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PREVIEW

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Mehl, Bernard

THE USE OF INDICES TO CONTROL DRUG COST IN HOSPITALS

Pace University

D.P.S. 1982

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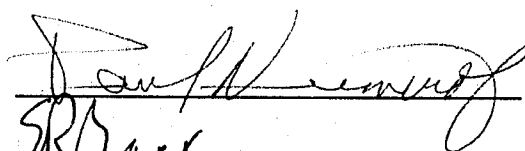
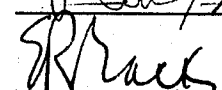
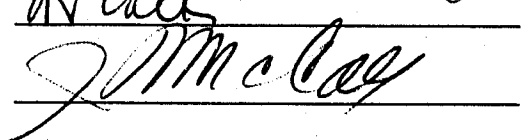
PREVIEW

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THE USE OF INDICES TO CONTROL
DRUG COST IN HOSPITALS

A Dissertation

Presented to

The Faculty of the Lubin Graduate School of Business
Pace University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Professional Studies

Bernard Mehl

1981

ABSTRACT OF A D.P.S. DISSERTATION

THE USE OF INDICES TO CONTROL DRUG COSTS IN HOSPITALS

The cost of drugs used in hospitals and other health care institutions is continuing to escalate, but there has been no effort made to determine what knowledge the pharmacy administrator has in reference to drug costs. In addition, there had been almost no attempts made to design a method to chart the changes taking place in the cost of drugs used in hospitals and other health care facilities.

This study surveyed selected hospitals in the United States to determine what information was available concerning drug cost, what method of control was used to determine if costs were changing and what methods of charting changes were recommended by the pharmacy administrators surveyed. The writer also developed and tested a group of indices that could be used by a health care facility to chart changes in the cost of drugs and to determine why these changes were taking place.

The study concluded that the pharmacy administrators surveyed had very little knowledge concerning the cost of hospital operations, the cost of drugs or the

reasons that the cost of drugs change. A series of indices were used to describe and chart drug changes in a selected hospital showing that changes might be due to inflation, census, patient-mix or pharmacologic drug use.

The importance of this information was demonstrated for the budgeting process, third party reimbursement formulas and the development of drug utilization review programs. It recommended that health care facilities use indices to chart drug costs in order to be able to control this supply expense better.

Bernard Mehl

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CHAPTER I

INTRODUCTION

Drugs are a resource used in health care to help cure, treat and prevent disease. The expenditures for drugs by hospitals in the United States have increased from \$1 billion in 1972 to \$2.7 billion in 1978. This dollar cost represents 27 per cent of the total prescription market.¹ In order to avoid excessive expenditures and improper drug utilization the hospital should be able to determine how this resource is being used.

To obtain control over the use of drugs, the pharmacy administrator must be capable of identifying the reasons for the changes in drug costs. Among the factors which may cause cost fluctuations are: price increases/decreases, the use of new and different drugs, change in dosage, manner of administration or an increase/decrease in the number of prescriptions dispensed. Identifying these or other reasons underlying a change in drug costs is the first step toward controlling these costs.

¹Gordon R. Trapnell, "The Cost of a National Prescription Program," National Health Insurance Issues (Nutley: Roche Laboratories, 1979), p. 192.

THE PROBLEM

Statement of the Problem

The problem is to establish a method for more effective drug control in hospitals and related health care institutions.

Specific Problems

There are four problems to be considered:

The first problem is to determine whether there is a need for drug cost information.

The second problem is to determine what knowledge hospitals have concerning drug cost and whether there is uniformity in the drugs being considered when various hospitals attempt to compare costs.

The third problem is to determine whether there are any methods used to record changes in drug cost.

The fourth problem is to determine whether a group of indices could serve to record changes in the cost of drugs.

DEFINITION OF TERMS

The following definitions will be used for the purpose of this study.

Drug

The definition of "drug" by the U.S. Food and Drug Administration is:

Drugs mean:

- (a) Articles recognized in the official United States Pharmacopeia, official homeopathic pharmacopeia of the United States, or official National Formulary;
- (b) Articles intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in man or animals;
- (c) Articles (other than food) intended to affect the structure or any function of the body of man or animals.
- (d) Articles intended for use as a component of any article specified in paragraphs a, b, or c; but does not include devices or their components, parts or accessories.²

Blood and blood products, with the exception of serum albumin, gamma globulin and similar agents, will not be included within the definition of a drug. This decision was reached because blood and blood products are usually found in the blood bank of most hospitals. As a result, the pharmacist has no control over these products.

