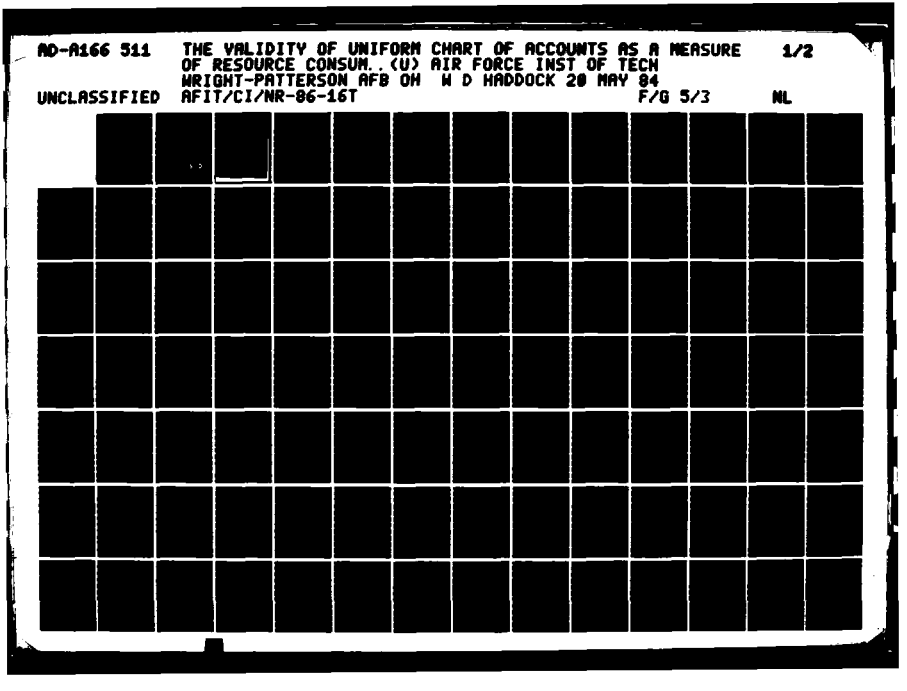
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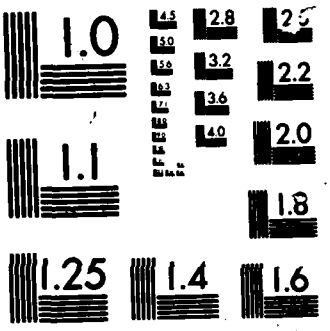

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFIT/CI/NR 86-16T	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* The Validity of Uniform Chart of Accounts as a Measure of Resource Consumption at the Patient Level		5. TYPE OF REPORT & PERIOD COVERED THESIS/DISSERTATION 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) William D. Haddock		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS AFIT STUDENT AT: Baylor University		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS AFIT/NR WPAFB OH 45433-6583		12. REPORT DATE 1984 13. NUMBER OF PAGES 165
14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)*		15. SECURITY CLASS. *(of this report)* UNCLASS 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT *(of this Report)*

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

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CHAPTER I

INTRODUCTION

With the Medicare Diagnosis Related Groups (DRGs) prospective payment system that started 1 October 1983, came a new era of reimbursing medical institutions and providers for care rendered to patients. If this method is proven to be a "reimbursement controller" for Medicare as a third-party payor, one may anticipate other third-party payors enacting similar systems. Further prediction allows surmising that competitive pressures from the civilian health care sector coupled with rising costs in the federally supported health care sector will prompt the legislative and executive branches of the United States Government to enact a replication of this or some form of the DRG system for funding all federal health care institutions. This idea has been foreshadowed by the scheduled Veterans Administration (VA) DRG budgeting system that will be implemented for its 1985 budget.[1] The predicted system might allow more accurate budgeting, performance evaluation, work-load projections, and estimations of the cost of resources required to meet the projected rates of demand based on the DRG case-mix concept. However, this is futuristic and the concern of today's military health care manager is with the Uniform Chart of Accounts (UCA).

At this time, costs for treating broad categories of patients at Department of Defense (DOD) facilities are tracked through the use of the UCA. The purpose of the UCA is "to provide consistent principles,

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THE VALIDITY OF UNIFORM CHART OF ACCOUNTS AS A MEASURE OF RESOURCE CONSUMPTION AT THE PATIENT LEVEL

By

WILLIAM D. HADDOCK

Captain, USAF, MSC

A Graduate Research Project
Submitted in Partial Fulfillment
of the Requirements for the Degree
of
Master of Health Administration

May 20, 1984

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ACKNOWLEDGEMENTS

I would like to thank the members of the Wilford Hall Medical Center DRG Study Group for the breadth of knowledge they brought to this study. I would like to issue a special thanks to Staff Sergeants Robert Ward and David June and Captain Rich Bigelow for the software development they provided toward this effort; Captain Scott Optenberg for the programming and statistical assistance; and Captain Sam Fye, who, as a true friend, patiently taught me, by example, the reality of participative management in leading a group of highly competent professionals. Finally and most importantly, I thank Jesus Christ for the gifts and opportunities He has most graciously provided to me -- it is to Him and His work that this document is dedicated.

CHAPTER I

INTRODUCTION

With the Medicare Diagnosis Related Groups (DRGs) prospective payment system that started 1 October 1983, came a new era of reimbursing medical institutions and providers for care rendered to patients. If this method is proven to be a "reimbursement controller" for Medicare as a third-party payor, one may anticipate other third-party payors enacting similar systems. Further prediction allows surmising that competitive pressures from the civilian health care sector coupled with rising costs in the federally supported health care sector will prompt the legislative and executive branches of the United States Government to enact a replication of this or some form of the DRG system for funding all federal health care institutions. This idea has been foreshadowed by the scheduled Veterans Administration (VA) DRG budgeting system that will be implemented for its 1985 budget.[1] The predicted system might allow more accurate budgeting, performance evaluation, work-load projections, and estimations of the cost of resources required to meet the projected rates of demand based on the DRG case-mix concept. However, this is futuristic and the concern of today's military health care manager is with the Uniform Chart of Accounts (UCA).

At this time, costs for treating broad categories of patients at Department of Defense (DOD) facilities are tracked through the use of the UCA. The purpose of the UCA is "to provide consistent principles,

standards, policies, definitions, and requirements for expense and performance accounting and reporting by DOD fixed medical facilities. Within these specific objectives the UCA also provides in detail : uniform performance indicators; common expense classification by work center; and a cost assignment methodology."[2] This cost accounting is the "basis for establishing a uniform reporting methodology that provides consistent financial and operating performance data to assist managers..."[3] However, this system does not consider a major point in cost assignment and performance evaluation - the case-mix measure at the patient level. It, in essence, ignores the nature of the products of a health care institution.[4]

"The purpose of the case-mix measure is to estimate differences between hospitals in cost per case that are due only to differences in the kinds of patients they treat."[5] This measurement allows the grouping of hospitals by the difficulty of cases treated. There are numerous classification systems for case-mix groupings. One system, DRGs, is considered as having several advantages, the most interesting of which is probably the reflection of the resources consumed and costs experienced in providing care for the case-mix that a hospital serves.[6,7]

Executive management at Wilford Hall United States Air Force Medical Center (WHMC) has deemed it necessary to determine the effects of case-mix on the cost of providing care and on the strategic planning function. In an effort to understand these effects, WHMC is

accomplishing a project in which the relationship between DRGs and resources consumed will be studied.

Statement of the Research Question

How well do WHMC UCA cost data, when aligned by DRG, compare to Health Care Financing Administration (HCFA) DRG cost data?

Specific Objectives, Criteria, Assumptions, and Limitations

The specific sequential objectives of this research effort included the identification of historic patient discharge costs for various DRGs within WHMC to determine if UCA costs discriminate UCA inpatient services with different case-mix complexities. Next, a comparison between selected DRG relative cost weights and corresponding HCFA DRG relative cost weights was accomplished to determine if there was correlation between the two weights. The next objective was to determine to what extent UCA DRG costs predict known HCFA DRG costs from a 1981 study. In accomplishing this study, an objective was to conduct an extensive literature review. Finally, the major objective of this study, and one which the preceeding objectives support, was to recommend further utilization or change of the UCA comparison procedures.

The research question was evaluated using a series of hypotheses tests involving the difference between means, a correlation analysis, and a regression analysis. The selected level of confidence for these

tests was five percent. In tests dealing with correlation, a moderate to strong correlation factor was established as the range of .4 - .8.

The only assumption that was established for this research project was that HCFA DRG costs have inflated by equal proportions since 1981.

The limitations established for this study were:

1. Only data from WHMC were considered.

2. The sample was limited to 1323 inpatient records and the DRGs they yield.

3. Inpatient records from the period October 1, 1981 — September 30, 1982 (Fiscal Year 82) comprised the population from which the sample was extracted.

Research Methodology

Due to the volume of the different diagnoses and treatments provided at WHMC, it was not feasible to compare the total DRG case-mix for variations between the different UCA DRG costs, between the UCA DRG costs and HCFA costs, and between their respective relative costs weights during the time frame of this study. In view of this, a sample of cases from the study time frame was used for all comparisons. During the stated study period, there was an active renovation program at WHMC. This activity caused the temporary

reallignment of patient admission locations and closure of several inpatient wards. This, in turn, caused an interuption of continuous patient care, in all inpatient ward areas, that could have allowed for the contamination of sample data were the sample based on inpatient ward stratification. To avoid such contamination, the study group was enumerated based on UCA inpatient services that provided the care received by the patients in the sample. This study was accomplished by using a sample of 1323 inpatient records systematically sampled from sixteen UCA services that were selected for study inclusion based on their exhibition of stability of Occupied Bed Days (OBD) and UCA costs per OBD during the study period (APPENDIX A). The systematic sample by service was derived using the Medical Administration Management System Revised (MAMSR) database.[8] The initial sampling ratio was predicated on the proportion of cases treated by a service, with respect to the population of patients seen by the sampled services. The sampling ratios by service are presented in Table 1. The intraservice sampling was predicated on the diagnostic variability demonstrated within each particular service chosen for study. That is to say, the sampling ratio was increased as diagnostic variability decreased. Actual ratios were calculated when MAMSR data was analyzed and the relative diagnostic variability, in the services chosen for study, was identified by the International Classification of Diseases, Ninth Revision. Of the diagnoses selected, the first criterion to be met was to sample from the diagnoses that represented seventy-five percent of the cases treated by a service. If this criterion could not be achieved (due to the lack of distinguishable diagnoses groupings), diagnoses selection was limited to those diagnoses

TABLE 1

SAMPLING RATIOS BY UCA SERVICE

SERVICE	UCA CODE	CASES IN SERVICE POPULATION	PROPORTION	SAMPLE SIZE
INTERNAL MEDICINE	AAA	3269	.1958	258
CARDIOLOGY	AAB	1144	.0673	90
NEUROLOGY	AAJ	559	.0329	43
ONCOLOGY	AAK	571	.0336	43
GENERAL SURGERY	ABA	1931	.1136	151
CARDIOTHORACIC SURGERY	ABB	574	.0338	43
NEUROSURGERY	ABD	627	.0369	56
OPTHALMOLOGY	ABE	733	.0431	57
OTORHINOLARYNGOLOGY	ABG	964	.0567	76
PLASTIC SURGERY	ABI	450	.0265	36
UROLOGY	ABK	1064	.0626	84
GYNECOLOGY	ACA	1138	.0670	89
PEDIATRICS	ADA	1282	.0754	100
NURSERY	ADB	141	.0083	11
ORTHOPEDICS	AEA	1653	.0973	129
PSYCHIATRY	AFA	752	.0442	60

representing one percent or more of the cases treated within the selected services.

After the 1323 inpatient records were selected, they were manually recoded from ICD-9 to ICD-9-Clinical Modifications (ICD-9-CM). This step was required to allow the Health Services International Grouper, June 1983 software package to convert the ICD-9-CM codes to DRGs.

The UCA cost calculation by DRGs began with the sample inpatient records enumeration of the services under which sampled patients received their care. The costs for all UCA services were calculated by totalling quarterly UCA service costs for each service, dividing those costs by the individual service total OBD, and arriving at the

cost per OBD by UCA service. This blending of costs was used to avoid extreme quarterly cost fluctuations in the first and last quarters of the Fiscal Year (FY). It is a well known fact that unexpended funds are expensed in the last quarter of a FY. This fact can cause increases in UCA costs that do not necessarily correspond to the numbers of patients treated during the quarter. On the other hand, recorded expenses may be reduced in the first quarter of a FY due to the reduced materiel purchases since those excess materiels purchased in the previous quarter (last quarter of the FY) are being consumed by the patients receiving care during this quarter. The quarterly costs used to develop the mean costs per UCA service OBD are shown in APPENDIX B. For example, to determine the mean OBD cost for an Internal Medicine patient, the total Internal Medicine UCA cost was divided by the number of Internal Medicine OBD. This same method was used to calculate daily costs on any basis used in this study, i.e., Direct Expense assigned to a service was divided by the number of OBD accounted for in that UCA service to yield a daily patient Direct Expense.

The total costs of the single DRG treatment episodes were determined by multiplying the average daily patient cost of the UCA service (under which a patient was admitted) by the individual patient Length of Stay (LOS). This method was also used to determine any intermediate costs per treatment episode that were used in this study. Specifically, the Direct, Support, and Ancillary cost per OBD were multiplied by the LOS to determine their representative costs by DRG.

To determine the mean cost for each of the WHMC study DRGs, all episodes treated were summed (by DRG) and this total was divided by the number of episodes treated within the portion of the sample of that DRG. To calculate the relative cost weights of the WHMC study DRGs, all DRG costs were summed and divided by the number of patients considered for all DRG. This general relationship is shown below:

$$\text{Grand Mean} = (n_1x_1 + n_2x_2 + n_ixi)/(n_1 + n_2 + n_i)$$

Here the values of the number of patients treated by individual DRG and the DRG treatment cost are represented by n and x, respectively. This calculation, as shown, yielded a Grand Mean. Mean DRG costs were then divided by this Grand Mean to yield a WHMC DRG relative cost weight, which will hereafter be referenced as a WHMC DRG Case Complexity Weight (CCW).

Analysis of the sample data were accomplished using the Biomedical Data Processing (BMDP) Statistical Software developed at the University of California.

The first analysis accomplished was to determine how well WHMC UCA costs differentiate UCA services that exhibit different aggregate case-mix complexities. After sampling was completed, three different UCA services were selected for comparison to determine differentiation. Services were selected based on a high, medium, and low HCFA aggregate CCW scores. The hypotheses tested were: the null hypothesis of no difference between the mean UCA DRG costs of selected

services, and the alternative hypothesis of inequality between the means. This test was accomplished by using a One-Way Fixed Effects Analysis of Variance (ANOVA). If a statistically significant overall F ratio were demonstrated, therefore rejecting the null hypothesis that UCA DRG costs for services indicating different aggregate CCW scores are equal, multiple comparisons of individual means were conducted and evaluated for equality between the means using the t-test. To adjust for an additive Type I error, Bonferrroni's method was used.[9] Additionally, the Direct Expense, Support Expense, and Ancillary Expense portions of the UCA total costs were analyzed to determine if there were discrimination between services when only portions of the total costs are considered. This resulted in a series of ANOVAs to test the null hypothesis that means of portions of the UCA total costs for selected services were equal and the alternative of inequality between these means.

The second analysis was done to determine if relative cost weights computed from UCA costs correlate to weights computed from HCFA costs. This analysis was accomplished by correlation analysis to determine the strength and statistical significance of the relationship between the individual WHMC DRG CCW, as computed from UCA costs of the study population, and the HCFA CCW, as shown in APPENDIX C.

The final analysis was accomplished to determine if there are differences between military and civilian hospitals with regard to patient characteristics that could potentially affect resource consumption. Military specific patient characteristics might

influence the military cost data and should be considered to determine their importance. Patient characteristics known to potentially impact LOS and resource consumption are Type of Admission, Benificiary Type, Age, and Sex. This general relationship is depicted below:

Civilian DRG Costs = f(Military DRG Cost, Military Specific Characteristics)

Using an ordinary Least Squares approach with forward stepwise inclusion criteria, this study estimated the following specific relationship:

$$\text{HCFA DRG Cost} = B_0 + B_1 \text{ UCA DRG Cost} + B_2 \text{ Type of Admission} + B_3 \text{ Benificiary Type} + B_4 \text{ Age} + B_5 \text{ Sex} + e$$

The HCFA and UCA DRG Costs and Age are interval variables measured in dollars and years, respectively. Type of Admission, Benificiary Type, and Sex are categorical variables and therefore "dummy" variables were established to represent them. The HCFA DRG cost structure was constructed from the mean DRG charge that resulted from an unpublished survey that was accomplished by the Bureau of Data Management and Strategy. This survey examined the charges from a 20 percent sample of Medicare patients in 5853 acute care hospitals across the nation during the first six months of calender year 1981. The mean charge value resultant from this survey was $3544.00.[10] With the sample of patients for this paper coming from FY 1982, this mean charge value was inflated by 11.4 percent to allign the dollar values

for financial comparibility.[11] Since the DRG CCW system reflects the magnitude of resources consumed per individual DRG relative to the mean value of resources consumed for all DRGs, the mean charge value for each DRG was developed by multiplying each DRG CCW (APPENDIX C) by the inflated mean charge value of $3948.00.

