INPATIENT CHARGE SYSTEM AT HENDRICK MEMORIAL HOSPITAL ABILENE, TEXAS

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ABSTRACT

The problem was to determine the most practicable method of reducing late inpatient charges originating in inhalation therapy department at Hendrick Memorial Hospital, Abilene, Texas.

The method of submitting patient charge forms was examined and evaluated through a detailed study of late charges and interviews with key personnel from the inhalation therapy department and the business office. An analysis of proposed modifications and alternative methods was reviewed to determine their application to Hendrick Memorial Hospital.

It was concluded that the best practicable method of reducing late inpatient charges originating in the inhalation therapy department at Hendrick Memorial Hospital was the adoption of the Dial Telephone System.

It was recommended that an orientation program be established to train personnel how to use this telephone and that a procedural guide be prepared delineating responsibilities for processing inpatient charges to the business office and for transcribing and posting of these charges after they have been received by the business office. It was also recommended that further study be conducted to determine whether posting should be done throughout the regular twenty-four hour day on a periodic time-phased basis or whether the bulk of posting activities should be carried out during morning hours just prior to the 11:00 A.M. discharge time.

FOREWORD

Hendrick Memorial Hospital was chartered as West Texas Baptist Sanitarium by the State of Texas in 1923. It is a non-profit, church related, short term hospital owned by the Baptist General Convention of Texas. It has 374 beds including 22 extended care beds plus 30 bassinets. General statistics for the fiscal year ending September 30, 1967 are as follows:

Total Admissions (excluding Newborn)	14,554
Total Newborn	1,429
Census	271
Occupancy (per cent)	90
Total Expense	$4,412,000
Payroll Expense	$2,547,000
Personnel	696

Plans are virtually complete for a major seven-story expansion program which will include new operating rooms, a recovery room, an intensive care unit, a coronary care unit, a chapel and religious offices, expanded dining room accommodations, and a shell for 180 patient rooms, 60 of which will be completed initially. When completed this program will cost in excess of $3,000,000.

This study would not have been possible without the valuable assistance and cooperation of the personnel at the Hendrick Memorial Hospital. The help and support provided during the course of this project are greatly appreciated.

Special appreciation is extended to Mr. Boone Powell, Jr., Assistant Administrator, for the many courtesies shown the author.

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CHAPTER I

INTRODUCTION

General Information

The inpatient charge system begins at the admitting office and usually ends at the cashier's window or upon final payment of the patient's account. The objective of an efficient inpatient charge system is to ensure that patients are charged for all services rendered. These charges must be accurately prepared by the originating activity and promptly forwarded to the business office. The business office must ensure that the charge is correctly posted to the patient's account.

Preparation of a patient's bill is extremely important. In this document the hospital is telling the patient that he owes a sum of money for services rendered. Therefore, the hospital is obligated to provide him with a bill which he can easily understand. It should be complete and accurate at the time of discharge.[1]

In many hospitals the credit and collections department is never given advance notice of a patient's discharge. When this occurs, the patient may be discharged before all charges have been received by the business office. Charges which are received after the patient has been discharged require the business office to initiate a second billing. This practice makes the collection of unpaid balances more difficult. It superimposes a collection follow-up procedure, which is costly and often annoying to the patient.

Several factors compound the problem of late charges. First, medical technology has lowered patient length of stay, which in turn creates a higher rate of turn-over in a shorter length of time. This is evidenced by the fact that over 50 per cent of all patients admitted have a stay of less than thirty days. Second, Medicare, Medicaid, and third party agencies such as Blue Cross have required the hospital to provide more data and stricter documentation of patient charges. More data, of course, means an increased work load in the hospital's business office.

An apology or explanation to an annoyed patient may satisfy the individual complainant but it does nothing to remove the cause of dissatisfaction. If a given hospital policy results in late charges and causes criticism, there are only two constructive alternatives. Either the practice needs change or the justification for the practice should be fully explained to all whom it affects.[2]

It is realized by all hospitals that a definite credit policy and good collection procedures mean good public relations. Good relations are necessary for a non-tax supported hospital such as Hendrick Memorial Hospital, which is entirely dependent upon public support. A watchful eye on accounts receivable by good control and sound and complete reporting will aid administration in developing good community relations.[3]

The business office must be advised of pending patient discharges. Advance notice of discharge provides a number of advantages to other departments such as housekeeping and dietary. It is helpful to the credit department in arranging an interview with the patient who, at that time, may have a sizable balance. It can be helpful to the patient's account department in preparing a final bill and picking up any last minute charges which may not have been posted to the patient's account.

Conditions Which Prompted the Study

Mr. Boone Powell, Jr., the Assistant Administrator of Hendrick Memorial Hospital, requested that the present method of inpatient charges originating from the inhalation therapy department be evaluated.[4] He was concerned with the increasing number of late inpatient charges which resulted in an increased work load for the business office and with the number of complaints received about late charges. He believed that a study of the inhalation therapy department charges would lead to recommendations that would reduce the number of late inpatient charges from that department.

Footnotes

[1]D. W. Walsh, "Let the Patient Know What He's Paying For," Hospitals, XXXI (April 16, 1957), 52.