Drug Cost

In this study the term "drug cost" refers to the expenditures made by a hospital to purchase drugs. It is the collective cost of purchases made by the institution

²Federal Food, Drug and Cosmetic Act, Sec. 201 [321].

in acquiring pharmaceutical agents as previously defined under the definition of "drug."

DELIMITATIONS

It was the intent of the study to review information currently available at hospitals relative to the cost of drugs and the use of drug cost indices. There was no attempt made to assess generic equivalency, medical judgment in prescribing or other cost control methods.

NEED FOR THE STUDY

Pomrinse pointed out that in the United States during the decades between 1900 and 1970 the role of the hospital in health care rapidly expanded. In the 1930's it had replaced the home as the primary site for child-birth and a decade later the concept of the hospital as a community health center emerged. In the 1960's and 1970's the hospital became the major source of primary, secondary, and tertiary health care. In addition to therapeutic care, the hospital also assumed responsibilities for education, research, and preventive medical care.³

³S. David Pomrinse, "The Crisis in the Health Care System," Hospital Administration (Winter, 1974), 10-39.

Harmet stated that in the early 1900's more than half of all hospitals were investor-owned. Physicians owned and operated these hospitals for their own convenience and profit. The depression brought about a sharp decline in owner-operated hospitals because of a decreased hospital census and inability to collect accounts due. By 1940 the proportion of privately-owned hospitals had dropped to 25 per cent while the number of government, religious, and charity-owned hospitals increased. By 1969, the proportion of owner operated hospitals had dropped to 16 per cent, which represented only 8 per cent of the total number of hospital beds available. Today, the number of investor-owned hospitals is beginning to increase because it has been shown that hospitals can be profitable.⁴

Roffe and Lamy suggest that the depression of the 1930's had a significant effect on the sources of payment for hospital care. During this period a group of teachers and hospitals in Texas banded together to develop the concept of prepaid hospital services. This was the beginning of Blue Shield and Blue Cross which pioneered the concept of third party payment to finance hospital costs. The major portion of all hospital costs and charges today are paid for by a third party such as Blue Cross, Medicaid, and Medicare. By 1975 the Government's share of the total

⁴Harold Harmet, "Hospital Management Companies," Basic Report, Becker Securities Company (January, 1976), pp. 1-6.

expenditure for hospital care rose to 55 per cent, while reimbursement insurance (other than government programs) accounted for approximately 35 per cent of total hospital reimbursement. Direct payments for hospital care by patients have declined from 20 per cent in 1965 to about 10 per cent in 1975.⁵

Expenditures for Hospital Care

An article in U.S. News & World Report stated that the health-care industry is today the third largest industry in the United States and accounted for 8 per cent of the Gross National Product in 1978. In the same year the cost of patient treatment by hospitals was 40 per cent of the total expenditure (\$170 billion) for health care in the United States.⁶

Gibson and Mueller point out that in the early 1960's the cost of hospital care rose at a rate of 9.1 per cent annually and by 1975 it was increasing by 14.5 per cent per year. This increase in cost was due primarily to greater demand for hospital services which occurred after the introduction of the Medicaid and Medicare reimbursement programs.⁷

⁵Bruce D. Roffe and Peter Lamy, "Hospital Costs," Journal of the American Pharmaceutical Association (September, 1978), 16-18.

⁶"Inside Our Hospitals," U.S. News & World Report (March 5, 1979), pp. 33-36.

⁷Marvin G. Gibson and Matthew S. Mueller, "National Health Expenditures. Fiscal Year 1976," Social Security Bulletin, HEW Publication, #SSA 77-11200 (April 1, 1977).

Expenditures for Drugs

A study by Trapnell found that in 1978 the expenditure for drugs by hospitals was \$2.7 billion and represented 4 per cent of total hospital costs. As discussed in this study, the 4 per cent figure is deceiving and appears to be small because it is a part of the hospital budget which is composed primarily of labor costs.⁸ It is, nonetheless, a substantial dollar amount. As a result, there is growing concern on the part of the general public and the Government over the ever increasing cost of drugs. Various approaches to control drug cost, such as generic prescribing and cost caps in response to this concern, are being tried.⁹ The Federal Government (which is involved with health care principally because of Public Law 89-97, known as Medicare (Title XVIII) and Medicaid (Title XIX)) is attempting to reduce medication expenditures. To this end the Department of Health, Education and Welfare in 1973 proposed regulations ". . . to limit drug reimbursements under programs administered by the department to the lowest cost at which the drug is generally available unless there is a demonstrated difference in therapeutic effect."¹⁰ These regulations

⁸Trapnell, op. cit., p. 64.

⁹U.S. Department of Health, Education and Welfare, Maximum Allowable Cost for Drugs, Federal Register 39 (November 15, 1974), pp. 40302-05.