This analysis provided an examination of the extent to which the HCFA cost is predicted by WHMC UCA DRG cost. Additionally, the inclusion of military specific variables were examined to determine if the fit of the prediction equation could be improved.

LITERATURE REVIEW

What is the product of a medical institution? Is it the medical care process? Can it be defined in terms of the outcome of the process? Can it be defined in "terms of illness that are appropriately cared for (which does not require a measure of outcome)?" [12] Are the outputs multiple? Once the product is defined, how will productivity be measured and relative to which resource input? There is disagreement about the nature of the product of medical care.[13] There has been, and continues to be today, disagreement about the manner in which health care productivity should be measured. For many years productivity measures for different health care institutions have been compared based on institutional characteristics, i.e. bed size or physician input. Additionally, "efficiency" has been compared relative to cost per inpatient day or outpatient visit. Until recently, there has been no concern about the

type of patient seen in an outpatient visit or admitted for an inpatient day.

Martin Feldstein found that a simple measure of patient case-mix could account for 25 percent of the variation in per-case costs across hospitals.[14] Subsequent to this finding, there has been a migration of economists from studying the differences in hospital costs based on institutional characteristics to studying such differences based on patient characteristics.[15] This brings to point an idea that has long been ignored - types of patients, and their needs, and physicians' treatment practices determine the product of a healthcare institution. This concept is vastly different from the one which considers the proxy measure of the number of institutional beds as defining the product line of a healthcare institution.

Once an institution's product line is defined by type of patient diagnosis and the treatment procedure provided, a myriad of new actions can be more accurately accomplished. Fetter, Riedel, and Thompson have developed a method of budgeting based on such a product line.[16] They used a classification of patients relative to the homogeneity of patient care processes and resource consumption (this classification later became known as the DRG system). This type of system therefore allows projections, similar to those used by manufacturing industries, for patient load by classification (a workload budget), cost of production (an expense budget), and revenues that may be expected (revenue budget) for future periods. Accuracy in determining the composition of inpatient demand is extremely

important; with the capability of product line specificity, quality control systems may be established.[17] Institutional or strategic planning, categorical planning, and comprehensive health planning may be based on a DRG model.[18]

This study used the DRG system of case-mix measure because of the wide implementation it is now experiencing. However, the reader should be aware that the DRG system is not totally accepted by all those who seek to determine the best case-mix measure system.[19] The reader should also be aware that even with the controversy that surrounds this system, the DRG system is now part of the federal law that governs Medicare prospective reimbursement. Those authorities that accept the validity of the DRG system posit that it is not worthy of controversy and that it is useful for various purposes such as those stated above.

This writer found no previous studies that sought to prove the efficacy of UCA with respect to an individual level case-mix measure, or more specifically DRGs. This study seeks to investigate this topic and the relationship between the two systems.

FOOTNOTES

[1] Cynthia Wallace, "VA not immune from competition," Modern Healthcare, May 1983, p. 154.

[2] U.S., Department of Defense, Uniform Chart of Accounts for Fixed Military Medical and Dental Facilities, Department of Defense Manual 6010.10-M (July 1979), p.1-5.

[3] Ibid.

[4] Don Schneider and Al Parziale, "Development of Medical Classification Systems For Productivity Analysis," Proceedings of the Seventh Annual Conference of the Hospital and Health Services Division of the American Institute of Industrial Engineers February 9 - 11, 1976 (Colorado Springs, Co.: n.p., 1976), p. 284.

[5] U.S., Department of Health and Human Services, Report on Hospital Prospective Payment Systems, (October 1982),p. A-2.

[6] Ibid., p. A-11.

[7] Robert B. Fetter et al., "Case Mix Accounting in Hospital Budgeting, Cost Control and Prospective Reimbursement," Medical Care 18 (February 1980):29.

[8] U.S., Department of Defense, Wilford Hall USAF Medical Center, DRG Proposal For Wilford Hall USAF Medical Center (November 23, 1983), p. 21.

[9] David G. Kleinbaum and Lawrence L. Kupper, Applied Regression Analysis and Other Multivariate Methods (North Scituate, Massachusetts: Duxbury Press, 1978), p. 264.

[10] Telephone interview with Bill Sobaski, Division of Reimbursement Study, Office of Research, Health Care Financing Administration, Baltimore, Maryland, 8 September 1983.

[11] U.S., Department of Commerce, Bureau of Economic Analysis, "Survey of Current Business," Source Business Statistics 1982 64 (February 1984), Table S-6.

[12] Schneider and Parziale, p. 283.

[13] Ibid., p. 284.

[14] Martin Feldstein, Economic Analysis for Health Service Efficiency, quoted in James D. Bentley and Peter W. Butler, "The Concept of Case Mix," Topics In Health Care Financing 8 (Summer 1982): 2.

[15] Ibid.

[16] Robert B. Fetter, Donald C. Riedel, and John D. Thompson, "The Application of Diagnostic Specific Cost Profiles to Cost and Reimbursement," Proceedings of the Seventh Annual Conference of the Hospital and Health Services Division of the American Institute of Industrial Engineers February 9 - 11, 1976 (Colorado Springs, Co.: n.p., 1976), p. 228.

[17] Paul L. Grimaldi et al., "The Use of DRGs - Selected Applications for Medical Record Departments," Journal of American Medical Record Association 54 (February 1983): 29.

[18] John D. Thompson, "One Application of the DRG Planning Model," Topics in Health Care Financing 9 (Summer 1983): 64.

[19] Sharon L. Kreitzer et al., "Severity of Illness: The DRGs Missing Link," Quality Review Bulletin 8 (May 1982): 21.

CHAPTER II

DIAGNOSIS RELATED GROUPS (DRGs)

Introduction

The design and development of DRGs was begun in the late 1960's at Yale University by health services researchers. They were interested in predicting expected lengths of patient stay to allow utilization activities that could be focused on atypical patients. Subsequently these researchers and system creators (Robert Fetter, John Thompson, and Richard Averill) came to believe that DRGs could be used to identify and describe some of the inpatient products of a hospital and to link these products to the consumption of resources. This thought later blossomed into a method of providing a system for prospectively reimbursing hospitals for providing care to beneficiaries of third party payment entities. But numerous questions are raised when considering the subject of such a reimbursement system. Examples of these questions are: what is the concept of hospital products; exactly what are DRGs; how can the DRG system be used as a management tool in the provision of health care; and how is the HCFA using this system for reimbursement? This question can best be answered by beginning with an explanation of the concept of case-mix.

Case-Mix

Patient case-mix refers to the construction and application of a classification scheme comprised of subgroups of patients possessing clinical attributes and output utilization patterns.[1] Using basic economic thought, the factor inputs for a production function can be categorized under the rubrics of manpower, capital, facilities, and equipment. This relationship is sometimes shown where the quantity of a product produced, or the output, is a function of the interaction of the factor inputs. In the health care industry, a service industry, the "provision function" is poorly known because of the difficulty in precise output measurement.[2] The use of case-mix, as a measure, allows the direct relationship of factor inputs and "provision function" output(s) to be described in a tangible way. This idea is relatively new in that traditionally hospital cost relationships were typically studied using hospital characteristics or surrogate measures, such as operating beds, as the input, and numbers of admissions or discharges, as the output(s). Additionally, researchers, in the past and even in recent times (along with health care administrators), have tended to focus on the intermediate products of the health care process as if they were the end products. Such intermediate products are patient days (as mentioned above), visits, tests, procedures, and meals.[3]

Starting in the mid-1960's, Martin Feldstein contributed immensely to the measurement of the output factor. In his publication, Economic Analysis for Health Services Efficiency, he detailed a study of 177

British hospitals. In that study, he used "the proportion of a hospital's patients in each of eight clinical services to describe case mix differences..." to find that the patient case mixes of the hospitals could account for 25 percent of the variation in per-case costs across hospitals.[4] With these results, the concept that one of the types of a hospital's product is its case-mix was born. After Feldstein's results were published, case-mix became increasingly popular with economists studying the differences in hospital costs.

Feldstein's method follows logically with the traditional business concept that a firm's products are the outputs of its operational process or processes. These products are classified by type of process that is used in production or by the types of resources used in production. An analogy to the automobile industry can be drawn here. As stated above, previous to Feldstein's study, hospital production cost studies were based on the hospitals' characteristics as output measures. If these same methods were applied to automobile manufacturing plants, cost studies may by made on such bases as number of assembly lines, number of registered engineers employed, and affiliation with another assembly plant. In these cases, products are not considered and one can easily argue that such studies might be more valid if the different types of product outputs were considered. Just as the products of an automobile manufacturing plant are automobiles, the product outputs of a hospital are the provision of sets of "services provided to a patient as part of the treatment process" and controlled by the physician.[5] Adding credibility to this, Lave and Lave indicated through other studies, that measures of

case-mix are the first step toward defining a measure of hospital output.[6]

Just as different types of automobiles require varying resources in their manufacture, different types of patients require varying resources in the treatment processes that will hopefully move them from a state of illness to a state of wellness. To determine the actual differences between types of patients, a system of measurement must be developed. Such a system has been commonly termed as case-mix complexity and is used "to refer to an interrelated but distinct set of patient attributes which include severity of illness, prognosis, treatment difficulty, need for intervention and resources intensity."[7] Severity of illness refers to a patient's position on the continuum of illness and wellness or, simply put, the degree of illness the patient exhibits.

> Prognosis refers to the probable outcome of an illness including the likelihood of improvement or deterioration in the severity of illness, the likelihood for recurrence and the probable life span. Treatment difficulty refers to the patient management problems which a particular illness presents to the health care provider. Such management problems are associated with illnesses without a clear pattern of symptoms, illnesses requiring sophisticated and technically difficult procedures and illnesses requiring close monitoring and supervision. Need for intervention relates to the consequences in terms of severity of illness that lack immediate or continuing care would produce. Resource intensity refers to the relative volume and types of diagnostic, therateutic and bed services used in the management of a particular illness.[8]

It is not difficult to look at these facets of case-mix complexities from two different perspectives.[9] From a physician perspective, the difficulty of treatment management is of concern. From the administrative or regulatory perspective, case-mix complexity and its relationship to resource consumption is of concern. The casual observer may immediately believe that complex treatment management equates to intense resource consumption, but such is not the case. For a terminally ill cancer patient, complex treatment management is a common occurrence today; but, few hospital resources may be consumed if heroic measures are not used for life extension.

In developing case-mix classification systems, there are three criteria that have traditionally been met.[10] The classification groups should be homogeneous for resources consumed since each group represents a number of patients that are the "same product." Another criteria is to keep the number of groups manageable. There should be enough specified groups to indicate significant patterns in the heterogeniety of the patients in each category. However, when devising groups, "hundreds instead of thousands, that are mutually exclusive and exhaustive" should set a reasonable order of magnitude.[11] Finally, the other criterion of system development is the need for clinical validity. Clinical validity refers to the grouping of patients such that diseases associated with one organ system are not linked to procedures used to treat another organ system. The grouping process should not indicate a patient with a primary diagnosis that is obstetrical in nature, but receiving a tonsillectomy as the primary surgical procedure.

There are six types of systems that have been devised or are now being developed to classify patients for case-mix.[12] They are the Commission on Professional and Hospital Activities (CPHA) system, the DRG system, the Systemetrics Disease Staging system, the Patient Severity Index, the Patient Management Algorithm, and the Physician Data Optional system. The CPHA system was developed in the late 1960's. Patient categorization is based on the patients' principal diagnosis, age, and whether the patient was treated surgically or medically. This system is relatively "simple to use", but many of the categories contain dissimilar patients.[13] Also, comorbidities or complicating conditions are disregarded.

Now in the second generation of development, the DRG system groups patients based on *principal and complicating or comorbid secondary* diagnoses, age, and surgical procedure used in the patient treatment process. Diagnosis and surgical procedure codes are now based on the International Classification of Diseases, Ninth Revision - Clinical Modification (ICD-9-CM). There is a misconception amoung many health care administration collegues this writer has encountered in that they are under the impression that sex is a variable that is used in assigning all DRGs. This is true only for those diseases that are sexually unique; sex is not a factor in diseases that are manifested in either sex. This factor allows the adherence to the criterion that calls for clinical validity. This system has been used in several different ways, including utilization review and to measure hospital case-mix for setting reimbursement rates. The category definitions are virtually exhaustive of patient diagnoses without overlap. The

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system is clicially valid and the groups allow categorization of patients that are homogenous with respect to resource use.[14] Additionally, categorization of patients can be efficiently accomplished by using commercially available computer software. The DRG system will be further discussed in the following pages.

In the Systemetrics Disease Staging system (so named because data processing capabilities for development were provided by Systemetrics of Santa Barbara, California) a group of physicians defined between four and seven disease stages for 406 disease entities. This resulted in approximately 2000 thousand patient categories. Each stage is meant to represent medically homogeneous groups of patients, allowing improved comprehension and acceptance by physicians compared to other grouping systems. There are several limitations, the most important (from an administrative/regulatory perspective) being the heterogeniety of patients, within the same category, with respect to resource consumption. Patient classification requires the screening of the patient's record by specially trained personnel, causing the classification to be costly due to increased salaries commanded by such personnel and increased administrative time incurred before the patient encounters the physician. Finally, comorbid conditions and type of procedure used are not considered in categorization.

The other systems are still under development and are basically experimental at this point in time. They are the Patient Severity Index, the Patient Management Algorithm, and the Physician Data Optional (MD-DATO). The Patient Severity Index, as the name implies,

is designed to measure severity of illness among hospital inpatients. Patients are classifed into one of four severity categories by a physician or nurse, with consideration given to several designated aspects of severity. The assignment is subjective, giving little credibility to the homogeneity within patient groups with respect to resource consumption. However, with future development, this system may be used to refine other case-mix measures. The Patient Management Algorithm is being developed with data from Blue Cross/Blue Shield of Western Pennsylvania. It is unique because categoriazation of patients is based on admission condition rather than discharge diagnosis, or a diagnosis that is given more thought and, therefore, may be more valid. The completion of this system to a point of reimbursement application may be impractical if not impossible. Finally, the Physician Data Optional, or MD-DATO, system is a "refinement of a previous effort called the isocost measure."[15] Patient categories being devised for this system are based on physician judgement of categorical use of resources. Initially there were too many patient categories for a useful case-mix system, so physician groups have been reconvened in search of an amelioration of this situation. MD-DATO, for practical usage, is in the initial stage of development.

Although not recognized as a system for categorizing all inpatients, the George Washington University Intensive Care Severity study was designed to measure the severity of illness among patients in hospital special care units. This system, however, was not designed to apply to a reimbursement process since it does not reflect a measure of resource consumption.

With the foundation of case-mix laid, greater exploration of the DRG system, as a specific measure, is demanded. One question that should be prompted in the reader's mind is, "How was the DRG system developed?"

DRG Development

As previously stated, the DRG developers were initially interested in defining LOS so that utilization review activities could be focused on atypical patients. Length of stay has been shown to have a direct bearing on hospital costs in another study; therefore, the direct relationship of case-mix, LOS, and resource consumption was established.[16] The objective of DRG construction subsequently became the "definition of case types, each of which could be expected to receive similar outputs or services" in the acute care setting.[17]

The researchers began their study with a data base that consisted of 702,000 inpatient record abstracts from 169 different institutions located in different geographical regions. With this large data base, too many disease categories existed to produce statistically stable expected lengths of stay. To circumvent this problem, the diagnostic codes, as specified by the International Classification of Disease Adapted, Eigth Edition (ICDA-8), were initially divided into the broad disease classes such as: Diseases of the Eye; Diseases of the Ear; Infectious Diseases; etcetera. There were eighty-three such classes and they were designated Major Diagnostic Categories (MDC). This action was accomplished with the assistance of a committee of

physicians following the three general guidelines listed below:

1. MDCs were to have consistency in terms of anatomical/physiopathologic classifications, or in the manner in which they are clinically managed.

2. MDCs must have sufficient number of sample patients.

3. MDCs must be mutually exclusive and exhaustive over the range of disease codes.

Next, the MDCs were partitioned into groups based on values for those variables that had power for predicting the output of the sample acute care institutions as measured by LOS, the dependent variable. The objective of this approach was to examine the interrelationship of the variables in the data base and to determine which variables contributed to the measure of LOS. The independent variables selected for testing described the patient diagnosis (by code number), use of a surgical procedure (also by code number), age, sex, and clinical service.[18] These variables were selected because they were readily available on most discharge abstracts and such a small number of variables would help limit the number of patient categories that would be yielded. The MDCs were split until the groups could not be further partitioned because of the small resultant sample size (less than 100) or no variable could reduce further unexplained variation of LOS by at least one percent.[19] After the final iteration of independent variable application, there were 383 terminal categories, or DRGs.

These DRGs were finally based on primary and secondary diagnoses, primary and secondary surgical procedures, and patient age.

A major event has changed DRGs since the original formulation of the system -- the publication of the ICD-9-CM. Remembering that the initial DRG system was based on ICDA-8, the newer classification of diseases more completely describes previously known diseases and surgical procedures, as well as newly discovered ones. In the reformulation process, the same independent variables were used to explain variations in LOS. The data base was expanded from the original size to a nationwide data base of inpatient record discharge abstracts that were provided by the CPHA and a statewide data base from the New Jersey State Department of Health. The data bases were composed of 1.4 million and 334,924 patient abstracts, respectively. To accomplish this effort, a panel of physicians allocated all ICD-9-CM codes to 23 MDCs instead of the 83 used in the first study. These 23 MDCs were based on the body system affected by a disease and the specialty of the physician that might treat the illness episode. Subsequent to their formation, the MDCs were further broken down based on the independent variables' explanation of variations in LOS (as was the case in the initial DRG effort). The resultant 467 terminal groups form the DRG system as it is known today. The HCFA has added DRGs 468 - 470 for Unrelated Surgical Procedure, Invalid Discharge Diagnosis, and Ungroupable, respectively, for the prospective reimbursement methodology being used for Medicare inpatient beneficiaries. DRGs, however, can be used as a management tool for

areas other than prospective reimbursement rate setting for care provided by health care facilities.

