted thus:

Came for the relief of: acute abdominal pain for 24 hours.
Diagnosis on which treatment was based: acute appendicitis.
Important points of treatment: a gangrenous appendix removed and drainage established.
Complications: none.
Final diagnosis: acute appendicitis.
Result one year later: perfect.

whereas another complicated case might be:

Came for the relief of: many ill-defined symptoms.
Diagnosis on which treatment was based: consultants varied in opinions.
Treatment: expectant for 4 weeks, and then exploratory laparotomy which revealed no pathologic conditions.
Complications: phlebitis, cystitis.
Final diagnosis: undetermined except for phlebitis and cystitis.
Result a year later: condition the same as before treatment.

Certainly even a trustee could pass the first case as O. K., and satisfy himself that the whole organization of the hospital did not relieve the second.

Undoubtedly a layman could not enter authoritatively into the details of the reasons why, but he could insist that the End Result System should be used, that some one must see that it is used; and that an efficiency committee be appointed for that purpose.

At present, in most hospitals, no such investigation is made by any one. *There is no standard of good results to go by*, but we are setting standards in this Report. We believe they are as high as any. The questions which should interest you are: Are yours better or worse? Are you making any effort to find out?

In our Charitable Hospitals it is the Duty of no person or Department to ask these questions. It is a disagreeable Duty which neither the Staff nor the Board of Trustees nor the Superintendent has the strength to assume alone. An Efficiency Committee composed of members of each of these departments should assume this burden. The coöperation of the Board of Trustees is necessary both to authorize the expense and to guarantee the standard of the work reported.

Even if a detailed report is not published, a typewritten review should be kept for the use of the Efficiency Committee.

When this step is taken by our Great Hospitals, True Clinical Science will begin.

(For the Benefit of those Readers Who Have Not Seen the First Report, the Following Portion is Reprinted to Make the Ensuing Cases Intelligible)

The object of this study is to give a practical illustration of the theory of hospital organization based upon an End Result System. This system, with its simple details, is set forth in the Report of the Committee on Standardization of Hospitals presented before the Clinical Congress of Surgeons of North America, at its meeting November 10–15, 1913.[1] (See also page 71.)

We believe that all hospitals should have such reports, even, and perhaps especially, private hospitals. We believe that it is for the private hospitals to begin this publicity, as well as for the large, general institutions with national reputations. The reports of such large institutions would form minimum standards, and all private hospitals and small non-teaching hospitals should show much better results than the larger institutions.

We publish this study to show that it is possible for a private hospital to make such a report, and we believe that if a private hospital can thus expose its weaknesses, the public hospitals should certainly be able to do so.

In the following Report we have not in all cases attempted to follow the letter of the suggestions of the above mentioned Committee. If we had done so, we should probably have had no readers, because a mere set of abstracted case histories would have been too dull even for a statistician.

We want to have this report read—partly because we are as proud of the cases from a mere surgical point of view as we usually are of the cases reported in our papers on special subjects, and partly because we want to illustrate a definite method by which the organization of a Surgical Service of a Hospital can be based on the End Result System. We believe the same general method can be applied to other branches of clinical work besides surgery.

The Idea is so simple as to seem childlike, but we find it ignored in all *Charitable Hospitals*, and very largely in Private Hospitals.

It is simply to follow the natural series of questions which any one asks in an individual case:

What was the matter?
Did they find it out beforehand?
Did the patient get entirely well?
If not—why not?
Was it the fault of the surgeon, the disease, or the patient?
What can we do to prevent similar failures in the future?

We believe that the general acceptance of a system of hospital organization based on the truthful record of the answers to these questions means the beginning of True Clinical Science.

The reader must not suppose that we recommend the publication of such criticisms as we have here inflicted on ourselves, or even recommend that the Chiefs of Surgical Services should be so merciless to their Juniors.

In this report we are proud to say that we have suppressed nothing, but have given even the smallest details of lack of success. We are not afraid to do this, because we believe we have obtained as good results in these cases as any surgeons could have. To the layman who chances to read this paper, the fates of these cases may seem far better or far worse than his vague imaginations of the results of surgery, but we believe that few surgeons would say that they are not excellent. Therefore, why should not the layman see them, if he cares to? Why should he not look farther and study the reports of the large hospitals for himself, to learn where such and such a branch of surgery is well done?