[2]Gordon Davis, "Criticism May Sting, But it is often Opportunity in Disguise," Modern Hospital, XCV (October, 1960), 12.

[3]Joseph Tonascia, "Analyzing Patients' Accounts," Hospital Accounting, XVI (April, 1962), 18.

[4]Interview with Mr. Boone Powell, Jr., Assistant Administrator, Hendrick Memorial Hospital, Abilene, Texas, February 24, 1969.

CHAPTER II

THE PROBLEM

Statement of the Problem

The problem is to determine the best practicable method for reducing late inpatient charges originating in the inhalation therapy department at Hendrick Memorial Hospital, Abilene, Texas.

Objectives

The objectives of this study are to analyze the existing system of inpatient charges from the inhalation therapy department, to determine possible modifications and alternative methods, and to evaluate the advantages and disadvantages of the present method with the alternative methods considered.

Criteria

All recommendations made in this study must:

1. Improve efficiency and increase control over the inpatient charge system.
2. Not create new problems in other areas of the hospital.
3. Simplify the present inpatient charge system.
4. Be consistent with the mission of the hospital.

Limitations

The following limitations are noted:

1. Automatic data processing equipment is currently not available to the hospital. Current plans for new major construction and expansion preclude the expenditure of funds necessary for the purchase or rental of such equipment at this time or within the immediate future.

2. Any modification of the present system will be accomplished with minimum expense to the hospital.

3. It is anticipated that no additional personnel will be available.

Assumptions

The following assumptions have been made:

1. The present policy of delegating to the major service activities the responsibility for the preparation and pricing of the patient charge form will continue.

2. It is expected that patient turnover will stay the same or will increase.

Definitions

Inpatient charge forms are those administrative papers whereon charges for service are initially recorded. These forms contain information relative to the type of treatment or service rendered, the number of such treatments, and the charges associated with them.

Late inpatient charges are those charges for service or treatment which originate prior to the patient's discharge but are not received by the business office until after that patient has been discharged.

Research Methodology

Information to analyze and evaluate the present system of inpatient charges was collected in three areas, primarily by unstructured

interviews. First, interviews with the administrator and assistant administrator centered on the overall operation of the inpatient charge system and problems encountered as a result of late charges from the inhalation therapy department. Second, interviews with the comptroller and key personnel in the business office were concerned with procedures employed in processing and posting routine inpatient charges and late inpatient charges. These interviews included meetings with the head of the accounting section, the head of collections and accounts receivable, the insurance supervisor, the head cashier, and the posting clerk. Third, interviews were conducted with the technical director of respiratory therapy, inhalation therapy department, and the secretary of the inhalation therapy department. These interviews were conducted to determine the present procedure utilized in preparing and forwarding inpatient charges to the business office.

Methods of processing inpatient inhalation therapy charges by hospitals of comparable size were evaluated to determine their applicability to Hendrick Memorial Hospital. The hospitals chosen for comparison were: Research Hospital, Kansas City, Missouri (254 beds); Scott and White Memorial Hospital, Temple, Texas (271 beds); and Central Baptist Hospital, Lexington, Kentucky (233 beds).

A detailed study was conducted of all inhalation therapy inpatient charges received by the business office during December, 1968 to determine the number of late charges which resulted. December, 1968 was chosen because the patient charges were more accessible and would result in the least disruption to the business office.

Literature Review

A review of the literature revealed that extensive material is available on the subject of patient charges, although only a few articles

were found that had a direct bearing on the situation at Hendrick Memorial Hospital. Most of the current literature dealing with patient charges is more or less limited to the use of various automated data processing systems. Such systems will not be considered due to the financial limitations imposed on this study.

CHAPTER III

THE PRESENT SYSTEM

Inpatient Charge System

The inpatient charge system begins at the admission office. Inpatient personal addressograph plates are prepared at the time of admission. The data plates contain the name and address of the patient, his admission registry number, the name of the attending physician, the patient room number, the department of jurisdiction (e.g. surgery), and the age of the patient.

The metal addressograph plate is kept with the patient's records at the nursing station. Laboratory and inhalation therapy personnel come to the patient to perform the service or treatment. Generally, the only time the patient goes to another department is for an X-ray, physical therapy treatment, or surgery. When the patient goes to another department, the medical record and the addressograph plate are transferred with him.

Most charges originate at the nursing station except for those for inhalation therapy, the blood bank, surgery, and the recovery room. Initiation of a charge slip takes the form of a request for service by the attending physician. The physician indicates the types of tests or services to be performed and treatment to be given by annotating the patient's chart. From this notation, the charge nurse extracts the appropriate

information on the proper inpatient charge form and at the same time imprints the patient's personal data onto the form using the metal addressograph plate and table top imprinter. The patient charge form is then forwarded where applicable by pneumatic tube system to the department scheduled to perform the service. Once the service has been completed, a copy of the charge form is priced by the activity providing the service and is sent to the business office via pneumatic tube. Each activity which charges for services or treatment has a copy of the hospital's rate schedule for every service or item provided. The business office receives the charge forms and files them alphabetically to be posted to the patient's account later that day.