Management Uses of DRGs

As stated earlier in this paper, the initial reason for the creation of the DRG system of classifying patients was to provide a framework for utilization review; the validity of that function still exists. Measurements such as LOS, cost of care, and death rates are all affected by the case mix of a medical treatment facility. They are also affected by the treatment patterns of physicians serving that facility. Hospitals have little control over case mixes they treat in current operating time frame; but, the institutions, as entities can have control over treatment practices and trends of those practices.

One may ask,"How can hospital management tell the physician how to treat patients? Isn't he the well trained professional that exhibits the proper decision making attributes to provide the best treatment for patients?" This writer does not totally disagree with the assumptions implicit in these interrogatives, but to totally agree would display a degree of naivete' not allowed in today's health care administrator. By use of the DRG case mix system, individual physicians can be compared on a group of common denominators. For example on physician may exhibit treatment practices that result in the highest average LOS or more extensive use of ancillary services in a medical institution. It is an injustice to judge an individual physician's performance of such gross aggregate measures. To further

explain this logic, the physician in this example may treat a more complex case mix than other physicians. By use of the DRG system, his case mix can be validated by the complexity measurement. If the majority of his cases are thoracic surgeries and he is being compared to physicians whose case mixes reflect a majority of appendectomies, the patients he treats can be expected to exhibit higher average LOS and more extensive use of ancillary services. On the other hand if this physician's case mix is of less complexity, he can be validly compared to the other physicians in the institution, his utilization of hospital resources can be studied, and the results of the study can be communicated to a physician administrator (i.e., chief of staff) who, as a representative of the hospital management team, can validly prompt a change in his treatment methods where change is required.

This same line of thought can be transferred up to the institutional level for comparisons across hospitals. Differences here can also arise because of different case mixes and treatment practices; but, at this level the two factors produce a synergistic effect.[20] In a case-mix analysis report, the statistical model used allocates weighted values to each reported hospital's LOS (practice pattern), case-mix, and the interaction factor.[21] The synergistic affect is quantified by the interaction factor and represents the portion of the hospitals' deviations from the regional mean LOS that cannot be explained by the hospital's case-mix or LOS deviations from the regional means. The significance of this factor is that if it exhibits a large magnitude relative to the other two factor deviations, "one should not use the measures in the report for that

hospital in comparison to the others."[22] This is indicated because utilization patterns vary within case types and cannot be standardized. Regardless of this potential deficiency the model has value beyond most non-case mix comparison models for utilization review across hospitals.

Probably the most publicized use of DRGs today is that of prospective reimbursement rate setting. Traditionally, most health insurers (third party payors) reimbursed hospitals on the basis of reasonable or allowable cost. This method, in essence, guarantees that most costs of operating the hospital would be covered. The amount of costs covered could depend on the negotiating ability of the hospital team and the documentation of costs, when dealing with an insurer to determine the definition of allowable or reasonable costs to be covered by that insurer. This reimbursement method lacks an incentive to promote efficency of operation - whatever costs arose would be passed on to the insurer. Additionally, it has done nothing to: define a hospital's case-mix or productivity output; avoid cost shifting to inflate some lower costs to the "reasonable cost limit"; reduce promotion of increased LOS; or provide a communication link between the treating physician and the hospital's financial system. Prospective reimbursement rate setting by DRG provides a standard, pre-designated amount of reimbursement that the insurer will pay the hospital for providing a specified product or amount of services. Costs beyond that will be absorbed by the hospital, causing a reduction in capital formation or the rate of capital formation. This provides the incentive for efficient operation for it well known to

even the newest business student that no firm can assume its continuity if there is no capital formation. With the established rate of reimbursement, there will be no cost shifting to the beneficiaries covered by an insurer paying under the DRG prospective payment system. Also, physicians may have a hospital induced incentive (see following paragraph) to discharge a patient after completing treatment and not maintain the patient in an ultra-expensive hotel mileau when it is not medically warrented.

Another use of the DRG system was foreshadowed in the above paragraphs when referencing physicians treatment patterns. That use is as a communication tool for linking the medical phase of patient treatment with the financial phase of the patient treatment. Since DRGs are clinically meaningful and reflect standard measures of resources consumed, the physician and administrator or regulator have a common standard on which communications may be based. As a follow on to utilization review, physician profiles can be created by DRG and show which types of patients the physician treats that are profit makers or losers relative to other physicians in the institution or in the geographical area. This information can then be used to approach specific types of cases, with the individual physician, to request he revise his practice patterns with this information in mind. This writer does not propose to prescibe receipies for the practice of medicine; however, the raison d' etre for the existence of a medical institution is to provide a place for patient treatment. It is not in "business" with the objective of operating on a fiscal deficit. With this in mind, physicians will face difficulties in maintaining

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hospital staff positions if they are "losers." In most cases the situation should not become as critical as this scenario presents because "when a physician is aware that his ordering behavior has an impact on the long term financial viability of the hospital, he very much has the incentive to look more closely at the way he's using the hospital services."[23] This has additional credibility if one considers the anticipated physician surplus expected in the coming years.[24] Using the DRG system as a disciplinary tool against physicians is not advocated; it is merely one spinoff that may result from the improved communications aspect of the DRG case mix. Advocated is the educational aspect that can result from the improved communications capability, for this system "permits the comparison of apples to apples and not only apples to apples to apples, but McIntosh to McIntosh, because the comparisons are made by groupings more cearly defined than before."[25]

The other area of management application of DRGs is in planning. There are three broad types of planning in health care today - strategic planning, categorical planning, and comprehensive health planning.[26] "Strategic planning involves defining what's to be done, the allocation of resources for their maximization. Maximization is and must inevitably be, getting the desired results in the market place."[27] Levitt goes on to say that for a strategy to be successful, it must be "simple, clear, and expressible in only a few written lines."[28] The use of DRGs as the final products around which a hospital plans it strategy allows the goal clarity that Levitt references because this system, once again, provides the common

denominator for communication. Health care professionals, in this writer's experience, seldom participate in strategic planning and when they do the plans tend to be complex. Complex plans that cannot be understood by the members of an organization provide no direction and often hide vagaries. Extrapolating this thought further, plans that cannot be understood will allow an organization to atrophy due to improper financial decisions that are based on an unfounded assumptions about a market place. Hence a need for realistic and well defined strategic planning. As implied above, DRGs can be used as a frame work around which this planning can be done. Using Ohmae's model, DRGs can be compared to Strategic Planning Units that are grouped as Strategic Business Units, which in turn will give direction to the strategic market sectors in which a hospital should consider positioning its products.[29]

Categorical planning focuses on one or multiple specific health problems, usually from a multi-institutional perspective.[30] DRG application here is not necessarily an improvement to the planning function, except to add specificity to the health problem/s that might be the focus/foci of the plan. Comprehensive health planning is regional in nature. DRG application here provides specificity in a very beneficial method. The DRG system can be used to project the types of products and the magnitude of their need in a geographic area or market segment. This is not unlike the use of the DRG system in strategic planning, but the focus here is the provision of a manner that can be used to distribute health care resources throughout a geographic region. This is particularly important concerning the

placement of high dollar/high technology equipment and hospital beds in the most efficient and effective locations. It has been shown that, through the use of DRGs, a linear programming model can add a great deal of objectivity to distribution of such health resources.[31] This model, for example, could be used to consider minimizing costs as an objective function, with the constraints being: costs to patients (out-of-pocket cost and travel time) to measure access, and the number and costs of units of the different available resources that are to be distributed. Additionally, this operations research method can, with the inherent objectivity, be used to de-politicize distribution of health care resources. However, this writer recognizes the realities of the politico-legal world where even objectivity is sometimes discounted, but the situation remains that such a planning model could help in the distribution of medical resources. An example of the creation of hospital beds where they "were not needed" and the politico-legal establishment was disregarded is the building of Oral Robert's City of Faith. By use of the DRG cost minimization model described above, a less costly distribution of resources could have developed.

Finally, the DRG system can be used as a budgeting and accounting tool. The budgeting application of the DRG system is a direct extension of the strategic planning process - the strategic plan, on the long term, and the operational plan on the short term, presented in terms of dollar quantities. Traditionally, budgets — work-load, expense, revenue, and master — have been established based on projected occupied bed days, quantities of laboratory tests,

surgeries, ad infinitum. But, as stated earlier, these units of measure are not the final products of a hospital but only intermediate products of the process that occurs within the hospital as a health care institution. Also, traditionally there have been two types of accounting systems used in hospitals: the financial accounting system, which describes the firm as a whole using a balance sheet and an income statement, and the managerial accounting system, which is used to control costs on the department level.[32] These accounting systems have failed to provide a representation of the financial consequences of providing care to an individual patient. By using DRGs the link to the individual patient level is completed, allowing hospitals to apply a more realisitc projection of cost and revenue to the individual product outputs derived from its processes. The DRG based accounting and the budget that grows from it will be based on intermediate product costs and revenues; therefore, it will not replace the other two accounting systems but it will supplement them. Another major importance of a DRG approach to the financial picture of a health care firm is that it provides the opportunity for managers to isolate diagnostic and service areas for cross year comparison. Comparisons can be made with the knowledge of case mix changes thereby allowing more valid decision making. For example, cost increases over multiple years could be partly attributed to inflation, but they may also correlate directly to an increasingly complex case mix.

Problems With the DRG System

For all the advantages that use of the DRG system can bring and

its acceptance by so many, there are those who do not consider it the panacea that some accept it to be. A case in point is a study completed by Susan Horn, Associate Professor in the Department of Health Services Administration at John Hopkins University. Professor Horn's concern about DRGs is they do not reflect the severity of illness on the individual patient level. The source of her concern is that in her study, she found that she had developed a severity of illness index that produced subgroups of patients "more homogeneous with respect to hospital resource use (as assessed by total charges, length of stay, routine charges, laboratory charges)" than DRGs.[33] Her position is well taken; however, this study spanned only six disease conditions over four hospitals. One can easily question the results of her study based on the small sample size. Recognizing a need for further exploration in the area of her severity of illness index is imperative, but discounting the DRG system of case-mix measurement in the manner that she advocates may be regressive rather than progressive.

Another problem that arises with DRGs is in the use of the system by third party payors to establish rates for prospective payment. Some critics contend that such a payment system fosters reduced quality of care, especially through early discharge. This criticism arises because a prospective payment system is based on treatment of a case, or illness episode, rather than per diem or cost bases. With hospital managers knowing the pre-established rate that can be expected for treatment of a specific patient case, they can monitor that patient's costs, advise a physician when the patient will become

a "loser," and request that the patient be discharged at that time to prevent excessive losses. Theoretically this statement is true, but there are some guards against this situation occurring. The most prevalent issue that comes to mind is the everpresent topic of malpractice litigation. The importance of this subject and its increasing affect is reflected in the continuing rise in malpractice insurance premiums paid, indicating an increased claims activity.[34] In society's mind today, if one perceives a health care injustice the tendency is to file suit; therefore, physicians and hospital management corps tend to be cautious in their deliberate treatment of patients. The act of discharging a patient from an inpatient setting is a deliberate act, requiring a physician's acumen of the patient's condition and a decision that the patient no longer requires inpatient care. The only area that may be used to corroborate such the criticism of early discharge is the state of New Jersey for this state exhibits the greatest experience in a prospective reimbursement system base on DRGs. The New Jersey State Department of Health has been engaged in a contract with the HCFA to develop a hospital prospective rate setting methodolgy since 1976. Such a system was implemented in 1980. Richard M. Goldstein, Commissioner, Department of Health for the State of New Jersey has addressed the issue of quality of care under a DRG prospective payment system. He indicated that there is no evidence that the DRG system has affected discharge patterns or "things that we can measure in terms of defining quality."[35]

Finally, there is some question of whether DRGs as a case mix

system truly reflect consumption of resources. This question arises because the DRG system embodies the proxy measure LOS for consumption of resources. The assumption that LOS accurately reflects resource consumption "is not necessarily a safe assumption; resources consumed are not usually linear with length of stay. Resources consumed tend to be higher at first."[36] Thompson, Fetter, and Mross provided evidence, as previously cited in this paper, that there is a direct relationship between LOS and the consumption of resources. Their study does not specifiy linearity, but they do claim that DRGs, as a method of reimbursement is superior to that system which is based on undifferentiated patient days.[37] The health researchers instrumental in developing the DRG system freely admit that while LOS "may not be as accurate an indicator of the level of output as acutal costs, it is still an important indicator of utilization as well as being easily available, well standardized and reliable."[38]

Once again, it is easy to recognize that use of the DRG system may not be a panacea, but this system at least provides an improved measure of objectivity in approaching many issues in the provision of health care and its administration. One of the greatest matters of concern today is the use of the DRG prospective payment system devised for reimbursing hosptials for providing care for Medicare patients. The following section provides a brief explanation of that system.

The Medicare Prospective Payment System

The directive for reforming the hospital reimbursemwent system

under Medicare came from the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982. The required reformation was to be based on Medicare payment to hospitals, skilled nursing facilities, and to the extent possible, other providers, on a prospective basis. At this time, the only entity, of those listed above, under the prospective payment system is the hospital. Prospective payment methods for the other two entities of the health care system are now being researched. The prospective payment system mandate came from the Congress as a response to the increasing costs of health care services furnished to Medicare patients.[39] Studies have shown that hospital and Medicare expenditures are caused by several factors, including the following:

1. General inflation in the economy.

2. The relative weakness, in the marketplace for hospital services, of traditional supply and demand forces.

3. The cost reimbursement system used by Medicare and other third party payors.

4. The growth and increasing age of the Medicare beneficiary population.[40]

The majority of these factors are outside the health care financing system. However, the cost reimbursement system, a major culprit of increasing cost rates, allows those in the business of providing health care services bear little or no risk since costs are

merely passed on to the payor. In fact, those providers are given a disincentive to be efficient and cost effective. Such a system exacerbates "the weakness of supply and demand forces, rewarding hospitals and physicians for increasing utilization of services, lengths of stay, and the intensity of services without regard to the relative cost-effectiveness of such practices."[41] The prospective payment system is designed to provide incentives in the opposite direction — toward cost effectiveness and efficiency. The prospective reimbursement system currently in use for Medicare reimbursement is constructed on the DRG framework, with nationally specified prices and complexity weights (based on relative cost intensity with respect to all other DRG costs) for each DRG.

The original national DRG prices applied by the HCFA resulted from a 20 percent sample of "1980 HCFA-1453 inpatient hospital admission and billing forms."[42] HCFA converted the reported patient specific data into DRG specific data and calculated the corresponding mean costs for each DRG. These data were adjusted to account for differences in hospital teaching activities and regional wage standards. Another sample was taken in 1981 and, for current application, each DRG cost has been inflated and each weight factor has been recomputed to be more alligned with 1984 costs. Standard cost weights were computed from the arithmetic mean cost of discharges in each DRG being divided by the grand mean of all DRG means. The grand mean was calculated by summing each DRG mean cost, the total value of which was divided by the total number of DRGs in the sample.[43]

Since the DRG system is a case-mix description system, a method to quantify each individual hospital's case-mix was required. The first step in this method is to multiply the proportion of an individual hospital's cases in each DRG by the standardized cost weight for the corresponding DRG and sum across DRGs. The next step is to multiply the proportion of all hospital cases in each DRG by the standard cost weight for each DRG and sum across all DRGs. Finally the value in the former step is divided by the value in the latter, yielding the hospital specific case mix value. With this index, a hospital that treats more overall complex cases, as measured by resource intensity, should exhibit a higher value than a hospital that treats fewer overall complex cases.

The DRG payment system, for Medicare, was effective January 1, 1984 with each hospital's fiscal year beginning on or after October 1, 1983. In the current system, rehabilitation, psychiatric, pediatric, and long term hospitals are not considered. Also, certified rehabilitation and psychiatric units within hospitals are exempted from payment under this system. For patients in such units and hosptials, payment is still on the basis of retrospectively determined costs. The prospective payment system, under which the discharge is the unit of payment, will be phased in over a four year period. The payment rates will be a blend of hospital-specific cost-per-case amount, regional average price for each DRG, and the national price for each DRG. This is shown on the following page:

FEDERAL FISCAL YEAR BEGINNING	REGIONAL % RATE	NATIONAL % RATE	HOSPITAL SPECIFIC % RATE
October 1, 1983	25	0	75
October 1, 1984	37.5	12.5	50
October 1, 1985	37.5	37.5	25
October 1, 1986	0	100	0

With the regional and national rates, hosptals are categorized as urban or rural, with different rates existing for the two. Additionally, the regional factor is based on the average cost-per-case for the nine census divisions in the United States. Also, the national prices are adjusted to reflect the level of wages prevailing in each hospital's community. The hospital specific rate is determined from cost data for the twelve month reporting period ending on or after September 30, 1982 and before September 30, 1983. Each hospital's total cost was adjusted by removing capital related costs, medical education costs, nursing differentials, and kidney acquisition costs. Included in the adjustment were increases for allowable malpracice costs, Federal Insurance Corporation of America (FICA) taxes for those hospitals that incurred no such costs during the base year, and costs of services that were billed under Part B (of the Medicare program) during the base period but were considered under inpatient hospital services effective October 1, 1983. The costs of capital, bad debts, and education expenses are termed pass-through costs at this time and they are paid on a "reasonable basis" to each hospital.