¹⁰Ibid.

subsequently became known as the Maximum Allowable Cost (MAC) regulations. By placing a maximum reimbursement rate on drugs the Government forced the use of generic or competitive drugs and thus hoped to keep the cost of drugs to a minimum.

The regulations contained three mechanisms for drug cost control to reduce the expenditure for medications. The first two limited reimbursement by means of a maximum allowable cost, an estimated acquisition cost for drugs, and a dispensing fee. The third mechanism would supply health-care practitioners with information about the cost of drugs.¹¹

Three years after the adoption of these regulations the Department of Health and Human Services is just beginning to publish drug costs data.¹² It had been anticipated that the availability of this information would cause the prescriber, the dispenser and the patient to be more conscious of drug costs. Further, it was hoped that the prescriber and dispenser would choose the lowest cost drug from among drugs of equal therapeutic effectiveness.

Another method which attempts to standardize drug use and keep expenditures at a minimum is the formulary

¹¹Ibid.

¹²U.S. Department of Health and Human Services, Guide to Prescription Drug Costs (Washington: Government Printing Office, 1979), p. 1.

system. Smith and Brown point out that this procedure restricts each prescriber to drugs which have been selected by a hospital committee of physicians and pharmacists. This committee is known as the Pharmacy and Therapeutics Committee or the Formulary Committee. This group must determine what drugs are most effective in treating any given disease. Only these drugs are admitted to the hospital formulary and used within that institution.¹³

A formulary limits the number of drugs being used for a given disease and seeks to insure that only the most effective agent is used. This does away with purchasing more than one brand of the same drug. Costs are held down by reducing inventory, placing the purchaser in a more competitive position, and allowing for the purchase of larger quantities of any given drug.

Many states have also adopted the formulary system. The state does this by developing a list of drugs which it believes are the most effective therapeutic agents. In addition, the listing indicates the brand or manufacturers that are acceptable.

In Massachusetts the Drug Formulary Commission

¹³Mickey C. Smith and Thomas Brown, Handbook of Institutional Pharmacy Practice (Baltimore: Williams & Wilkins, 1979), p. 514.

estimated savings of \$10 million.¹⁴ Tennessee predicted a savings of \$1,400,000 per year and the states of Pennsylvania, Maryland, New York, Florida and Michigan have instituted or are considering a State Formulary System.¹⁵ It is hoped that this will force the use of generic drugs and bring about saving.

Federal and state governments are concerned about high drug cost but feel it can be reduced by mandating generic drug usage. To accomplish this goal it will be necessary to have comparative drug cost figures available. The cost figures will define how drug costs vary and whether drug costs differ based on generic or brand name drugs being purchased. In addition, this information will help determine whether the lowest cost most effective, agent is being used and whether costs vary for different health care settings.

This need was voiced in the Final Report--Task Force on Prescription Drugs, published in 1968. The Report called for ". . . a dynamic process aimed first, at rational prescribing and the subsequent improvement in the quality of health care, and second, at minimizing needless expendi-

¹⁴Robert Burack, "Massachusetts Generic Drug Law," New England Journal of Medicine, CCLXXV (December, 1971), 1326-27.

¹⁵Mark Meyer, Herbert Bates and Norman Swift, "The Role of State Formularies," Journal of the American Pharmaceutical Association, XIV (December, 1974), 663-66.

tures."¹⁶ This statement was directed to the development of a system of drug utilization review to improve prescribing. But thirteen years later no standard has yet been derived to determine what the phrase "needless expenditures" means. One reason for this may be that there is no index available to hospitals to compare drug costs or the utilization of drugs. In 1972, Brodie stated:

The goal of drug utilization review is to improve the quality of patient care through the prescription and the use of appropriate drugs in conditions for which their use, based on sound medical judgement, is indicated and at minimal cost consistent with an acceptable quality of care.¹⁷

An attempt to define "minimal cost consistent with an acceptable quality of care," has not yet been made.

What has become a basic document in the field of hospital pharmacy, the Mirror to Hospital Pharmacy, stated in 1964:

Expenditure per patient day. It is recommended that hospital pharmacists calculate the expenditure for drugs for inpatients per patient day and for outpatients per clinic visit, these records to be established in such a manner as to clearly differentiate these two expenditures and to permit comparisons among hospitals. It is further recommended that figures regarding expenditures for drugs from a representative

¹⁶U.S., Department of Health, Education and Welfare, Office of the Secretary, Final Report--Task Force on Prescription Drugs (Washington: Government Printing Office, 1968), p. 5.

¹⁷Donald C. Brodie, "Constructing a Conceptual Model of Drug Utilization Review," Hospitals, L (March 15, 1976), 143-49.