The posting of patient charges to the patient accounts is routinely accomplished at a prescribed time each day in order to effect a manpower savings and to reduce unnecessary interruptions; such interruptions were previously experienced by the posting clerk who in the past had attempted to post charges as they were received in the business office. The present posting lag time varies from several minutes to twenty-four hours. If a patient is discharged prior to the posting of all charges, those applicable charge forms which have been received by the business office can be hand-posted as the patient is processed out. Charge forms received at the business office can be posted to the patient's account after the patient has been discharged but a second billing must be effected to collect the late charges.

The pricing and preparing of charge forms has been decentralized to the activity which provides the service. At Hendrick Memorial Hospital, the following activities generate charges for services: pharmacy, central supply, inhalation therapy (Appendix A), surgery, operating room,

anesthesia, delivery room, blood bank, physical therapy, laboratory, X-ray, nursing.

All of the charging activities have the pneumatic tube as the means of forwarding the inpatient charges to the business office; exceptions are inhalation therapy, physical therapy, and the blood bank which relies on someone, usually the secretary of the activity, to carry the charges by hand to the business office. Generally, charges originating from all activities except inhalation therapy are forwarded to the business office from a minimum of several times a day to as often as they occur. The frequency with which these charges are forwarded to the business office depends primarily upon the particular work load of the secretary of the activity during a given day.[1]

Patients are usually told at the time of discharge that charges on their bill do not include those which may have originated after midnight of the day preceding discharge. The hospital's unofficial policy on discharges is that they will be accomplished prior to 11:00 A.M. Patients who are discharged after 11:00 A.M. may be charged $2.00 for each hour they remain beyond the check-out time. Patients who remain until 6:00 P.M. may be charged for a full day.

All of the rates and charges are listed in the business office and all patients are charged from this list. Routine services charged, whether they be private, semi-private, or ward, include routine nursing service, linens, meals, special diets as prescribed by the physician, and some routine drugs. Additional charges are made for special services such as drugs, laboratory tests, dressings, inhalation therapy treatments, and X-ray as ordered by the physician.[2]

Patients are advised that it sometimes requires as much as twenty-four hours for a charge slip from a given department of the hospital to be posted on the patient's bill by the accounting office. For this reason, charges for treatments or medicines ordered immediately prior to discharge may not be received in the business office in time to appear on the patient's bill before discharge from the hospital. A bill for delayed charges will normally be mailed a few days after discharge.[3]

The business office begins posting charges, which have been received and filed throughout the day, at 12:00 A.M. Charges which originate after midnight or which may not have been forwarded until after that time will not normally be posted to the patient's account until the following midnight.[4]

Inhalation Therapy Charges

Inhalation therapy is part of the expansion of the hospital's services and was not included in the original hospital construction plan; as a result the pneumatic tube system was not extended into this area of the hospital. This department began in 1964 after a study had been initiated by Doctor Travis Smith (Appendix B). The department began by having only 10 to 12 patients per day with an average of 30 treatments per day. By the latter part of 1964 the department was giving as many as 55 treatments per day, and in 1965, this figure climbed to 86. During 1966 94 treatments per day were given. During 1967 as many as 115 treatments per day were given. During 1968 the peak period was January with 166, and at the present time the average is 131 patient treatments per day (Appendix C).[5]

The above treatment figures relate to intermittent positive pressure breathing (I.P.P.B.) treatments only. The use of other types of

inhalation therapy such as nasal oxygen has also significantly increased. The department also provides now pulmonary function tests on an inpatient and outpatient basis.

The request for inhalation therapy originates with the physician's orders. The charge nurse or ward secretary telephones the secretary of the inhalation therapy department to arrange for the treatment requested by the physician.

The nurse or secretary calling in the request for treatment provides the secretary of the inhalation therapy department with the information necessary to schedule the treatment. This information consists of the patient's name, room or ward, the bed location, the treatment to be given, the method to be used in administering treatment, the hours when treatment is to be given, the name of the physician requesting treatment, and any special instructions that may be appropriate. The inhalation therapy department provides twenty-four coverage to accept telephonic requests for treatment.

The secretary of the inhalation therapy department prepares the patient locator card from the telephonic information received from the requestor. The locator card is used primarily for record keeping and for identification of patients receiving treatment.

The patient is then scheduled for the procedures requested by posting the information on an I.P.P.B. schedule. The I.P.P.B. schedule is the worksheet for the inhalation therapists. These therapists or technicians, as they are often called, are continuously performing treatments throughout the day. Thus, if a treatment is to be initiated immediately, it may be necessary for the operator to page one of the fifteen full-time therapists through the public address system.

The therapist performs the required treatment and enters this in the patient's medical record located at the nursing station. This provides the charge nurse with evidence that the physician's orders were carried out as prescribed.

The inhalation therapist then continues to give treatments to all scheduled patients requiring inhalation therapy and posts this information on the I.P.P.B. schedule indicating the actual time the treatment was administered (Appendix D). The I.P.P.B. schedule is maintained from midnight of one night to midnight of the next and covers all treatments given within the twenty-four hour period.