The calculation of payments for the first year is as the following models indicate:

$$\frac{\text{(BASE YEAR COSTS)}}{\text{(CASE MIX INDEX)}} \times \text{UPDATE FACTOR} \times 75\% \times \text{DRG WEIGHT} = \text{HOSPITAL SPECIFIC PORTION}$$

Then based on the rate blending chart depicted above, the total rate for any particular DRG case would be based on this model:

$$.75 \times \text{HOSPITAL SPECIFIC PORTION} + .25 \times \text{FEDERAL PORTION} = \text{PROSPECTIVE PAYMENT RATE}$$

The federal regulations governing the operation of this system recognize that atypical cost and LOS cases exist. These cases are those that have either an extrememly long LOS or extrordinarily high costs when compared to most discharges classified in the same DRG. To compensate for hospitals for patients not approximating the DRG means for LOS or for those patients that require resources far beyond what might be expected, the concept of the outlier was developed. Outliers, for LOS, as those patients whose inpatient stay goes beyond the lesser of twenty days or 1.94 Standard Deviations from the Geometric Mean LOS for the DRG to which their case has been assigned. Outliers, for cost, are those patients whose case cost is beyond the greater of $12,000.00 or 1.5 times the standard rate for the DRG standard under which their case is associated.[45] The additional payments for outliers are to "approximate the marginal cost of care beyond the outlier cutoff points", as specified in the preceeding two sentences, and outlier payments are not to be less than five percent of more than six percent of total payments to hospitals.[46] To meet

these additional payments, the federal portion of the blended rate prospective payment is reduced by 5.7 percent, with that amount being used to form an outlier payment pool.[47]

Since the Medicare prospective payment system has only been operating since 1 January 1984, there is no hard evidence, at this time, to evaluate how well it controls the rate of increase of Medicare reimbursements to hospitals. However, this payment system is expected to have a great affect on hospital operations as they are known today. It will promote a greater communications flow between hospital management and physicians as previously stated. There will also be a requirement for hospitals to assess current capabilities and project future requirements for data processing. Many hospitals may determine that new or redesigned database and management systems will be required for managing costs by DRG. This will require accompanying assessment of personnel capabilities to determine the types and targets of internal training efforts.

As noted by the blending of rates, the hospital specific portion of the prospective payment formula decreases over the transition period. As the national rate becomes a greater percentage of the payment rate, the force of "economic incentives that influence a hospital's decisions in the use of resource inputs for each case" will increase."[48] The expected change in the behavior of hospitals is expected to be manifested in the lowering of operating costs in order to achieve the potential surplus that results from the difference in the amount paid for a particular case and the operating costs

associated with that case. This phenomenon allows the hospital to assume the risk of operating as a business and removes the burden of a wholly cost based reimbursement from the Medicare system. Once the recognition of risk comes to hospital's management corps, incorporation of the DRG system management tools mentioned earlier in this paper will become a must. Planning strategies and financial decisions must be made along DRG or product lines. For those firms that cannot operate along product lines, failure as a business can be expected.

Medicare beneficiaries should not feel any immediate impact of implementation fo the prospective payment system.[49] They should benefit from the cost increase restraint that will reduce the rate of co-insurance increases. As previously mentioned in this paper, some question the quality of care received under a DRG prospective payment system. The reasons of rebuttal against those who pose such questions were also stated by this writer. As an added precaution, the regulations governing this payment system require the existence of Peer Review Organizations (PROs) that will monitor unnecessary admissions, premature discharges, reduction of intensity of nursing, and inappropriate controls on utilization of diagnostic and ancillary services.[50] At this time regulations governing review procedures have not been published and many areas of the nation have no groups established to contract with hospitals as PROs; however, the review instrument is designated and will be operating in the future.

Since the question posed by this paper deals not only with DRGs, but also with the UCA system as it operates at WHMC, explanation of the latter system is in order. Chapter III provides the reader that explanation.

FOOTNOTES

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CHAPTER III

UNIFORM CHART OF ACCOUNTS (UCA)

History

By order of the President, the Office of Management and Budget, Department of Defense (DOD), and Department of Health, Education, and Welfare (now Health and Human Services) initiated a joint study of the Military Health Care System in August of 1973. After two and one-half years, this joint effort culminated in the issuance of the Report of the Military Health Care Study Supplement: Detailed Findings, December 1975. This report addressed the need for a "uniform data system" within the three military medical departments, which in turn resulted in the formation of a tri-service working group that was charged with developing a Uniform Resource and Performance Accounting System.

In August 1977, as a result of the aforementioned report, the Office of the Assistant Secretary of Defense (Health Affairs) published a Test Draft of the Uniform Chart of Accounts for Military Medical Treatment Facilities. At this point in time, the objective of establishing UCA was to provide "a common standard of measurement and communication, both inter- and intra-service, through standardized terminology, uniform work performance indicators, common classification of expenses by work center, statistical definition, and cost assignment methodology,"[1] The implicit intent of establishing such a system was to allow the efficient management and utilization of

resources and the identification and control of associated expenses at the Medical Treatment Facility (MTF) level. A common standard was required to establish a uniform reporting methodology which provided financial and related statistical performance data necessary for multilevel management to plan and coordinate the activities of health care delivery systems in DOD. One major concern that arose because of the lack of this common standard was, in reality, the inability of DOD managers, congressional staffers, and elected officials to understand and compare health care expenses from the three major services within DOD; each service had its own separate expense category descriptions and performance definitions. To correct this problem, the accounting firm of Arthur Young and Company was engaged as the prime civilian contractor and charged with formulating a standard cost accounting system — one that became UCA as it is known today.

In October 1977, the beginning of Fiscal Year (FY) 78, testing of the proposed UCA system was initiated. This initial effort, commonly referenced as Phase I, called for the proposed UCA to be implemented at ten DOD MTF test sites. The test sites were representative of various MTF sizes and locations in the Army, Navy, and Air Force (USAF). The USAF test sites were:

USAF Clinic, Lowry Air Force Base (AFB), Colorado.

Ehrling Bergquist USAF Regional Hospital, Offutt AFB, Nebraska.

USAF Medical Center, Scott AFB, Illinois.

Test Phase II, which spanned the period October 1978 to September 1979, was used to implement lessons learned in Phase I and to continue to "perfect" the UCA system. UCA was implemented worldwide at all DOD MTF at the beginning of FY 80.

UCA Operation

The purpose of UCA is stated in DOD Manual 6010.10-M, 1979, Chapter 1:

> The purpose of the Uniform Chart of Accounts (UCA) is to provide consistent priciples, standards,policies, definitions, and requirements for expense and performance accounting and reporting by DOD fixed facilities. Within these specific objectives the UCA also provides in detail: uniform performance indicators; common expense classification by work centers; and a cost assignment methodology.
>
> The UCA is the basis for establishing a uniform reporting methodology that provides consistent financial and operating performance data to assist managers who are responsible for health care delivery in the fixed military medical system.[2]

As can be noted from this statement, the only MTFs considered are fixed facilities. Field services, combat staging, and medical ship facilities are excluded.

To further understand the need for the UCA in the USAF, one must know about the financial and statistical reports that were used by USAF health care managers prior to the initiation of UCA. Productivity statistics were only documented on the monthly Report of Patients, Air Force Form 235 series (APPENDIX D). This series of

forms shows various categories of inpatient and outpatient statistics including: visits and exams, deaths, diagnostic tests, prescriptions filled, number of active duty patients excused from duty, referrals to other government facilities, transfers in, inpatient (occupied bed) days by various categories, rations served, and facility square footage. This series of forms is still used to collect production statistics.

The cost of any product consists of the elemental costs of direct labor, direct materiels, and overhead; a properly established cost accounting system will show the distribution of these elements.[3] In the financial reports of the USAF health care cost accounting system before UCA was initiated, only direct expenses were considered and they were assigned to the cost centers where resources were consumed. With these data collection systems described, one can easily understand that arithmetic means that result from the division of cost center expenses by corresponding production units were the only means of measuring expense goals or performing inter-facility comparisons. There was no means of assigning non-production center (also known as support, indirect, or overhead) costs to the production centers of an MTF. This, in turn, provided less than accurate quantitative cost data from which various levels of management could make decisions, compare actual performance with performance objectives, and properly analyze significant deviations from financial and perfomance goals.

UCA Relationships to the MTF Functional Areas

The initial consideration under UCA is directed to the major functional areas of the MTF. This consideration allows the provision of introducing standard definitions and functional descriptions of these areas. Each of these areas have a corresponding account which is designated as a Program Account. The applicable Program Accounts are Inpatient Care, Ambulatory Care, Dental Care, Ancillary Services, Support Services, and Special Programs. The first functional area designated under the UCA system is Inpatient Care. Inpatient Care "provides for examination, diagnosis, treatment, and prompt and proper disposition of patients appropriate to the speciality under which the patient is receiving care. It pertains to the services performed for a patient who has been admitted to an MTF."[4] Under this functional area, each patient will be admitted to one of the various inpatient specialities summerized under the following inpatient summary accounts:

Medical Care

Surgical Care

Obstetrical and Gynecological Care

Pediatric Care

Orthopedic Care

Psychiatric Care

Within Inpatient Care, these accounts are final operating accounts, which reflect not only the direct expenses for each specialty but the

indirect costs for Ancillary and Support Services. The performance factor for this functional area is occupied bed days.

The second major functional area designated under UCA is Ambulatory Care. It is the area that is used to provide "comprehensive primary medical care, emergent medical care, diagnostic services, care and treatment, minor surgical procedures, medical examination, etc. to both outpatients and inpatients through a system of outpatient clinics."[5] The services in this area are segregated by the UCA system into eleven summary accounts:

Medical Care
Surgical Care
Obsterical and Gynecological Care
Pedicatric Care
Orthopedic Care
Psychiatric Care
Family Practice
Primary Medical Care
Emergency Care
Flight Medicine
Underseas Medicine

It should be noted that the numbers of services and clinics offered at each MTF depends on size and the needs of the MTF to fulfill its mission. Each ambulatory account is a final operating expense account; therefore, each UCA defined clinic will be charged with its

direct operating expenses plus its share of indirect expenses from the Ancillary and Support Services accounts. The workload performance factor for the Ambulatory Care accounts is defined as the number of inpatient and outpatient visits.

The next major functional area described in UCA is Dental Care. This area involves the provision of routine and emergency dental care, as well as, preventive dental treatment. This area includes three accounts: Dental Services; Type 3 Dental Prosthetic Laboratories; and Type 2 Dental Prosthetic Laboratories. These accounts are also final operating accounts and thusly receive both direct and indirect expenses. The UCA workload performance factor is weighted dental procedures. Dental Prosthetic Laboratories use weighted prosthodontic work units as the performance factor.

The fourth major functional area under UCA is Ancillary Services. This functional area is defined as "those services that participate in the care of patients principally by assisting and augmenting the talents ot attending physicians and dentists in diagnosing and treating human illnesses. Ancillary Services work centers are arranged into the following summary accounts, which are shown with the performance factors that correspond them:

SUMMARY ACCOUNT	PERFORMANCE FACTOR
Pharmacy	Weighted Procedure
Pathology	Weighted Procedure
Radiology	Weighted Procedure
Special Procedures Services	Procedure/Weighted Procedure
Central Sterile Supply/ Material Services	Hours of Service/Dollar Value of Supplies
Surgical Services	Hours of Service
Same Day Services	Hours of Service
Rehabilitative Services	Visit
Nuclear Medicine	Weighted Procedure

Each ancillary work center is charged with its direct operating costs plus its share of Support Services consumed. The distinction between this functional area and the aforementioned areas is that the associated accounts are intermediate accounts. This means that their direct and indirect costs, once accumulated, are distributed on to the final operating accounts (within the other functional areas) that benefit from the services provided by the ancillary work centers. Each Ancillary Service account collects units of respective workload performance factors based on the actual services performed for the other work centers within an MTF. From this data, ratios are developed for use in distributing ancillary work center costs to the consuming work center. See APPENDIX E for a listing of Performance and Assignment Factors.

The fifth major functional area under UCA is Support Services. This program account is sub-divided into summary accounts that allow the accumulation of the expenses required to direct and support the missions assigned to the MTF. The summary accounts and their respective performance factors are:

SUMMARY ACCOUNT	PERFORMANCE FACTOR
Depreciation	Not Applicable
Command and Administrative Support Services	Full Time Equivelents (FTE)-Man Months
Personnel Support Services	Not Applicable
Public Works	Not Applicable
Materiel Services	Dollar Value of Supplies
Housekeeping/Janitorial Service	Hours of Service
Biomedical Equipment Repair	Hours of Service
Linen and Laundry	Pounds of Dry Laundry
Inpatient Food Service	Rations Served
Inpatient Affairs	Occupied Bed Day
Ambulatory Care Administration	Outpatient Visits

Reassignment of the expenses from these summary accounts is based on ratios of the services provided by these accounts to individual consumming accounts, with respect to total services provided to all consumming accounts.

The final major functional area of concern under UCA is Special Programs. The program account for this area is used to "summerize the expenses of a medical treatment facility which are incurred as the result of performing those portions of its military mission other than direct patient care."[6] The separating of this program prevents inflating actual patient care costs. Summary accounts assigned to this area are: Specified Health Related Programs; Public Health Services; Health Care Services Support; Military Unique Medical Activities; and Patient Movement and Military Patient Administration. The sub-accounts that comprise these summary accounts are final operating accounts which receive direct and indirect expenses from supporting services. The performance factors are sub-account specific.

Once the Program Accounts that correspond to these major functional areas are established, the services and activities within an MTF are categorized in a hierarchical manner under them as Summary Accounts (as shown above) and Sub-Accounts. For example, at an MTF under the Program Account of Inpatient Care and the Summary Account of Medical Care, there could be the Sub-Accounts of Internal Medicine, Cardiology, Oncology, Neurology, and other medical accounts as dictated by the mission assigned to the MTF. The other Summary Accounts under Inpatient Care are also composed of Sub-Accounts that correspond to the types of inpatient services offered at the subject MTF. For UCA purposes, the other Program Accounts of the MTF in question, are sub-divided in a like manner.

The various accounts under UCA are assigned an alphabetical code based on the aforementioned hierarchical relationship. The first letter defines the Program Account. The second and third letters indicate the Summary and Sub-Accounts, respectively. This is illustrated below for the Inpatient Care accounts used in the previous example:

ACCOUNT NAME	ACCOUNT LEVEL	ALPHABETICAL DESIGNATION
Inpatient Care	Program Account	A
Medical Care	Summary Account	AA
Internal Medicine	Sub-Account	AAA
Cardiology	Sub-Account	AAB
Oncology	Sub-Account	AAK
Neurology	Sub-Account	AAJ

The designations for the other Program Accounts are: Ambulatory Care - B; Dental Care - C; Ancillary Services - D; Support Services - E; and Special Programs - F.

An account designation using a fourth letter may be locally assigned by the management of an MTF. This alphabetical code may signify the existence of a cost pool, which is so named because it is used to accoumulate costs that are not easily categorized. An example of this in the Inpatient Care functional area may be a ward that serves patients who receive services from different Sub-Accounts. Also, a four letter code may be used to designate sub-units of work

centers. A list of UCA cost centers and their corresponding designations, as used at WHMC, is provided in APPENDIX F.

Lastly, there are Final Operating Expense Accounts and Intermediate Operating Expense Accounts. Final Operating Expense Accounts are used to consolidate all direct and indirect expenses associated with production in Inpatient Care, Ambulatory Care, Dental Care, and Special Programs. Intermediate Operating Expense Accounts are used to accumulate indirect cost that will subsequently be reassigned to the Final Operating Expense Accounts. Intermediate Operating Expense Accounts are represented under Ancillary and Support Services and are in actuality overhead expenses.