In making our marginal symbols, with their accompanying criticisms, we have been hypercritical—and in fact have had to be, to find sufficient illustrations to show the points we wish to make! The absence of post-operative complications has made it difficult to make one of our chief points clear—that reduction of the number of surgical complications, such as sepsis, phlebitis, cystitis, etc., is one of the easiest ways of economizing hospital funds. Every patient-day lost in a charitable hospital by these complications should be multiplied by the daily per capita expense, and an account kept of the same. This amount can be greatly reduced by efficient organization.

To effect improvement, the first step is to admit and record the lack of perfection. The next step is to analyze the

[1] *Surgery, Gynecology, and Obstetrics*, January, 1914.

causes of failure and to determine whether these causes are controllable. We can then rationally set about effecting improvement by enforcing the control of those causes which we admit are controllable, and by directing study to methods of controlling those causes over which we now admit we have but little power.

A hospital that has an End Result System, has an authoritative method of admitting and recording its failures in diagnosis and treatment.

The present paper deals with the analysis of the causes of failure and the determination of the degree within which we can control these causes. We believe that the most difficult step has been taken when the staff of a hospital once agrees to admit and record the lack of perfection in the results of its treatment. Improvement is then sure to follow, for it often is the error of which we are ignorant that we persist in carrying with us.

To illustrate a practical method of making such an analysis, we have taken the Results of our own private hospital for the first two[2] years of its existence. These abstracts have been edited from the End Result Cards in the way recommended. In a few of the more interesting cases (Cases 24, 33, 42, 53, 55, 78, etc.) we have made quite a long abstract, partly to interest the reader and partly to show that many cases of great interest and importance would be conveniently placed at the disposal of science if such a system existed in the large hospitals. These unusual usual cases, if we may so call them, are now lost, because surgeons are too busy to write them up. The rare cases of primary cancer of the Fallopian tube (Case 42), and the enormous distention of the common duct (Case 33), are unique in our experience; but if we could skim through the abstracts of some of the large hospitals we could no doubt make collections of such cases large enough for comparative study. It is the usualness of things which we think are unusual which often keeps us blind to important facts before our noses.

The reader must suppose himself the Chief of a Surgical Service or a member of a Hospital Efficiency Committee. The End Result Cards of the week are before him. In a large hospital the Chief of each Service, at a certain hour, can have handed to him the End Result Cards of all of his cases which have been discharged during the previous week, and also all returns brought in during that week by the Follow-up System. A service of 60 beds can thus be easily reviewed in one hour a week. He must read them through and mark in the margin of those cases which lack perfection the symbols indicated below. He may O. K. where he sees no flaw, and he may also graciously star the cases which he considers creditable. A key to the writer's reasons for criticism will be found on pages 98–107.

To the thoughtful person it will be at once apparent that a Chief of Service who criticizes the results of his juniors or colleagues as exacting as we have done here would soon lose the *esprit de corps* which is necessary in successful work. Successful leadership always requires tact, whether the driving is done by criticism of the failures or by praise of the successes. To enthusiasm nothing is so deadening as to be ignored. To most men it is enough to know that the work is observed and measured, and if found of value, will be appreciated.

If the Chief has the gift of leadership, he will praise here and condemn there, under any system of organization; but whatever the gifts of the Chief, there must be a difference in systems, and it is our belief that an organization based on the consideration of the actual Results accomplished must be better than one by which they are ignored.

[2] Now five years.

Table 1. Part I

The Case Report

A Practical Illustration of the Fact that it is Possible to Use the End Result System in a Hospital

Table 2. Part II

The Financial Report

An Illustration of the Money Value of a Surgeon's Services and the Influence of the Charitable Hospitals upon it

Table 3. Part III

The New Organization

An Illustration of how a Group of Earnest Men May Compete with the Cliques who Dominate the Charitable Hospitals in Any City