In order to provide twenty-four hour coverage, the inhalation therapists operate on the following three shifts:

First shift: 7:00 A.M. - 3:30 P.M.

Second shift: 3:00 P.M. - 11:30 P.M.

Third shift: 11:00 P.M. - 7:30 A.M.

The third shift of therapists provides the night charge nurse with a roster of patients who have received inhalation therapy treatments as recorded in the I.P.P.B. schedule for the preceding twenty-four hour period. Using the metal addressograph plate, the nurse then imprints the patients's name and personal data onto the charge form. The therapist picks up the charge form with the imprinted data from the nursing station the following morning around 7:00 A.M. and brings it to the secretary of the inhalation therapy department so that charges can be recorded on the form. The charge data is then entered on the charge form by recording the number and types of treatments given during the twenty-four hour period multiplied by the charge for that particular treatment (Appendix E). The I.P.P.B. schedule becomes the basis for the preparation of the charge

form, which includes all charges incurred during the preceding twenty-four hour period.

Finally, the daily summary sheet, which identifies the daily total of inhalation therapy procedures performed, is prepared. This data is useful in evaluating patient work load and types of treatments given.

The charge form is then carried by hand to the business office by the secretary of the inhalation therapy department, usually by 1:00 P.M. daily. However, this time varies depending upon the time required to complete all charge forms; this time, in turn, is dependent upon the number of interruptions she has experienced.

Coverage for the secretary of the inhalation therapy department by a part-time secretary who comes in on weekends assures that charges from Saturday and Sunday are forwarded on a daily basis.

Based upon the present procedure, if a patient were to receive a treatment at 12:01 A.M. Monday morning, the I.P.P.B. schedule would not be completed until midnight Monday. The preprinted personal data on the charge form would not be picked up at the nurses station until 7:00 A.M. Tuesday for pricing of the charges. The secretary would not turn the charge forms in to the business office until about 1:00 P.M. Tuesday. It would be filed in the business office and would not be posted until midnight Tuesday. Since the business office could add the charge manually to the patient's account after it had been received, the actual period of concern would be from 12:01 A.M. Monday, when the charge had been incurred, until 1:00 P.M. Tuesday, when the business office would receive it. If the patient were discharged prior to 1:00 P.M. Tuesday, the charge would not arrive in time to be added to the patient's account and would be considered a late charge.

When a patient is being discharged, the nursing station should forward a hospital clearance discharge slip to the business office (Appendix F). This form advises the business office that the patient will be discharged shortly and indicates the services used by the patient within the last twenty-four hours. If this form were properly prepared by the nursing supervisor, the use of inhalation therapy services would be indicated. The business office could secure the necessary charge slips and post them manually to the patient's account and have the bill ready for the patient when he arrives at the cashier's window. Unfortunately, the system does not provide for that degree of responsiveness by the nursing station or the business office. When a patient is discharged, he often brings the hospital clearance discharge slip with him to the business office. The business office then calls each department to inquire if the patient had any late charges there. Department personnel have to stop work and check their files. This ties up the telephone lines and wastes a tremendous amount of time at each end.

A study of all inhalation therapy charges for the month of December 1968 was conducted to determine the frequency of late inpatient charges. Charge forms were examined to determine the date the charge was prepared by inhalation therapy and the date it was posted by the business office. Each inhalation therapy patient account was examined to determine the actual date of discharge. Patients discharged prior to the day when the charge form was prepared were considered to be late charges. The results of this extensive study revealed that 3,737 treatments were given, 2,051 inpatient charge forms were prepared, and 160 late charges resulted. Of all the inhalation therapy charges for the month of December, 1968, 7.3 per cent were late charges. It is significant to note, however, that

these late charges affected 130 patients. It is therefore not surprising that an increasing number of complaints are being received from unhappy patients who received late charges after they were discharged.

Late charges are one of the greatest problems the business office encounters. They also cause bad public relations for they are annoying to the patient and sometimes difficult to collect.

Summary of Major Disadvantages of the Present Inhalation Therapy Charge System

The present inhalation therapy charge system has the following weaknesses:

1. There is currently no written administrative policy or guide to the preparation or submission of inpatient charge forms to the business office. The inhalation therapy department is currently unresponsive to the hospital's billing and posting procedures.

2. Charge forms are not forwarded to the business office on the same day the charge has been incurred. Every charge from the inhalation therapy department is at least one day late when it arrives in the business office.

3. The business office seldom receives advance notification from the nursing station of pending patient discharges. It is, therefore, usually unable to obtain late charges, to properly post them, and to check the accuracy of the patient's bill prior to discharge.

Footnotes

[1]Interview with Mr. Jerry Epperson, Head of Accounting, Hendrick Memorial Hospital, Abilene, Texas, February 24, 1969.

[2]Interview with Mr. John Karr, Comptroller, Hendrick Memorial Hospital, Abilene, Texas, February 24, 1969.

[3]Interview with Miss Gladys Newton, Head Cashier, Hendrick Memorial Hospital, Abilene, Texas, May 1, 1969.