Cost Assignment Methodology

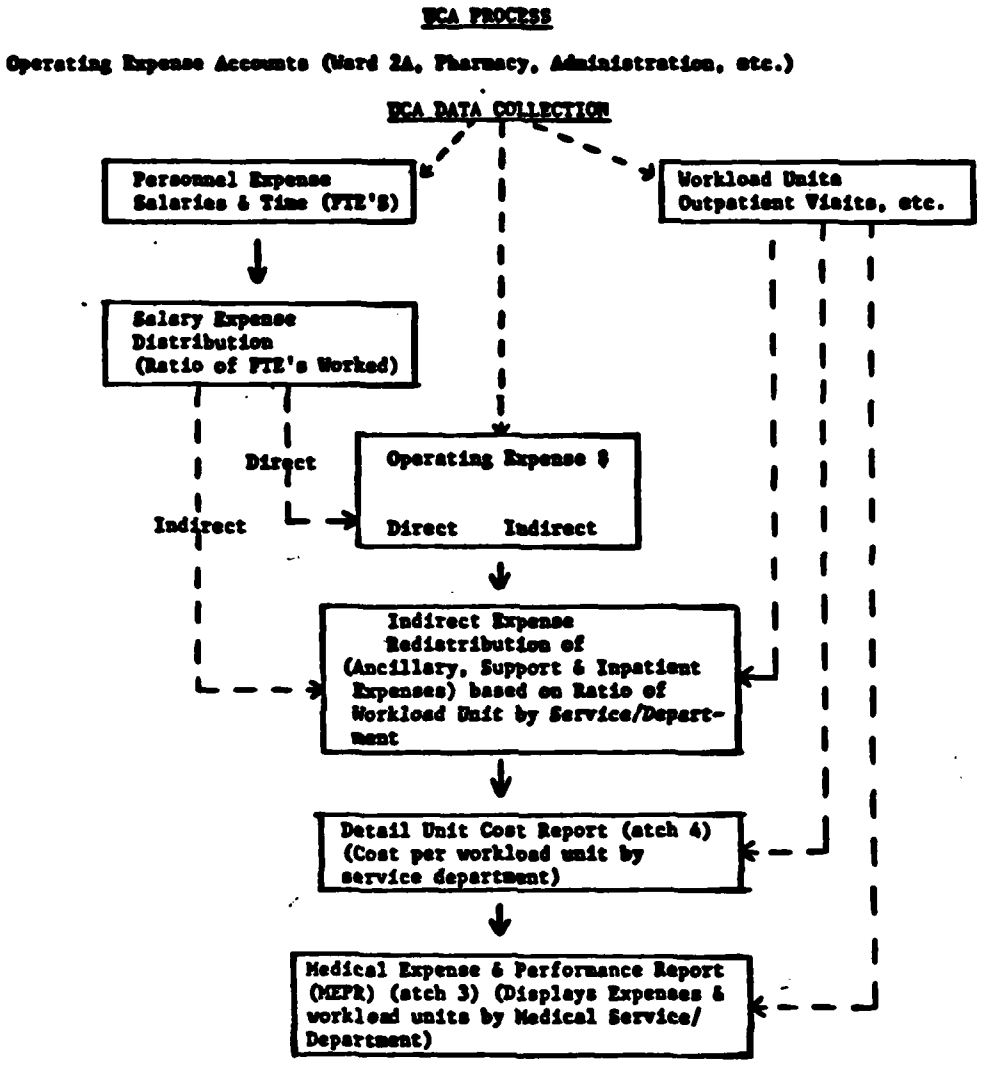
UCA uses a sequential step-down cost allocation procedure to reassign Intermediate Operating Account expenses to production center accounts. To pursue this procedure, the MTF activities and services must be properly categorized under one of the accounts that represent the six functional areas explained above. Summary Accounts and Sub-Accounts are the next two hierarchical categories of accounts that are used to represent functional areas of an MTF, as is explained above. The assignment of accounts is a one-time requirement, unless functional areas are changed, deleated, or added within an MTF. The procedure continues by assigning direct costs to and collecting performance statistics for the various separate work center accounts where costs are incurred. The determining factor for continued

expense assignment is the number of work centers served by an individual work center. That is to say, the costs from the account of the work center that served the greatest number of other work centers are the first to be redistributed in the step-down process. All accounts are arrayed in this same manner, with the total costs in an account being reassigned through each iteration of the step-down sequence. The Intermediate Operating Expense Accounts are closed as their costs are reassigned; thus, the reason for arraying the accounts as described. In each iteration of the process, expenses are assigned with respect to the units of work or service provided to the account receiving the expenses. Once all expenses are assigned to the Final Operating Expense Accounts, each individual quantity of total expenses can be divided by the respective performance factor to provide the total cost of unit production. This procedure will also allow calculation of the magnitude of contribution of Indirect Costs to the Final Operating Expense Accounts and, therefore, yield Indirect Costs by unit of production. The final step in the expense reassignment is the final purification, whereby the services provided by one Final Operating Expense Account to another are expensed to the receiving account. Figure 1 illustrates the generic step-down process model and Figure 2 shows a very simplified example of the UCA step-down procedure. These figures are shown on the next two pages.

UCA Reporting Requirements

There are three main components in the operation of the UCA system: collecting data; compiling and formatting data; and producing

FIGURE 1



Source: Richard E. Bigelow, "Uniform Chart of Accounts Information Brochure," Wilford Hall USAF Medical Center, San Antonio, Texas, January 16, 1984.

FIGURE 2

UCA EXPENSE FLOW CHART

DISPLAY	UCA ACCT	DIRECT EXPENSE	SUPPORT COST	ANCILLARY COST	TOTAL EXPENSE	EXPENSE AFTER STEPDOWN	COST POOL DIST	INPAT DIST	ANT REASSIGNED	NET PURIFICATION	PURIFIED EXPENSE
Direct Expense Schedule	AAA	137,019 ↓									
STEPDOWN SCHEDULE	AAA	137,019 ↓	+ 637,684 ↓	+ 1095,156 ↓	= 1,869,859 →						
Purification Schedule	AAA					1,869,859 ↓	(1,000,000 + 173,570) =		1,173,570		3,043,429
						1,869,859 ↓	_____ +	_____	1,173,570	_____	= 3,043,429
Computation Summary	AAA	(137,019	+ 637,684	+ 1095,156) =		[1,869,859]		+	→	[1,173,570]	= 3,043,429

└(Indirect Expense Redistribution)

Following Displays Merge Workload and Costs

DISPLAY	ACCT	DESCRIPTION	PATIENT DISPOSITIONS*	TOTAL EXPENSE	CLINICIAN SALARIES**	OCCUPIED BED DAYS***	COST PER OCCUPIED BED DAYS
DETAIL UNIT COST REPORT	AAA	INTERNAL MED	687	3,043,429 ↑	125,800	8718	349.09(Total Exp ÷ Bed Days)
MEDICAL EXPENSE AND PERFORMANCE REPORT	AA	MEDICAL CARE	1342	6,834,471	310,275	19,474	

* TAKEN FROM STEPDOWN ASSIGNMENT STATISTIC (SAS) 3 - Patient Dispositons by Specialty
** TAKEN FROM STEPDOWN ASSIGNMENT STATISTIC (SAS) 195 - Clinician Salaries
*** TAKEN FROM STEPDOWN ASSIGNMENT STATISTIC (SAS) 1 - Occupied Bed Days by Specialty

Source: Richard E. Bigelow, "Uniform Chart of Accounts Information Brochure," Wilford Hall USAF Medical Center, San Antonio, Texas, January 16, 1984.

management information reports. The first two components are building blocks of the reporting component — the end result of the UCA system. Performance and expense data is collected and written onto a magnetic tape for transfer to higher headquarters. At the higher headquarters, this data is compiled and formatted to produce, for each facility, the quarterly UCA automated local report that is known as the Medical Expense and Performance Report (MEPR). This document, as the title indicates, shows the MTF performance and cost statistics accumulated during each quarter. This report is divided into five parts. Part I, Direct Patient Care, shows the post-cost assignment total expenses for each Inpatient, Ambulatory, and Dental Care Summary Account, and the respective production units. Part II displays Ancillary Services expenses, direct and support, for the three major services, Pharmacy, Radiology, and Pathology; data for the other services in this major functional area are aggregately provided. Additionally, weighted procedures and expenses per procedure are shown for the three major ancillary services. Part III reports the total direct expenses for the Support Services account. Part IV shows the direct and indirect expenses for each Special Program Summary Account.

Part V is to provide footnotes on an as needed basis. Upon completion of the MEPR, the higher headquarters transmits the "hard copy" back to the MTF for filing and additional reporting requirements. Data is extracted in a consolidated format from this report and returned to the higher headquarters via use of DD Form 2202, Medical Expense and Performance Report (APPENDIX G). At the intermediate higher headquarters, the data from all medical facilities

under that command is compiled and used to produce summary reports; in the USAF, facility - to - facility comparisons begin here. The summary data is transmitted to the Surgeon General's office where the intermediate commands' expense and performance data is compared. The final step in the reporting process is for each of the armed services to forward the subject data, in a DOD MEPR, to the Assistant Secretary of Defense (Health Affairs). Additionally, information copies are provided to the Assistant Secretary of Defense (Comptroller).

UCA Within the USAF

With the intent of UCA being the allowance of the efficient management and utilization of resources and the identification and control of associated expenses, the focus now turns to the USAF and WHMC to describe the manner in which UCA functions. Within the USAF, there is a multi-tiered accounting system of coded obligation and expense transactions. This system has three components: the Accounting System for Operations, which yields the monthly Operating Budget Ledger (OBL); Responsibility and Cost Center (RC/CC) codes; and Elements of Expense/Investment Codes (EEIC) which are identity codes for expenses that are costed to RC/CC. An RC is defined as "an organization headed by one person who has been assigned to monitor financial management, and who, in most instances, exercises a significant degree of control of resources acquired and consumed."[7] On the other hand, a CC "is the basic production unit within the chain of command. It is directly identifiable to a parent command. It is subordinate to the responsibility center and denotes the basic

organizational level at which aggregation of expenses is meaningful."[8] These concepts relate to UCA because in most cases, the CC equates to a UCA designated Work Center. The Work Center is defined under the UCA system as having to meet several criteria, but the most important are:

1. Have identifiable and significant expenses.
2. Have assigned/allocated manpower.
3. Have allocated physical space.
4. Have meaningful output that is measureable.[9]

Knowing these relationships and the previously explained cost reassignment methodology of UCA, one can begin to comprehend the relationship of UCA to the USAF Expense Assignment System.

Costs are accumulated within the CCs of the MTF by the element of expense, or EEIC; each month the Resources Management Officer at USAF MTFs receives an OBL showing this. This listing provides the basic financial data that are used to compute the the UCA defined "product costs" at a USAF MTF, such as WHMC. But this is only part of the data required to produce the management information of the UCA system; the performance data must be gathered. This is accomplished by the manual collection of the performance data at the Work Center level. At WHMC, this data is submitted to the Trends and Analysis section for compilation and submission to higher headquarters, along with the quarterly financial data.

A recent development has brought a new feature to UCA. In March 1982, the Office of the Assistant Secretary of Defense (Health Affairs) contracted with the Federal Data Systems Corporation to develop and install an automated system for collecting and reporting UCA workload data in Pathology, Pharmacy, and Radiology. The resultant automated system, (it went on-line at WHMC on January 1, 1984) is called the Automated Source Data Collection (ASDC). This system will increase the accuracy of reported data and expedite the compilation and reporting processes. It will also free ancillary services personnel from the clerical tasks of compiling the performance statistics for their particular sections.

Should UCA be Used to Compare Facilities' Performance?

As indicated in the introduction, the UCA system, as currently established, does not provide consideration of the specific types of illnesses treated at various USAF MTFs. Also, the case mix concept has a bearing on costs across hospitals. This study seeks to determine if UCA patient level costs are reflective of the intensity of resource consumption and thusly, reflective of the case mix at [illegible]. Only data analysis of the sampled patients can provide a hint to answer the question posed in this statement and therefore, provide some insight of the propriety of using UCA for cross hospital comparison.

FOOTNOTES

[1] U.S., Department of the Air Force, Office of the Surgeon General, Procedures Manual for the Uniform Chart of Accounts, p. I - 3.

[2] U.S., Department of Defense, Uniform Chart of Accounts for Fixed Military Medical and Dental Facilities, Department of Defense Manual 6010.10-M (July 1979).

[3] Carl L. Moore and Robert K. Jaedicke, Managerial Accounting (Cincinnati: Southwestern Publishing Co., 1967),p.280.

[4] Procedures Manual for the Uniform Chart of Accounts, p. II - 3.

[5] Ibid.

[6] Ibid., p. II - 6.

[7] U.S., Department of the Air Force, Responsibility Center/Cost Center Codes, AFR 170 - 5, p. 1.

[8] Ibid.

[9] U.S., Department of Defense, Office of the Assistant Secretary of Defense (Health Affairs), Department of Defense Uniform Chart of Accounts for Fixed Military Medical and Dental Treatment Facilities, DOD 6010.10-M (First Ammendment), p. A - 27.

CHAPTER IV

DATA ANALYSIS

Description of the Sample

A frequency distribution of the sample by HCFA CCW (APPENDIX H) shows that the range of this distribution is 0.2483 to 5.2624. The most frequent CCW displayed is 0.5417, with 39 observation, or 2.9 percent of the sample, in this CCW cell. Less than three percent of the sample is in the heavier (CCW value of more than 3.0) weights.

A histogram of the sample cases by UCA service is shown in APPENDIX I. The UCA services shown in this appendix exceed the ones considered for sample because the additional services were not listed as final accounts in the UCA MEPR for the study period. As can be noted by examining this exhibit, the most frequent UCA service represented in the sample was Internal Medicine. The next most frequent service is General Surgery. As was explained in the Methodology section of CHAPTER I, this merely represents the services that exhibited the most number of cases seen at WHMC.

APPENDIX J shows the distribution of the sample by the Type of Admission. The categories considered were Direct Admission, Transferred In, Admitted from Quarters, Code for Record Only (or Dead On Arrival -- there were no observations in the sample), and Pre-Admission. The 1131 cases of Direct Admission shows that the

majority, 85.5 percent, of the admissions in the sample were directly admitted from a WHMC clinic. The 189 cases that were Transferred In are indicative of the referral facility status of WHMC. This may or may not be representative of the proportion of transfer cases admitted to WHMC; there are no statistics that this writer considers sufficiently accurate to confirm this statement.

The sample consists of 786 males and 537 females (APPENDIX K). Analysis of the Beneficiary Status indicates that the majority of the sample can be categorized under the rubric of Active Duty (APPENDIX L). The two categories considered for retirees were those who retired after a tenure period (LOS) and those who retired because of a disability (DIS). Dependents of retired (RET-DEP) and dependents of active duty (EAD-DEP) comprise 41.6 percent of the sample. Approximately ninety percent of the sample consisted of caucasians, while 8.7 percent of the sample was black (APPENDIX M). The majority of the sample was married. APPENDIX N indicates 61.0 percent of the sample as married and 35.1 percent as single. Of the 1323 cases studied, 1302 were discharged to home (APPENDIX O). This exhibit also shows that there were five transfer cases and two patients left WHMC Against Medical Advice (AMA).

APPENDIX P shows that the range of Length of Stay (LOS) for the sample is two days to over 100 days. The majority of the episodes of care (76.9 percent) required ten or fewer admission days. There were seven observations that had LOS over 100 days. The mean LOS for the sampled patients is 10.551 days. The mean LOS for Quarters 2 -- 4

during FY 82 was 9.9 days; this data for the Quarter FY 82 was not available.

The UCA Total Cost for the sample by episode of care is shown in APPENDIX Q, with there being five observations in the $200.00 interval and 174 observations in the interval beyond $5000.00. The mean UCA Total Cost is $2819.49, with the Standard Deviation being $4750.56. APPENDIX R shows an analysis of this frequency distribution. A histogram was constructed showing UCA Total Cost per case as the independent variable and the number of sample observations within each $3000.00 interval as the dependent variable. A simple look at the histogram indicates that the distribution is skewed to the right. The skewness value of 8.93 shown in this exhibit indicates the degree of asymmetry since the expected value for a symetrical distribution is zero.[1] Since the skewness value is positive, the distribution is skewed to the right; this value is a quantification of the pictoral presentation shown in the histogram. "Kurtosis is that property of a distribution which expresses its relative peakedness."[2] The kurtosis value for this distribution is 128.71; the value expected for a normal distribution is zero.[3] Most importantly, the "VALUE/S.E.", the division of the respective values by their Standard Error, are of a very large positive magnitude and indicate that this distribution is not a normal distribution.[4]

The UCA Direct Cost for the sample by episode of care is exhibited in APPENDIX S. The mean UCA Direct Cost per episode is $325.97, with a Standard Deviation of $1011.46. This cost per episode, as the

frequency distribution shows, is heavily weighted in the lower costs area -- approximately 81 percent of the cases exhibiting a Direct Cost per episode of care at less than $300.00 per stay. This is confirmed in APPENDIX T with a histogram showing UCA Direct Cost per case as the independent variable. Once again, like the UCA Total Cost per case distribution, a very skewed distribution is observed. The skewness value indicates a very asymmetric distribution and the kurtosis value presents evidence that the sample is not normally distributed. This is further confirmed by the magnitude of the "VALUE/S.E." score.

Examination of the UCA Support Cost per episode of care indicates that approximately 80 percent of the sampled cases could be attributed Support Costs of less than $400.00 (APPENDIX U). The mean of this distribution is $376.13, with a Standard Deviation of $814.20. Again the distribution is very skewed to the right and exhibits non-normality (APPENDIX V).

The final cost considered for this study was UCA Ancillary Cost per episode of care. A sample distribution of this cost is shown in APPENDIX W. The mean cost per episode of care in the sample is $1200.00, with a Standard Deviation of $2453.00. The range of cost per episode is approximately $50.00 to greater than $990.00. In fact, examination of the histogram (APPENDIX X) for this distribution indicates that there were approximately 120 patients that had a cost of approximately $65,000.00 in Ancillary Cost for there admission period. As was the case with the previously examined UCA cost distributions, evidence shows that this distribution is asymmetrical and non-normal.

Analysis A

As was detailed in CHAPTER I, the first analysis used in answering the research question was to determine if UCA costs differentiate three UCA services that exhibited different aggregate case-mix complexities. APPENDIX Y provides an exhibition of the case-mix complexities of each of the sampled services; this index is labelled "MEAN." The services chosen for comparison using One-Way Fixed Effects Analysis of Variance (ANOVA) were Cardio-Thoracic Surgery, Neurosurgery, and Otorhinolaryngology (ENT). The hypothesis test used in this analysis was:

H_o: No difference between the mean costs of the test UCA services.

H_a: A difference exists between the mean costs of the test UCA services.

Results of the ANOVA indicated that the null hypothesis can be rejected at the stated level of confidence of five percent with a calculated F Value of 10.1912 ($p \leq 0.0001$) since the $F_{critical}$ Value is 3.00. This calculation shows, overall, evidence that UCA does allow differentiation between services exhibiting different case-mix complexities. Since the stated degree of confidence is too liberal for pair-wise comparisons in the ANOVA, Bonferroni's method was used for the individual comparisons between the services; for these tests the degree of confidence is divided by the number of tests to be performed yielding a new degree of confidence of 0.0167. Using the

same hypothesis test, only on the basis of comparison between individual pairs, the null hypothesis can be rejected in all but one case. The calculated T Value of -0.9889 ($p \leq 0.3241$) between the Neurosurgery and ENT services provided evidence that the null hypothesis cannot be rejected at the stated level of significance.

Analysis of the UCA Direct Cost showed similar results. The null hypothesis can be rejected at the stated level of significance ($F_{critical}$ Value of 3.00) with a calculated F Value of 14.7718 ($p \leq 0.000$). Individual pair-wise comparisons between the services allowed rejection of the null hypothesis in all comparisons except between Neurosurgery and ENT with a calculated T Value of -0.0870 ($p \leq 0.9308$).

Analysis of the UCA Support Cost showed similar results. The calculated F Value of 7.1222 ($p \leq 0.0011$) allowed rejection of the null hypothesis for the overall evaluation of equality between the mean costs of the tested services. The individual pair-wise comparison results change in this test because the null hypothesis was not rejected in the comparisons between Cardio-Thoracic Surgery and Neurosurgery and between Neurosurgery and ENT, with calculated T Values of -1.6812 ($p \leq 0.0945$) and -2.0854 ($p \leq 0.0385$), respectively.

The final analysis was focused on the UCA Ancillary Costs for the patients in the tested services. The calculated F Value of 11.7961 ($p \leq 0.0001$) allowed rejection of the null hypothesis of equality of mean costs between the three tested services. The individual service

comparisons showed statistical significance in all cases, with the exception of Neurosurgery and ENT. The calculated T Value in this test was -0.8720 ($p \leq 0.3844$).

Analysis B

The second statistical analysis performed was a correlation analysis to determine the strength and statistical significance between the calculated WHMC CCW (shown in APPENDIX Y and labelled "MEAN") and the published HCFA CCW. As was stated in CHAPTER I, the criterion established for a moderate to strong correlation factor was the range Of 0.4 -- 0.8. The calculated correlation factor (r) was 0.4259. This indicated that the strength of this relationship is minimally moderate. This relationship was evaluated for statistical significance using the hypothesis test:

H_o: The population correlation coefficient equals 0.

H_a: The population correlation coefficient does not equal 0.

If the population correlation coefficient equals one or negative one, there is a perfect positive or negative correlation between the two variables, respectively. If the population correlation is zero, the two variables are not correlated.[5] The critcal T Value (d.f. = 252, confidence level established at 0.05) was 1.96. The calculated T Value of 7.472 ($p \leq 0.0001$) indicated statistical significance at the

established level of confidence and evidence that the two variables were correlated.

Analysis C

The final test used in this evaluation of UCA Total Costs at the patient level was to determine if there are differences between military and civilian hospitals with regard to patient caracteristics that could potentially affect resource consumption. With the dependent variable established as the HCFA cost by DRG and the independent variables being UCA DRG cost, patient age, patient sex, the type of patient admission, and the patient beneficiary type, a forward stepwise regression was performed. The hypothesis test performed to evaluate the regression variables was:

H_o: The overall regression is not significant (or the independent variable does not significantly predict HCFA cost by DRG).

H_a: The overall regression is significant (or the independent variable does significantly predict HCFA cost by DRG).[6]

The critical F Value was 3.84. The UCA Total Cost per patient was controlled to be the first variable considered; in subsequent iterations, the independent variables were allowed to enter the equation with out restriction. The UCA Total Cost was the most significant variable considered with a coefficient of determination

value (r^2) value of 0.1273 and a calculated F Value of 192.61. The next variable to be entered was patient age. The resultant r^2 value considering both variables was 0.1843, showing statistical significance with a calculated F Value of 149.17. The next variable considered was Duty beneficiary status; only Active Duty status was accepted as significant. No other variables were considered statistically significant. The resultant r^2 value for all three variables was 0.1982, showing statistical significance with a calculated F Value of 81.47. The resultant predictive model is:

HCFA DRG Cost = 2713.50781 + 0.20981 (UCA DRG COST) + 27.65864 (Patient Age) - 472.56790 (SEX) - 759.01672 (BENEFICIARY STATUS).

No other variables considered were statistically significant. The overall r^2 value indicates that the considered variables are statistically significant in accounting for approximately 19 percent of the variablity in HCFA DRG cost.

This model using the Standardized Regression Coefficients, for comparability of the interaction of the coefficient weights, is shown below:

HCFA Cost = 2713.50781 + 0.341 (UCA DRG COST) + 0.194 (PATIENT AGE) - 0.079 (SEX) - 0.122 (BENEFICIARY STATUS).

This final model indicates that some of the variability accounted for by the final three variables is already accounted for in UCA DRG COST. The r^2 value for UCA DRG COST, 0.1162, is much higher than the same value for the other variables.

FOOTNOTES

[1] W. J. Dixon, ed., BMDP Statistical Software (Los Angeles: University of California Press, 1981), p. 80.

[2] Charles T. Clark and Lawrence L. Schlade, Statistical Methods for Business Decisions, (Cincinnati: South-Western Publishing Co., 1969), p. 73.

[3] Dixon, p. 80.

[4] Ibid.

[5] Wayne W. Daniel, Biostatistics: A Foundation for Analysis in Health Sciences (New York: John Wiley and Sons, 1978), p. 284.

[6] David G. Kleinbaum and Lawrence L. Kupper, Applied Regression Analysis and Other Multivariate Methods (North Scituate, Massachusetts: Duxbury Press, 1978), p. 178.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This research paper has compared WHMC UCA costs by DRG to HCFA DRG costs to determine the degree of comparability. A subordinate purpose was to determine if UCA costs reflect the phenomenon of case-mix. The results of the study show that UCA costs at WHMC (as calculated by episode of care) do, on the whole reflect case-mix by allowing for differentiation of mean costs between three of the sampled UCA services and that WHMC UCA costs do, albeit to a small extent, compare to HCFA DRG costs.

The use of the ANOVAs to test for differentiation of costs (by episode of care) between services indicated that, overall, UCA does allow differentiation between three of the sampled services that exhibited different HCFA case-mix indices. At least at the UCA service level, this provides evidence that UCA costs reflect the differences in types of patients treated when the case-mix measurement is based on resources consumed (as in the case of DRGs). However, in four pair-wise comparisons, Neurosurgery and ENT were not shown to have mean costs that were significantly different. Also in one pair-wise comparison, Cardio-Thoracic Surgery and Neurosurgery were shown to exhibit equal means. This indicates that UCA costs may allow for differentiation between services, but not to the degree that would be desirable for comparison of cost efficiency.

The correlation analysis was shown to be in the acceptable range for a moderate relationship strength. However, the correlation coefficient (r) of 0.4259 is not overwhelming. This is highlighted by the fact that the coefficient of determination (r^2) value of 0.1814 indicates that the HCFA CCW (as an independent variable) explains only approximately 18 percent of the variation in the UCA CCW (as the dependent variable).

Four of the prediction model independent variables were useful in explaining some of the variability in the HCFA cost. However, less than 20 percent of the variation in the HCFA cost by DRG was explained by the test variables.

One caveat exists that begs the reader's attention. Some of the UCA costs used in this study were discovered to be of questionable value during statistical analysis. The main figure that fits this category is Oncology. As may have been noticed in Appendix B, there are no direct costs listed for this service. It is impossible to have patient days in a service and no direct costs for treating those patients. This shows an inherent weakness in the data gathering capacity of the UCA system. This problem, however, seems to have been ameliorated at WHMC during the past year.

Recommendations

Even with the positive results shown by UCA DRG costs with respect to HCFA DRG costs, the statistical analyses in this paper show that

there is still a great deal of unexplained variation between the two different cost methods. Also the extent to which UCA differentiates between services exhibiting different case-mix complexities allows for the questioning of the compariability of UCA costs between facilities exhibiting different case-mix weights when judging ecnomical efficiency of the operation of those compared facilities. This was but one study, however, only concerned with one USAF facility. There are numerous other USAF facilities that, presumably, exhibit different case-mix complexities. It is uncertain to this student what study results could be derived if a similar study were to be performed in all of those facilities.

To either confirm or deny the results of this study, further studies should be accomplished to determine if UCA DRG costs do compare to HCFA DRG costs. If UCA costs are to be used to compare facilities for economical efficiency, their validity for reflecting case-mix should be confirmed or denied. More importantly, if a budgetary methodology based on DRG costs that are calculated by use of UCA costs is to be developed by the USAF (or any other DOD service), UCA validity for case-mix must first be established. This can only be accomplished by further study into this area.

For the reasons enumerated here, this writer recommends further study into the area of case-mix measurement systems in USAF medical treatment facilities. These studies should seek to prove UCA validity as a reflection of case-mix for inter- and intra-facility comparisons.

APPENDIX A

SAMPLED UCA SERVICES

AD-A166 511 THE VALIDITY OF UNIFORM CHART OF ACCOUNTS AS A MEASURE OF RESOURCE CONSUM..(U) AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH W D HADDOCK 20 MAY 84 2/2

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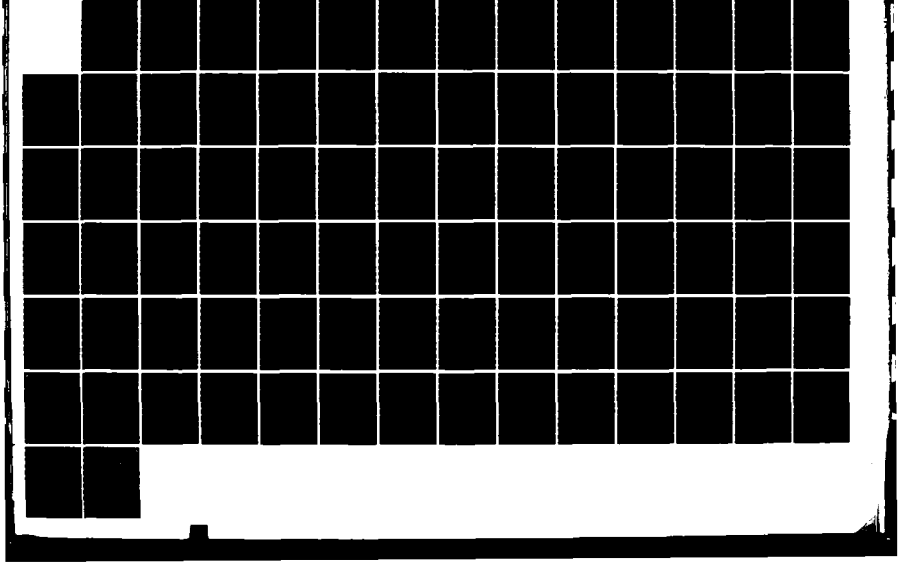

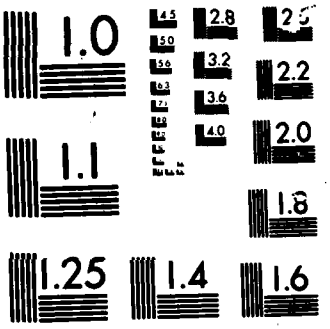

MICROCOPY CHART

UCA CODE	SERVICE	1ST QTR COST	1ST QTR DAYS	2ND QTR COST	2ND QTR DAYS	3RD QTR COST	3RD QTR DAYS	4TH QTR COST	4TH QTR DAYS	TOTAL 82 DAYS	MIN 82 DAYS	MEAN 82 DAYS	MAX 82 DAYS	TOTAL 82 EXPENSE	MIN 82 COST	MEAN 82 COST	MAX 82 COST
AAA	INTERNAL MEDICINE	199	7395	211	8443	184	8561	401	8021	32420	7395	8105	8561	8044723	184	248	401
AAB	CARDIOLOGY	209	1993	308	4039	273	3619	400	3669	13320	1993	3330	4039	4116136	209	309	400
AAC	CORONARY CARE	339	563	312	405	228	424	330	1023	2415	405	603	1023	751479	228	311	339
AAD	DERMATOLOGY	280	266	298	366	306	249	524	367	1248	249	312	367	452050	280	362	524
AAE	ENDOCRINOLOGY	159	79	176	107	69	74	256	62	322	62	80	107	52371	69	162	256
AAF	GASTROENTEROLOGY	181	488	200	432	203	419	235	772	2111	419	527	772	441205	181	209	235
AAG	HEMATOLOGY	154	308	183	459	139	290	336	394	1451	290	362	459	304123	139	209	336
AAH	MED INTENSIVE CARE UNIT	565	1494	338	1401	351	1254	291	1447	5596	1254	1399	1494	2178879	291	389	565
AAI	NEPHROLOGY	337	549	262	248	496	344	1482	101	1242	101	310	549	570295	262	459	1482
AAJ	NEUROLOGY	150	2062	158	2191	112	2711	166	1824	8788	1824	2197	2711	1261894	112	143	166
AAK	ONCOLOGY	164	3426	163	3055	187	2189	258	2409	11079	2189	2769	3426	2090694	163	188	258
AAL	PULMOARY UPPER RESPIRATORY DIS	378	375	257	507	238	901	449	347	2130	347	532	901	642290	238	301	449
AAM	RHEUMATOLOGY	212	107	335	211	144	233	298	192	743	107	185	233	184137	144	247	335
AAZ	ALLERGY	998	72	918	75	1800	31	694	106	284	31	71	106	270070	694	950	1800
ABA	GENERAL SURGERY	377	4162	332	5061	314	4778	388	5036	19037	4162	4759	5061	6703586	314	352	388
ABB	CARDIOVASCULAR & THORACIC SUR	274	2079	327	1557	552	1494	475	1110	6240	1110	1560	2079	2430723	274	389	552
ABC	SURGICAL INTENSIVE CARE UNIT	694	986	619	935	244	1185	523	922	4028	922	1007	1185	2034395	244	505	694
ABD	NEUROSURGERY	245	2149	210	2631	165	2566	226	2070	9416	2070	2354	2631	1970229	165	209	245
ABE	OPHTHALMOLOGY	233	1573	233	1584	227	1572	252	1538	6267	1538	1566	1584	1480001	227	236	252
ABF	ORAL SURGERY	414	1075	353	1220	339	1198	511	917	4410	917	1102	1220	1750419	339	396	511
ABG	OTORHINOLARYNGOLOGY	373	1536	289	1757	275	1816	346	1633	6742	1536	1685	1816	2145119	275	318	373
ABH	PEDIATRIC SURGERY	220	309	373	191	270	208	223	403	1111	191	277	403	285252	220	256	373
ABI	PLASTIC SURGERY	380	1012	315	1118	266	1138	337	1000	4268	1000	1067	1138	1376438	266	322	380
ABK	UROLOGY	300	2077	283	2524	300	1991	259	2344	8936	1991	2234	2524	2541788	259	284	300
ACA	GYNECOLOGY	234	3452	261	3053	274	1978	372	2441	10924	1978	2731	3452	3054625	234	279	372
ACB	OBSTETRICS	172	3101	251	2995	193	3320	361	2551	11967	2551	2991	3320	2946798	172	237	361
ADA	PEDIATRICS	231	3006	288	3073	278	2396	440	1673	10148	1673	2537	3073	2981618	231	293	440
ADB	NURSERY	486	1541	330	3309	364	2329	520	3150	10329	1541	2582	3309	4326652	330	418	520
ADC	NEONATAL INTENSIVE CARE	299	1516	446	245	251	958	360	790	3509	245	877	1516	1087412	251	309	446
AEA	ORTHOPEDICS	193	6748	193	6697	170	6782	303	5366	25593	5366	6398	6782	5373723	170	209	303
AEB	PODIATRY	2595	5	392	47	287	9	0	0	61	0	15	47	33982	0	557	2595
AF	PSYCHIATRY	190	3796	208	2899	273	2680	391	2648	12023	2648	3005	3796	3323160	190	276	391
TOT			59300		62835		59697		56326	238158				67106292			