[4]Interview with Mrs. Jeanette Parris, Posting Clerk, Hendrick Memorial Hospital, Abilene, Texas, February 25, 1969.

[5]Interview with Mr. Boone Powell, Jr., Assistant Administrator, Hendrick Memorial Hospital, Abilene, Texas, April 30, 1969.

[6]Interview with Miss Judy Bruggeman, Secretary, Inhalation Therapy Department, Hendrick Memorial Hospital, Abilene, Texas, February, 24, 1969.

CHAPTER IV

DISCUSSION OF PROPOSED MODIFICATIONS OR ALTERNATIVES

This chapter includes a review of existing systems employed by various hospitals in an effort to improve the flow of their inpatient charges to the business office. These modifications or alternatives will be studied in relation to the requirements for inpatient charge control at Hendrick Memorial Hospital.

Telautograph System

Research Hospital, Kansas City, Missouri, uses longhand message equipment which permits fast, accurate transmission of complete information on admissions, transfers and discharges.

When the admitting office receives word from a floor nurse of a discharge, a clerk there transmits the pertinent data in handwritten form on the longhand message equipment to each hospital department and to the business office.

Thus, in the case of discharges, departments are alerted to check their day's record for late charges. If any department discovers late charges, it immediately phones the business office so these charges can be included in the bill which is being prepared or updated.

The equipment consists of eight telautograph units. A transceiver is located in the admitting office and receivers are in the major departments.

When the business office receives a discharge message, the clerk pulls the patient's ledger card. If other departments phone in with late charges, they are written on a slip of paper from which they are posted to the ledger. Later, when a copy of the actual charge slip reaches the business office, the slip of paper is attached to it.

Adding information on the ledger card to any late charges, the clerk totals the ledger, checks it, and then sends it to the cashier's counter so it will be ready for the patient when he comes to the window.

Research Hospital averages about seventy-five telescribed messages a day. The equipment has the capacity to handle many times that number of messages.[1]

This system would involve certain limitations and disadvantages at Hendrick Memorial Hospital. First, the business office must be alerted by the floor nurse of a pending patient discharge. But notification to the business office of a pending discharge is presently lacking at Hendrick Memorial Hospital and telautographic transmission in itself would not improve notification control. Second, each department is required to stop work to search through their day's record for late charges. This search would be time-consuming and often unproductive at Hendrick. Third, if the department does have late charges, they report this to the business office by telephone lines. This method of reporting could unnecessarily tie up telephone lines. Fourth, this procedure requires continuous monitoring by each department. Finally, since the messages are handwritten there is always the possibility of unclear scribbled messages which would be difficult to decipher.

In summary, the telautograph system used by Research Hospital would be of questionable value to Hendrick Memorial Hospital. The principal

objection to this system is that it would impose an additional work load on the business office and would not solve the basic problem of late charges.

Paging System

The American Legion Hospital at Crowley, Louisiana, is a small forty-five bed general hospital. Because of its small size, a comparison of the American Legion Hospital with Hendrick Memorial hospital is less justified. However, American Legion has apparently solved the problem of late charges for a small hospital.

American Legion's method includes a satisfactory paging system, the cooperation of the switchboard personnel who handle the paging system, and the understanding of all personnel.

When a patient is discharged, his notification of discharge along with his medical record from the nurses' station is sent to the business office. When the business office receives the discharge notice, the billing clerk picks up the phone and informs the switchboard operator that a certain patient is being discharged. The switchboard operator then announces over the paging system a predetermined coded prefix and the patient's room number. For example, Central 25 would mean that the patient in room 25 is being discharged.

Any department that may have charges on this particular patient then knows that these charges must be sent to the business office immediately. If there are no charges from that particular department, the call is ignored.

When the call is heard over the paging system, housekeeping knows immediately that a patient unit is ready to be cleaned and prepared for the next patient. Maintenance likewise knows of a vacant unit; if there are any repairs or inspections to be made, these can be done when the

unit is unoccupied. This method of control takes advantage of the existing paging system of the hospital, saves time, and reduces late charges. Its principal advantage is that it is easy to implement and requires no modification of the present system.[2]

This system has certain limitations and disadvantages to Hendrick Memorial Hospital. First, the switchboard serves as the information desk for the hospital. In addition to answering questions and giving directions, the switchboard pages doctors, nurses, patients, inhalation therapists, the chaplain, and others. If patient discharge notification were handled by the switchboard, it would increase the already overburdened operation. Second, there is the problem of duplicate room numbers. For example, there is a room number A-301, M-301, and an extension 301. This would lead to some confusion as to which patient was being discharged. Finally, it would be difficult to determine if everyone concerned heard the page.

Dial Telephone System

Another method of reducing late charges consists of the use of the dial telephone system with central recording in the business office for charge communication. This enables the hospital to use its existing telephone system with a small additional monthly rental charge to modify the system to connect it to a central recorder. In addition to this, a central recording system consisting of two recorders and a transcriber is required. This equipment is similar to a tape recorder. It is received in the busines office by an automatic answer and record machine. The rental charge for this equipment is $27.50 for one hour of recording and $30.00 for two.