MAX COST	2595
MIN COST	0
MEAN COST	281
MAX DAYS	8561
MIN DAYS	0
MEAN DAYS	1860

APPENDIX B

FY82 QUARTERLY UCA COSTS

FY 82 UCA COSTS

UCA CODE	SERVICE	FIRST QUARTER TOTAL	FIRST QUARTER DIRECT	FIRST QUARTER SUPPORT	FIRST QUARTER ANCILLARY	SECOND QUARTER TOTAL	SECOND QUARTER DIRECT	SECOND QUARTER SUPPORT	SECOND QUARTER ANCILLARY	THIRD QUARTER TOTAL	THIRD QUARTER DIRECT	THIRD QUARTER SUPPORT	THIRD QUARTER ANCILLARY
AAA	INT MED.	1469909	132019	201396	603877	1777954	134501	210980	678406	1578537	140048	21194	667305
AAB	CARDIOLOGY	416104	14390	88664	246434	1245241	9501	160059	229760	988474	9309	74411	306309
AAJ	NEUROLOGY	309617	31652	55500	82544	346487	31652	51369	84071	302316	31651	65963	51617
AAK	ONCOLOGY	562484	0	86679	205338	500843	0	71865	105167	410172	0	50979	191253
ABA	GEN. SUR.	1569412	103011	113699	1022454	1678415	207507	138128	868736	1498672	182635	125707	1011921
ABB	C/T SUR.	569129	15350	54310	398028	509401	12474	37970	307264	824745	17368	36596	649744
ABD	NEUROSUR.	527003	2220	59127	348778	352392	1798	63784	283282	422375	232	57528	246162
ABE	OPTHALMOL.	366008	68139	45877	135956	368822	59211	43630	130950	356505	60108	41616	170015
ABG	ENT	572654	72451	44709	340134	507263	69420	47202	230335	500022	70721	47137	262620
ABI	PLAS. SUR.	384317	37905	28025	234820	352609	36097	28889	186674	303108	38442	28760	162380
ABK	UROLOGY	622572	49206	56891	376178	714914	58186	65782	340524	598361	69039	51003	329117
ACA	GYNECOLOGY	808848	40594	90951	433396	795960	49339	75355	370107	542129	52293	49417	306492
ADA	PEDIATRIC	694473	72717	82746	202634	883949	118759	82864	202545	664971	119185	64326	156139
ADB	NURSERY	784898	425459	123371	183915	1090424	377559	181671	180749	848777	407808	110863	173016
AEA	ORTHOPEDIC	1300285	113180	179048	657434	1291587	110476	166696	467130	1149899	108811	167065	533948
AF	PSYCHIATRY	720745	317310	205658	124088	834660	377035	255674	114670	732968	418221	183369	103218

UCA CODE	FOURTH QUARTER TOTAL	FOURTH QUARTER DIRECT	FOURTH QUARTER SUPPORT	FOURTH QUARTER ANCILLARY	PER OBD MEAN TOTAL	PER OBD MEAN DIRECT	PER OBD MEAN SUPPORT	PER OBD MEAN ANCILLARY	TOTAL FY82 OCCUPIED BED DAYS
AAA	3219074	151304	273510	1860092	248.16	17.20	21.80	117.51	32420
AAB	1467473	13154	241652	457506	309.10	3.48	42.40	93.09	13320
AAJ	303440	31112	62267	70051	143.58	14.34	26.75	32.80	8788
AAK	621854	0	75757	236626	189.12	0.00	25.74	66.64	11079
ABA	1955674	165698	193068	942113	352.06	34.60	29.97	201.98	19037
ABB	526992	8812	37875	328420	389.46	8.65	26.72	269.78	6240
ABD	467814	1062	71294	229337	209.17	.56	26.73	117.62	9416
ABE	387030	58886	60360	139636	235.89	39.30	30.55	91.99	6267
ABG	565648	70141	62636	289094	318.24	41.93	29.91	166.44	6742
ABI	336842	38178	36337	149931	322.62	35.29	28.58	171.93	4268
ABK	607269	66659	86214	298407	284.59	27.20	29.08	150.42	8936
ACA	909207	17710	83195	471583	279.76	14.64	27.36	144.78	10924
ADA	735502	103998	73809	147896	293.54	40.86	29.93	69.88	10148
ADB	1639288	339082	236546	357698	422.44	150.05	63.16	86.68	10329
AEA	1627445	94370	185870	715139	209.79	16.67	27.29	92.82	25593
AF	1035958	402259	433152	96381	276.49	125.99	89.64	36.45	12023

APPENDIX C

HCFA CASE COMPLEXITY WEIGHTS AND DRG COSTS

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
1	1	SURG	CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA	3.3548	19.4	34
2	1	SURG	CRANIOTOMY FOR TRAUMA AGE >17	3.2829	15.8	26
3	1	SURG	• CRANIOTOMY AGE <18	2.9489	12.7	23
4	1	SURG	SPINAL PROCEDURES	2.2452	16.8	26
5	1	SURG	EXTRACRANIAL VASCULAR PROCEDURES	1.6788	9.8	18
6	1	SURG	CARPAL TUNNEL RELEASE	.3993	2.6	6
7	1	SURG	PERIPH • CRANIAL NERVE • OTHER NERV SYST PROC AGE >69 •/OR C.C.	1.8279	5.3	22
8	1	SURG	PERIPH • CRANIAL NERVE • OTHER NERV SYST PROC AGE <70 W/O C.C.	.7239	4.1	22
9	1	MED	SPINAL DISORDERS • INJURIES	1.3958	9.1	22
10	1	MED	NERVOUS SYSTEM NEOPLASMS AGE >69 AND/OR C.C.	1.3087	9.8	22
11	1	MED	NERVOUS SYSTEM NEOPLASMS AGE <70 W/O C.C.	1.2545	8.5	22
12	1	MED	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1.1136	9.4	22
13	1	MED	MULTIPLE SCLEROSIS • CEREBELLAR ATAXIA	1.0158	8.9	22
14	1	MED	SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA	1.3527	9.9	24
15	1	MED	TRANSIENT ISCHEMIC ATTACKS	.6673	5.6	22
16	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH C.C.	.8592	7.4	22
17	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O C.C.	.8392	7.2	22
18	1	MED	CRANIAL • PERIPHERAL NERVE DISORDERS AGE >69 AND/OR C.C.	.7915	6.6	22
19	1	MED	CRANIAL • PERIPHERAL NERVE DISORDERS AGE <70 W/O C.C.	.6975	5.7	20
20	1	MED	NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS	1.3141	7.6	20
21	1	MED	• VIRAL MENINGITIS	.6301	4.5	15
22	1	MED	HYPERTENSIVE ENCEPHALOPATHY	.7869	6.4	20
23	1	MED	NONTRAUMATIC STUPOR • COMA	1.1568	9.9	20
24	1	MED	SEIZURE • HEADACHE AGE >69 AND/OR C.C.	.7279	5.6	20
25	1	MED	SEIZURE • HEADACHE AGE 18-69 W/O C.C.	.6392	4.9	15
26	1	MED	• SEIZURE • HEADACHE AGE 0-17	.4369	3.3	13
27	1	MED	• TRAUMATIC STUPOR • COMA, COMA >1 HR	1.1368	4.1	20
28	1	MED	TRAUMATIC STUPOR • COMA, COMA <1 HR AGE >69 AND/OR C.C.	1.0701	5.9	20
29	1	MED	• TRAUMATIC STUPOR • COMA <1 HR AGE 18-69 W/O C.C.	.7175	3.8	14
30	1	MED	• TRAUMATIC STUPOR • COMA <1 HR AGE 0-17	.3578	2.0	8
31	1	MED	CONCUSSION AGE >69 AND/OR C.C.	.6051	4.6	22
32	1	MED	CONCUSSION AGE 18-69 W/O C.C.	.4519	3.3	15
33	1	MED	• CONCUSSION AGE 0-17	.2483	1.6	7
34	1	MED	OTHER DISORDERS OF NERVOUS SYSTEM AGE >69 AND/OR C.C.	.9927	7.1	26
35	1	MED	OTHER DISORDERS OF NERVOUS SYSTEM AGE <70 W/O C.C.	.8466	6.2	26
36	2	SURG	RETINAL PROCEDURES	.7093	5.0	15
37	2	SURG	ORBITAL PROCEDURES	.5530	3.4	12
38	2	SURG	PRIMARY IRIS PROCEDURES	.4325	3.0	9
39	2	SURG	LENS PROCEDURES	.5010	2.8	9
40	2	SURG	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE >17	.3977	2.4	9
41	2	SURG	• EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	.3699	1.6	9
42	2	SURG	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS • LENS	.7306	5.8	12
43	2	MED	• HYPHEMA	.5928	4.2	12
44	2	MED	ACUTE MAJOR EYE INFECTIONS	.6298	6.5	22
45	2	MED	NEUROLOGICAL EYE DISORDERS	.3641	4.3	11

• MEDPAR DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.

•• DRG CATEGORIES COMBINED (IN PAIRS) IN THE CALCULATION OF THE CASE MIX INDEX.

••• DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
46	2	MED	OTHER DISORDERS OF THE EYE AGE >17 WITH C.C.	.5964	4.1	23
47	2	MED	OTHER DISORDERS OF THE EYE AGE >17 W/O C.C.	.3864	3.0	12
48	2	MED	* OTHER DISORDERS OF THE EYE AGE 0-17	.4060	2.9	13
49	3	SURG	MAJOR HEAD & NECK PROCEDURES	2.5270	13.6	34
50	3	SURG	SIALOADENECTOMY	.7160	4.6	14
51	3	SURG	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	.6782	4.2	15
52	3	SURG	* CLEFT LIP & PALATE REPAIR	.6428	3.0	11
53	3	SURG	SINUS & MASTOID PROCEDURES AGE >17	.5895	3.9	11
54	3	SURG	* SINUS & MASTOID PROCEDURES AGE 0-17	.6961	3.2	11
55	3	SURG	MISCELLANEOUS EAR, NOSE & THROAT PROCEDURES	.4153	2.5	7
56	3	SURG	RHINOPLASTY	.4144	2.8	7
57	3	SURG	* T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY AGE >17	.5231	2.7	8
58	3	SURG	* T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY, AGE 0-17	.3138	1.9	5
59	3	SURG	* TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE >17	.3147	2.0	4
60	3	SURG	* TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE 0-17	.2643	1.9	5
61	3	SURG	* MYRINGOTOMY AGE >17	.4273	2.1	5
62	3	SURG	* MYRINGOTOMY AGE 0-17	.3121	1.3	5
63	3	SURG	OTHER EAR, NOSE & THROAT O.R. PROCEDURES	1.1898	5.0	26
64	3	MED	EAR, NOSE & THROAT MALIGNANCY	1.0812	5.7	26
65	3	MED	DYSEQUILIBRIUM	.4857	4.6	17
66	3	MED	EPISTAXIS	.4116	3.7	15
67	3	MED	* EPIGLOTTITIS	.6762	4.3	17
68	3	MED	OTITIS MEDIA & URI AGE >69 AND/OR C.C.	.6289	6.0	22
69	3	MED	OTITIS MEDIA & URI AGE 18-69 W/O C.C.	.5417	4.8	19
70	3	MED	* OTITIS MEDIA & URI AGE 0-17	.3697	3.1	12
71	3	MED	* LARYNGOTRACHEITIS	.3589	2.9	9
72	3	MED	NASAL TRAUMA & DEFORMITY	.4857	3.8	16
73	3	MED	OTHER EAR, NOSE & THROAT DIAGNOSES AGE >17	.5217	3.9	17
74	3	MED	* OTHER EAR, NOSE & THROAT DIAGNOSES AGE 0-17	.3463	2.1	9
75	4	SURG	MAJOR CHEST PROCEDURES	2.6844	14.4	34
76	4	SURG	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST WITH C.C.	1.8736	10.6	31
77	4	SURG	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST W/O C.C.	1.8178	9.5	30
78	4	MED	PULMONARY EMBOLISM	1.4895	10.4	30
79	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE >69 AND/OR C.C.	1.7982	11.2	31
80	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 18-69 W/O C.C.	1.7445	10.9	31
81	4	MED	* RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 0-17	.8743	6.1	26
82	4	MED	RESPIRATORY NEOPLASMS	1.1478	7.4	27
83	4	MED	MAJOR CHEST TRAUMA AGE >69 AND/OR C.C.	.9809	8.1	28
84	4	MED	* MAJOR CHEST TRAUMA AGE <70 W/O C.C.	.7738	5.3	22
85	4	MED	PLEURAL EFFUSION AGE >69 AND/OR C.C.	1.1461	8.4	28
86	4	MED	PLEURAL EFFUSION AGE <70 W/O C.C.	1.1217	7.4	28
87	4	MED	PULMONARY EDEMA & RESPIRATORY FAILURE	1.5529	7.7	28
88	4	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1.0418	7.5	28
89	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE >69 AND/OR C.C.	1.1029	8.5	29
90	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE 18-69 W/O C.C.	.9849	7.4	28

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
91	4	PED	• SIMPLE PNEUMONIA • PLEURISY AGE 0-17	.5131	4.6	14
92	4	MED	INTERSTITIAL LUNG DISEASE AGE >69 AND/OR C.C.	1.0378	7.8	28
93	4	MED	INTERSTITIAL LUNG DISEASE AGE <70 W/O C.C.	.9724	6.9	27
94	4	MED	PNEUMOTHORAX AGE >69 AND/OR C.C.	1.4374	9.2	29
95	4	PED	PNEUMOTHORAX AGE <70 W/O C.C.	1.1282	7.7	28
96	4	PED	BRONCHITIS • ASTHMA AGE >69 AND/OR C.C.	.7996	6.9	24
97	4	MED	BRONCHITIS • ASTHMA AGE 18-69 W/O C.C.	.7256	6.2	21
98	4	PED	• BRONCHITIS • ASTHMA AGE 0-17	.4275	3.7	11
99	4	MED	RESPIRATORY SIGNS • SYMPTOMS AGE >69 AND/OR C.C.	.8035	5.5	26
100	4	MED	RESPIRATORY SIGNS • SYMPTOMS AGE <70 W/O C.C.	.7738	5.1	27
101	4	MED	OTHER RESPIRATORY DIAGNOSES AGE >69 AND/OR C.C.	.9035	6.8	27
102	4	PED	OTHER RESPIRATORY DIAGNOSES AGE <70	.9024	6.1	26
103	5	SURG	• HEART TRANSPLANT	.0000	.0	0
104	5	SURG	•• CARDIAC VALVE PROCEDURE WITH PUMP • WITH CARDIAC CATH	6.8527	20.9	41
105	5	SURG	•• CARDIAC VALVE PROCEDURE WITH PUMP • W/O CARDIAC CATH	5.2308	16.2	36
106	5	SURG	•• CORONARY BYPASS WITH CARDIAC CATH	5.2624	20.4	48
107	5	SURG	•• CORONARY BYPASS W/O CARDIAC CATH	3.9891	13.5	34
108	5	SURG	CARDIOTHOR PROC.EXCEPT VALVE • CORONARY BYPASS.WITH PUMP	4.3756	13.3	33
109	5	SURG	CARDIOTHORACIC PROCEDURES W/O PUMP	3.6963	12.1	32
110	5	SURG	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE >69 AND/OR C.C.	2.9328	14.3	34
111	5	SURG	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE <70 W/O C.C.	2.5851	13.2	33
112	5	SURG	VASCULAR PROCEDURES EXCEPT MAJOR RECONSTRUCTION	2.3588	11.2	31
113	5	SURG	AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB • TOE	2.6809	21.8	42
114	5	SURG	UPPER LIMB • TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	2.1967	16.6	37
115	5	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT WITH AMI OR CHF	3.9158	15.8	36
116	5	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT W/O AMI OR CHF	2.8665	9.3	29
117	5	SURG	CARDIAC PACEMAKER REPLACE • REVIS EXC PULSE GEN REPL ONLY	1.8218	6.4	26
118	5	SURG	CARDIAC PACEMAKER PULSE GENERATOR REPLACEMENT ONLY	1.7889	5.2	18
119	5	SURG	• VEIN LIGATION • STRIPPING	1.0618	7.2	27
120	5	SURG	OTHER O.R. PROCEDURES ON THE CIRCULATORY SYSTEM	2.5204	15.8	35
121	5	MED	•• CIRCULATORY DISORDERS WITH AMI • C.V. COMP. DISCH. ALIVE	1.8648	11.9	32
122	5	MED	•• CIRCULATORY DISORDERS WITH AMI W/O C.V. COMP. DISCH. ALIVE	1.3651	9.8	30
123	5	PED	CIRCULATORY DISORDERS WITH AMI, EXPIRED	1.1360	3.1	23
124	5	MED	CIRCULATORY DISORDERS EXC AMI.WITH CARD CATH • COMPLEX DIAG	2.2200	8.4	28
125	5	MED	CIRCULATORY DISORDERS EXC AMI.WITH CARD CATH W/O COMPLEX DIAG	1.6455	5.8	25
126	5	MED	ACUTE • SUBACUTE ENDOCARDITIS	2.6645	18.4	38
127	5	PED	HEART FAILURE • SHOCK	1.0408	7.8	28
128	5	MED	DEEP VEIN THROMBOPHLEBITIS	.8639	9.6	28
129	5	MED	CARDIAC ARREST	1.5586	4.6	25
130	5	MED	PERIPHERAL VASCULAR DISORDERS AGE >69 AND/OR C.C.	.9645	7.1	27
131	5	MED	PERIPHERAL VASCULAR DISORDERS AGE <70 W/O C.C.	.9491	6.4	26
132	5	MED	ATHEROSCLEROSIS AGE >69 AND/OR C.C.	.9102	6.7	27
133	5	MED	ATHEROSCLEROSIS AGE <70 W/O C.C.	.8599	5.8	24
134	5	MED	HYPERTENSION	.7049	6.1	26
135	5	MED	CARDIAC CONGENITAL • VALVULAR DISORDERS AGE >69 AND/OR C.C.	.9922	6.1	24