Under this system pertinent data pertaining to the patient charge, such as the source department, his account number, his room number,

a description of his charge, and the amount of the charge, is dictated over the dial phone directly to a central recorder in the business office. The hospital billing department transcribes these charges to a continuous standard charge form. They are then separated and posted to patient's accounts during the normal work day.

This system provides fast communication of charges. The departmental log replaces charge forms now prepared in charge source departments. Such centralization reduces the clerical work load in many departments. It utilizes the telephone, which is easily accessible, for rapid transmission of charges. The charges dictated are automatically recorded in voice recorders in the business office and are ready for transcription. During the hours when the recording system is unattended, charge recording can be accomplished.[3]

The dictation charge method has the advantage of focusing attention on and giving responsibility to the departments rendering service to the patients; thus, these departments become more conscious of the importance of prompt and accurate reporting of charges. The potential benefits of this method include a substantial reduction of late charges and the possibility of increased revenue through better control of such charges at the source.

The chief disadvantage of this method is that it would require an orientation and training period for personnel to understand how to use the equipment. However, the equipment is relatively easy to operate and the time required for such an orientation would be minimal. Another disadvantage of the dial telephone system is that it would increase the work load on the business office personnel. This is considered to be a minor problem since a significant personnel savings would occur in each major

department by centralizing patient charges in the business office. Currently, business office personnel are utilized in posting charges after midnight. By transcribing charges when they occur, the staff required in the evenings would be reduced; furthermore, charges would be posted when they occur and this would significantly reduce the magnitude of the late charge problem.

This system could be effectively employed without automatic data processing equipment. However, it could be converted to operate an automatic data processing system with minor modifications at a minimum cost to the hospital. Central pricing could be accomplished in the business office by programming every test or service performed in the hospital with the corresponding price for that service. Central pricing would provide better control of charges and greater consistency.

Pre-stamping Charge System

The inhalation therapy department of Scott and White Memorial Hospital in Temple, Texas, uses the pneumatic tube system of an adjacent department for transmitting charges to the business office. Charges are accumulated for an entire day but are forwarded to the business office prior to 6:00 A.M. The inhalation therapy department pre-stamps all charges for treatments scheduled to be given during the day.[4]

Scott and White Memorial Hospital has found that when treatments are scheduled Q.I.D. (four times a day), they are normally given at 7:00 A.M., 11:00 A.M., 3:00 P.M., and 7:00 P.M. Treatments scheduled T.I.D. (three times a day), are normally given at 11:00 A.M., 3:00 P.M., and 7:00 P.M. Treatments scheduled B.I.D. (two times a day) are given at 7:00 A.M. and 3:00 P.M. This information is helpful in pre-stamping charges for treatments to be given during the day. Treatments which have

been given are crossed out on the preprinted form and those which have not are circled. The treatment sheet used for this purpose tells the business office when a patient has received a treatment. The business office then prepares the charge based upon this information.

The disadvantages of this system are numerous with respect to its application at Hendrick Memorial Hospital. First, the pre-stamped form means that charges are generated in many cases before the treatment is given. If the patient is not in his room when treatment is scheduled to be given or if the patient refuses a treatment, then the department which originates the charge must send in a corrected charge. This correction requires additional work for the business office in correcting its records and for the inhalation therapy department in recording treatments. Second, Hendrick Memorial Hospital does not have the same treatment schedule as Scott and White. Treatments are often given on the half-hour, early in the morning or late in the evening. The pre-stamped form with designated times for treatment is of limited value when treatments are given at random throughout the day. Finally, this system would increase the work load on inhalation therapy department personnel in handcarrying additional charges to the business office. The inhalation therapy department does not have the use of an adjacent pneumatic tube system. The nearest department which has a pneumatic tube system is the business office. This system, therefore, does not offer an acceptable means of forwarding charges to the business office.

Shift Charge System

The inhalation therapy department of Central Baptist Hospital in Lexington, Kentucky, uses the pneumatic tube system of an adjacent department for transmitting charges to the business office. Charges are prepared

by the inhalation therapists at the end of their shifts. There are three shifts of therapists for each twenty-four hour period. Charges are forwarded to the business office three times a day.[5]

The advantage of this system is that charges would be forwarded to the business office shortly after they occur. The disadvantages of this method are that recording charges at the time treatment is given rather than accumulating them would increase the number of charge forms and would not be practical at Hendrick Memorial Hospital unless a pneumatic tube system were installed. Since there is no readily available pneumatic system in any adjacent units, this system would increase the work load on the secretary of the inhalation therapy department. In addition, permitting each therapist to record the treatments and price on each charge ticket rather than having one person do this would increase the chances of error.

Footnotes

[1]Claude B. Stanley, "Longhand Messages," Hospital Management, LXXXIX (June, 1960), p. 68.

[2]Darryl Wagley, "Late Charges no longer a Problem," Southern Hospitals, XXX (November, 1962), p. 33.

[3]B. G. McCall, "Communication of Charges," Hospital Accounting, XVII (May, 1963), p. 13.

[4]Interview with Mr. Richard Wharton, Technical Director of Respiratory Therapy, Inhalation Therapy Department, Hendrick Memorial Hospital, Abilene, Texas, April 30, 1969.

[5]Interview with Mr. Richard Wharton, Technical Director of Respiratory Therapy, Inhalation Therapy Department, Hendrick Memorial Hospital, Abilene, Texas, May 1, 1969.

CHAPTER V

CONCLUSION

Conclusion

The best practicable method of reducing late inpatient charges originating in the inhalation therapy department at Hendrick Memorial Hospital is the adoption of the Dial Telephone System.

Recommendations

It is recommended that:

1. An orientation program be established, with the assistance of the local telephone company, to train hospital employees on the use of the dial telephone.

2. A procedural guide be prepared delineating the responsibilities for processing inpatient charges to the business office and for the transcribing and posting of these charges after they have been received by it.

3. Further study be conducted to determine whether posting should be done throughout the regular twenty-four hour day on a periodic time-phased basis or whether the bulk of posting activities should be carried out during morning hours just prior to the 11:00 A.M. discharge time.

APPENDIX A

INHALATION THERAPY CHARGE FORM

APPENDIX A

Inhalation Therapy

DATE_____

EQUIPMENT	NO. TREAT-MENTS	CHARGE
IPPB		
Ultrasonic IPPB		
Respirator		
Resuscitation		
Mouthpiece		
Disposable Hose		
Medication		
Medication		
Ultrasonic Nebulizer		
Aerosol Treatment		
Nebulizer		
Face Tent		
Aerosol Mask		
Flowmeter		
Oxygen Tubing		
Oxygen Catheter		
Oxygen Mask		
Nasal Cannula		
Oxygen		

EQUIPMENT	NO. TREAT-MENTS	CHARGE
Air		
Croupette		
02 Tent		
Isolette		
Suction Regulator		
Suction Catheter		
Suction Tubing		
Postural Drainage		
CO2-02 Treatment		
Tracheotomy Tube		
Endo Trachael Tube		
Tracheotomy Mask		
Pulmonary Function		
Hypothermia		

APPENDIX B

LETTER FROM TRAVIS SMITH, M.D.

September 18, 1963

Mr. E. M. Collier, Administrator
Hendrick Memorial Hospital
19th and Hickory Streets
Abilene, Texas

Dear Mr. Collier:

For the past two years or more, there has been considerable discussion among some of us with reference to inhalation therapy in Hendrick Hospital. As our knowledge of chest diseases and related conditions grows, certain facets of management become more important. We are particularly seeing the increasing importance of inhalation therapy in shortening the illness time and improving the outcome of individuals who have chest diseases, as well as heart failure, post-operative cases, traumatic cases, and a number of other conditions. Our special attention is called to the benefit of Intermittent Positive Pressure Breathing treatments. There is a growing need for more careful evaluation of the individual who has some chest or cardiac problem, as well as the pre-operative evaluation of many individuals, particularly the older persons.

It is therefore the purpose of this correspondence to set forth some specific recommendations for the creation and operation of a Department of Inhalation Therapy and Pulmonary Function. At the present time, we have no semblance of a pulmonary function laboratory in the hospital. The nearest thing to being a properly equipped laboratory is in my office. The IPPB therapy may or may not be administered properly to the patient; in the great majority of instances, it is improperly administered, and therefore the patient is not getting the proper therapy that is needed and that is being paid for.

With these circumstances in mind, the following suggestions are made:

1. That a Department of Inhalation Therapy and Pulmonary Function be established.

2. That this is rightly considered a portion of the practice of medicine, and not a portion of nursing service; therefore a physician should be in charge of this service, for supervisory purposes. This position should not be an appointive position by the Chairman of the Staff but should be a permanent appointment, so that there will be proper coordination of the service by some individual interested in this type of work. There should be an arrangement for financial remuneration to this physician, to compensate for time and effort spent in supervising the Inhalation Therapy Department and performing the necessary technical evaluation of the Pulmonary Function Studies.

3. Intermittent Positive Pressure Treatments, as well as Pulmonary Function Studies, require trained personnel in order to be properly administered. Inhalation Therapists and Pulmonary Function Technicians are available, and there are schools of training for such individuals. This department should start with one trained technician, and the personnel of the department should be enlarged as duties of the department increase.

4. Adequate room facilities should be furnished for the department, so that all inhalation therapy equipment may be housed and maintained, so that proper maintenance of all of the equipment may be assured and the efficiency of the department enhanced.

5. Equipment that is recommended for IPPB therapy in Hendrick Memorial Hospital at the present time is as follows:

   (a) Three (3) Bird Mark 7 IPPB machines, mounted on portable pedestals, equipped with dead space eliminators, which will cost $437.50 each.

   (b) One (1) Bird Mark 8 IPPB machine, with deal space eliminator, and mounted on pedestal, which will cost $537.50.

   (c) Additional equipment for the Bird machines should include two (2) complete tracheotomy sets, $17.50 each; one (1) set of infant masks, $27.00; and additional adult masks, Nos. 3, 4 and 5, $9.60 each.

In order to obtain proper equipment for Pulmonary Function Studies, the following equipment will be needed:

   (a) One Godart Pulmonet, which will cost $2,495.00.

   (b) One Jones Pulmonor, portable, which will cost $150.00.

6. It is recommended that the organization and operation of this department be expedited to coincide with the institution of the proposed Intensive Care Unit and our rapidly developing chest and cardiovascular service. Without this segment of medical practice, both services will be quite definitely handicapped.

7. This letter is intended to convey my interest in establishing and supervising the Department of Inhalation Therapy and Pulmonary Function.

Very respectfully submitted,

Travis Smith, M.D.

APPENDIX C

INHALATION THERAPY NUMBER OF IPPB TREATMENTS

INHALATION THERAPY

NUMBER OF IPPB TREATMENTS

Month	1964	1965	1966	1967	1968	1969
January	860	2,309	2,923	2,769	4,160	3,963
February	829	2,709	1,568	2,575	1,186	3,244
March	816	2,692	1,839	2,996	2,730	3,796
April	965	2,144	2,193	2,733	2,239	3,453
May	817	2,413	1,767	3,387	2,589	
June	1,469	1,618	1,480	2,598	2,821	
July	1,342	1,046	1,828	1,724	2,707	
August	866	1,345	2,435	2,013	2,248	
September	1,044	1,881	1,926	2,314	2,356	
October	1,396	1,808	2,165	2,433	2,508	
November	1,637	2,217	2,023	2,834	2,539	
December	1,229	2,423	2,234	3,576	3,737	
Total	13,270	24,605	24,381	31,952	34,359	

APPENDIX D

NUMBER OF I.P.P.B. TREATMENTS GIVEN BY EACH INHALATION THERAPY SHIFT FROM DECEMBER 1ST TO 7TH, 1968

NUMBER OF I.P.P.B. TREATMENTS GIVEN BY

EACH INHALATION THERAPY SHIFT FROM DECEMBER 1ST TO 7TH, 1968

Shift	Time treatment given	No. of treatments
First	7:00 A.M. - 3:30 P.M.	465
Second	3:00 P.M. - 11:30 P.M.	318
Third	11:00 P.M. - 7:30 A.M.	95

APPENDIX E

INHALATION THERAPY CHARGE LIST

INHALATION THERAPY CHARGE LIST

Service Description	Charge
Cases only--no equipment charge included	
Oxygen, per hour	$ .75
Oxygen, per 100 pounds	.50
Oxygen maximum per day	12.00
Equipment only	
Canopy disposable, for croupette	$ 6.50
Canopy disposable, for tent	7.00
Catheter	.50
Croupaire, per day	2.00
Mask	2.50
Mouthpiece	.50
Nebulizer, per day	1.00
Oxygen hose, disposable	3.50
Respirator, minimum	5.00
Respirator, per hour	1.00
Respirator, maximum per day	24.00
Tent, face	.50
Tent or IPPB equipment, per day	2.00
All other equipment	1.00
Miscellaneous therapy and equipment	
Aerosol, per treatment	$ 2.00
IPPB machine, including oxygen, per treatment	3.00
IPPB and ultrasonic nebulizer, per treatment	5.00
Nebulizer with oxygen, per hour	1.00
Percussion per treatment	1.00

APPENDIX F

HOSPITAL DISCHARGE CLEARANCE SLIP

HENDRICK MEMORIAL HOSPITAL
DISCHARGE CLEARANCE SLIP

To be sent to the Business Office shortly before the patient is ready to check out of hospital.

TIME_____ DATE_____

TO CASHIER:

_____ ROOM_____

has been dismissed by Dr._____

and will leave at_____ A.M. P.M._____ 19_____

Within the last twenty-four hours the patient has used the services of the following departments. (Write "none" below if nothing is used in the above period.)

Pharmacy___ Inhalation Therapy___ Opr. Rm.___ X-Ray___
Del. Rm.___ Physical Therapy___ Blood Bank_____
Central Supply___ Emergency___ Anesthetic_____

_____
Supervisor

BUSINESS OFFICE CLEARANCE

Satisfactory arrangements for the discharge of this patient have been made with the Business Office.

_____
TIME DATE CASHIER

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BIOGRAPHICAL SKETCH OF WRITER

Major Meyer W. Cohen [redacted] He graduated from the University of Nebraska in June 1959 with a Bachelor of Arts degree. He was designated a distinguished military graduate from the University of Nebraska Reserve Officer Training Corps and was commissioned as a Second Lieutenant, Medical Service Corps, in June 1959.

He has had assignments with the 25th Medical Battalion, 25th Infantry Division, Schofield Barracks, Hawaii, from 1959-1962; with Letterman General Hospital, Presidio of San Francisco, California from 1963-1965; and with the Office of the Surgeon, Department of Army, Washington, D.C. from 1966-1968.

He has attended several courses at the Medical Field Service School, Fort Sam Houston, Texas. These have included the Army Medical Service Officer Basic Course in 1959, the Patient Administration Course in 1964, the Army Medical Service Officer Career Course in 1965, and the U. S. Army-Baylor University Program in Health Care Administration in 1968-1969.

Major Cohen is married and has three children.