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DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
13	5	MED	CARDIAC CONGENITAL • VALVULAR DISORDERS AGE 18-69 W/O C.C.	.9674	4.9	25
13	5	MED	• CARDIAC CONGENITAL • VALVULAR DISORDERS AGE 0-17	.6381	3.3	20
138	5	MED	CARDIAC ARRHYTHMIA • CONDUCTION DISORDERS AGE >69 AND/OR C.C.	.9297	5.7	26
139	5	MED	CARDIAC ARRHYTHMIA • CONDUCTION DISORDERS AGE <70 W/O C.C.	.6303	4.8	23
140	5	MED	ANGINA PECTORIS	.7548	5.5	21
141	5	MED	SYNCOPE • COLLAPSE AGE >69 AND/OR C.C.	.6475	5.8	21
142	5	MED	SYNCOPE • COLLAPSE AGE <70 W/O C.C.	.5606	4.3	18
143	5	MED	CHEST PAIN	.6814	4.4	19
144	5	MED	OTHER CIRCULATORY DIAGNOSES WITH C.C.	1.1267	7.0	27
145	5	MED	OTHER CIRCULATORY DIAGNOSES W/O C.C.	1.0028	6.4	24
146	6	SURG	RECTAL RESECTION AGE >69 AND/OR C.C.	2.7082	19.1	59
147	6	SURG	RECTAL RESECTION AGE <70 W/O C.C.	2.5087	17.9	58
148	6	SURG	MAJOR SMALL • LARGE BOWEL PROCEDURES AGE >69 AND/OR C.C.	2.5493	17.8	57
149	6	SURG	MAJOR SMALL • LARGE BOWEL PROCEDURES AGE <70 W/O C.C.	2.2194	15.2	55
150	6	SURG	PERITONEAL ADHESIOLYSIS AGE >69 AND/OR C.C.	2.3746	15.3	55
151	6	SURG	PERITONEAL ADHESIOLYSIS AGE <70 W/O C.C.	2.0274	13.4	53
152	6	SURG	MINOR SMALL • LARGE BOWEL PROCEDURES AGE >69 AND/OR C.C.	1.4851	10.6	51
153	6	SURG	MINOR SMALL • LARGE BOWEL PROCEDURES AGE <70 W/O C.C.	1.2599	9.3	49
154	6	SURG	STOMACH, ESOPHAGEAL • DUODENAL PROCEDURES AGE >69 AND/OR C.C.	2.6701	19.8	55
155	6	SURG	STOMACH, ESOPHAGEAL • DUODENAL PROCEDURES AGE 18-69 W/O C.C.	2.3336	13.8	53
156	6	SURG	• STOMACH, ESOPHAGEAL • DUODENAL PROCEDURES AGE 0-17	.8478	6.8	28
157	6	SURG	ANAL PROCEDURES AGE >69 AND/OR C.C.	.7985	6.8	25
158	6	SURG	ANAL PROCEDURES AGE <70 W/O C.C.	.6408	5.2	23
159	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL • FEMORAL AGE >69 AND/OR C.C.	.9297	7.1	25
160	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL • FEMORAL AGE 18-69 W/O C.C.	.7678	6.8	18
161	6	SURG	INGUINAL • FEMORAL HERNIA PROCEDURES AGE >69 AND/OR C.C.	.7868	5.7	16
162	6	SURG	INGUINAL • FEMORAL HERNIA PROCEDURES AGE 18-69 W/O C.C.	.5854	4.8	12
163	6	SURG	• HERNIA PROCEDURES AGE 0-17	.4358	2.1	6
164	6	SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE>69 AND/OR C.C.	1.8328	11.9	32
165	6	SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE <70 W/O C.C.	1.6154	11.3	29
166	6	SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE >69 AND/OR C.C.	1.4328	9.4	29
167	6	SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE <70 W/O C.C.	1.0818	7.4	22
168	6	SURG	PROCEDURES ON THE MOUTH AGE >69 AND/OR C.C.	.8691	4.3	24
169	6	SURG	PROCEDURES ON THE MOUTH AGE <70 W/O C.C.	.8992	4.2	24
170	6	SURG	OTHER DIGESTIVE SYSTEM PROCEDURES AGE >69 AND/OR C.C.	2.6682	14.6	55
171	6	SURG	OTHER DIGESTIVE SYSTEM PROCEDURES AGE <70 W/O C.C.	2.3976	13.3	53
172	6	MED	DIGESTIVE MALIGNANCY AGE >69 AND/OR C.C.	1.2268	8.2	28
173	6	MED	DIGESTIVE MALIGNANCY AGE <70 W/O C.C.	1.0517	6.7	27
174	6	MED	G.I. HEMORRHAGE AGE >69 AND/OR C.C.	.9281	6.7	24
175	6	MED	G.I. HEMORRHAGE AGE <70 W/O C.C.	.8236	5.8	24
176	6	MED	COMPLICATED PEPTIC ULCER	1.2438	8.1	28
177	6	MED	UNCOMPLICATED PEPTIC ULCER >69 AND/OR C.C.	.7422	6.6	29
178	6	MED	UNCOMPLICATED PEPTIC ULCER <70 W/O C.C.	.6141	5.5	28
179	6	MED	INFLAMMATORY BOWEL DISEASE	1.0153	8.8	28
180	6	MED	G.I. OBSTRUCTION AGE >69 AND/OR C.C.	.8197	6.2	26

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TABLE 5 Page 5 of 11

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS; GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	POC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
181	6	MED	G.I. OBSTRUCTION AGE <70 W/O C.C.	.7845	5.9	24
182	6	MED	ESOPHAGITIS,GASTROENT.* MISC. DIGEST. DIS AGE >69 +/OR C.C.	.6185	6.4	22
183	6	MED	ESOPHAGITIS,GASTROENT.* MISC. DIGEST. DIS AGE 18-69 W/O C.C.	.5688	4.8	17
184	6	MED	* ESOPHAGITIS, GASTROENTERITIS * MISC. DIGEST. DISORDERS AGE 0-17	.3888	5.3	21
185	6	MED	DENTAL * ORAL DIS, EXC EXTRACTIONS * RESTORATIONS,AGE >17	.6681	4.2	22
186	6	MED	* DENTAL * ORAL DIS, EXC EXTRACTIONS * RESTORATIONS,AGE 0-17	.4188	2.9	11
187	6	MED	DENTAL EXTRACTIONS * RESTORATIONS	.3998	2.7	11
188	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE >69 AND/OR C.C.	.7044	8.1	28
189	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 18-69 W/O C.C.	.5576	4.8	20
190	6	MED	* OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	.3379	2.1	8
191	7	SURG	MAJOR PANCREAS, LIVER * SHUNT PROCEDURES	4.1791	20.8	41
192	7	SURG	* MINOR PANCREAS, LIVER * SHUNT PROCEDURES	3.9197	20.1	40
193	7	SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE >69 +/OR C.C.	2.0513	17.3	37
194	7	SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE <70 W/O C.C.	1.9881	13.9	34
195	7	SURG	** TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE >69 AND/OR C.C.	2.1690	16.6	36
196	7	SURG	** TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE <70 W/O C.C.	2.0994	15.8	34
197	7	SURG	** TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE >69 AND/OR C.C.	1.4868	11.6	28
198	7	SURG	** TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE <70 W/O C.C.	1.2782	10.1	24
199	7	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY	2.4574	17.9	38
200	7	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY	2.5818	18.1	38
201	7	SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	2.7291	16.9	37
202	7	MED	CIRRHOSIS * ALCOHOLIC HEPATITIS	1.1968	9.3	28
203	7	MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	1.8937	8.8	28
204	7	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	.9688	7.8	28
205	7	MED	DISORDERS OF LIVER EXC MALIG,CIRR,ALC HEPA AGE >69 AND/OR C.C.	1.0822	7.9	28
206	7	MED	DISORDERS OF LIVER EXC MALIG,CIRR,ALC HEPA AGE <70 W/O C.C.	.9247	6.8	27
207	7	MED	DISORDERS OF THE BILIARY TRACT AGE >69 AND/OR C.C.	.8492	6.6	24
208	7	MED	DISORDERS OF THE BILIARY TRACT AGE <70 W/O C.C.	.7315	5.8	22
209	8	SURG	MAJOR JOINT PROCEDURES	2.2718	17.1	37
210	8	SURG	HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >69 AND/OR C.C.	2.0833	17.0	38
211	8	SURG	HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 18-69 W/O C.C.	1.9539	15.9	36
212	8	SURG	* HIP * FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17	1.7138	11.1	31
213	8	SURG	AMPUTATIONS FOR MUSCULOSKELETAL SYSTEM * CONN. TISSUE DISORDERS	2.1315	14.3	34
214	8	SURG	BACK * NECK PROCEDURES AGE >69 AND/OR C.C.	1.8187	15.6	36
215	8	SURG	BACK * NECK PROCEDURES AGE <70 W/O C.C.	1.4128	13.0	33
216	8	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM * CONNECTIVE TISSUE	1.5196	11.3	31
217	8	SURG	WND &MAJOR * SKN GRFT EXC HAND,FOR MUSCULOSKELETAL * CONN.TISS.DIS	2.8124	19.1	37
218	8	SURG	LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE >69 +/OR C.C.	1.4150	10.9	31
219	8	SURG	LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE 18-69 W/O C.C.	1.0198	8.3	27
220	8	SURG	* LOWER EXTREM * HUMER PROC EXC HIP,FOOT,FEMUR AGE 0-17	.9139	5.3	23
221	8	SURG	KNEE PROCEDURES AGE >69 AND/OR C.C.	1.2127	8.3	28
222	8	SURG	KNEE PROCEDURES AGE <70 W/O C.C.	.9197	6.4	24
223	8	SURG	UPPER EXTREMITY PROC EXC HUMERUS * HAND AGE >69 AND/OR C.C.	1.0123	6.9	27
224	8	SURG	UPPER EXTREMITY PROC EXC HUMERUS * HAND AGE <70 W/O C.C.	.8152	5.6	24
225	8	SURG	FOOT PROCEDURES	.6176	4.8	19

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** DRG CATEGORIES COMBINED (IN PAIRS) IN THE CALCULATION OF THE CASE MIX INDEX.
*** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	POC	TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
226	8 SURG	SOFT TISSUE PROCEDURES AGE >69 AND/OR C.C.	.7984	5.1	25
227	8 SURG	SOFT TISSUE PROCEDURES AGE <70 W/O C.C.	.6337	4.2	18
228	8 SURG	GANGLION (HAND) PROCEDURES	.3626	2.2	7
229	8 SURG	HAND PROCEDURES EXCEPT GANGLION	.5998	3.4	14
230	8 SURG	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES OF HIP + FEMUR	1.3594	8.9	29
231	8 SURG	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES EXCEPT HIP + FEMUR	.9519	5.3	25
232	8 SURG	ARTHROSCOPY	.6063	3.6	15
233	8 SURG	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE >69 +/OR C.C.	1.7737	13.1	33
234	8 SURG	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE <70 W/O C.C.	1.2454	8.2	28
235	8 MED	FRACTURES OF FEMUR	1.7586	13.6	34
236	8 MED	FRACTURES OF HIP + PELVIS	1.3855	11.9	32
237	8 MED	SPRAINS, STRAINS, + DISLOCATIONS OF HIP, PELVIS + THIGH	.7929	6.4	26
238	8 MED	OSTEOMYELITIS	1.5511	12.3	32
239	8 MED	PATHOLOGICAL FRACTURES + MUSCULOSKELETAL + CONN.TISS.MALIGNANCY	1.0979	9.2	29
240	8 MED	CONNECTIVE TISSUE DISORDERS AGE >69 AND/OR C.C.	.9709	8.6	29
241	8 MED	CONNECTIVE TISSUE DISORDERS AGE <70 W/O C.C.	.9048	8.8	28
242	8 MED	SEPTIC ARTHRITIS	1.5888	11.2	31
243	8 MED	MEDICAL BACK PROBLEMS	.7551	7.5	28
244	8 MED	BONE DISEASES + SEPTIC ARTHROPATHY AGE >69 AND/OR C.C.	.7792	7.5	28
245	8 MED	BONE DISEASES + SEPTIC ARTHROPATHY AGE <70 W/O C.C.	.7177	6.3	26
246	8 MED	NON-SPECIFIC ARTHROPATHIES	.7147	6.8	27
247	8 MED	SIGNS + SYMPTOMS OF MUSCULOSKELETAL SYSTEM + CONN TISSUE	.6559	5.8	26
248	8 MED	TENDONITIS, MYOSITIS + BURSITIS	.6136	5.4	24
249	8 MED	AFTERCARE, MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	1.0203	7.6	28
250	8 MED	FX,SPRNS,STRNS + CISL OF FOREARM,HAND,FOOT AGE >69 +/OR C.C.	.7428	6.8	26
251	8 MED	FX,SPRNS,STRNS + CISL OF FOREARM,HAND,FOOT AGE 18-69 W/O C.C.	.5964	4.2	24
252	8 MED	FX,SPRNS,STRNS + CISL OF FOREARM,HAND,FOOT AGE 0-17	.3533	1.8	7
253	8 MED	FX,SPRNS,STRNS + CISL OF UPARM,LOWLEG EX FOOT AGE >69 +/OR C.C.	.7466	6.6	27
254	8 MED	FX,SPRNS,STRNS + CISL OF UPARM,LOWLEG EX FOOT AGE 18-69 W/O C.C.	.6258	5.3	25
255	8 MED	FX,SPRNS,STRNS + CISL OF UPARM,LOWLEG EX FOOT AGE 0-17	.4687	2.9	15
256	8 MED	OTHER DIAGNOSES OF MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	.8706	6.5	27
257	9 SURG	TOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C.C.	1.1085	9.3	25
258	9 SURG	TOTAL MASTECTOMY FOR MALIGNANCY AGE <70 W/O C.C.	1.0729	8.9	21
259	9 SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C.C.	1.0141	7.4	27
260	9 SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE <70	.9325	6.4	26
261	9 SURG	BREAST PROC FOR NON-MALIG EXCEPT BIOPSY + LOC EXC	.7329	4.8	19
262	9 SURG	BREAST BIOPSY + LOCAL EXCISION FOR NON-MALIGNANCY	.4617	3.8	10
263	9 SURG	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE >69 AND/OR C.C.	2.4737	21.3	41
264	9 SURG	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE <70 W/O C.C.	2.2031	18.2	38
265	9 SURG	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS WITH C.C.	1.4959	8.6	29
266	9 SURG	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS W/O C.C.	.9488	5.9	26
267	9 SURG	PERIANAL + PILONIDAL PROCEDURES	.6113	5.0	18
268	9 SURG	SKIN,SUBCUTANEOUS TISSUE + BREAST PLASTIC PROCEDURES	.5388	3.0	19
269	9 SURG	OTHER SKIN, SUBCUT TISS + BREAST O.R. PROC AGE >69 +/OR C.C.	.9947	5.7	26
270	9 SURG	OTHER SKIN, SUBCUT TISS + BREAST O.R. PROC AGE <70 W/O C.C.	.8123	4.9	25

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
271	9	MED	SKIN ULCERS	1.3602	12.1	32
272	9	MED	MAJOR SKIN DISORDERS AGE >69 AND/OR C.C.	.8628	7.8	22
273	9	MED	MAJOR SKIN DISORDERS AGE <70 W/O C.C.	.8286	7.3	21
274	9	MED	MALIGNANT BREAST DISORDERS AGE >69 AND/OR C.C.	1.0108	7.5	20
275	9	MED	MALIGNANT BREAST DISORDERS AGE <70 W/O C.C.	.9814	6.4	26
276	9	MED	NON-MALIGNANT BREAST DISORDERS	.6066	4.2	22
277	9	MED	CELLULITIS AGE >69 AND/OR C.C.	.8869	6.3	28
278	9	MED	CELLULITIS AGE 18-69 W/O C.C.	.8096	7.2	27
279	9	MED	• CELLULITIS AGE 0-17	.4709	4.2	19
280	9	MED	TRAUMA TO THE SKIN, SUBCUT TISS & BRL ST AGE >69 +/OR C.C.	.6211	5.4	23
281	9	MED	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE 18-69 W/O C.C.	.5377	4.2	22
282	9	MED	• TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE 0-17	.3461	2.2	9
283	9	MED	MINOR SKIN DISORDERS AGE >69 AND/OR C.C.	.6394	5.3	22
284	9	MED	MINOR SKIN DISORDERS AGE <70 W/O C.C.	.5971	4.4	24
285	10	SURG	AMPUTATIONS FOR ENDOCRINE,NUTRITIONAL + METABOLIC DISORDERS	2.8650	24.8	44
286	10	SURG	• ADRENAL + PITUITARY PROCEDURES	2.8958	16.1	36
287	10	SURG	SKIN GRAFTS + WOUND DEBRIDE FOR ENDOC,NUTRIT + METAB DISORDERS	2.8143	22.8	43
288	10	SURG	• O.R. PROCEDURES FOR OBESITY	1.8698	10.8	24
289	10	SURG	PARATHYROID PROCEDURES	1.3736	8.3	28
290	10	SURG	THYROID PROCEDURES	.8549	6.8	17
291	10	SURG	• THYROGLOSSAL PROCEDURES	.4909	2.9	8
292	10	SURG	OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE >69 +/OR C.C.	2.0387	10.8	31
293	10	SURG	• OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE <70 W/O C.C.	1.4951	8.8	28
294	10	MED	DIABETES AGE >35	.8087	7.7	28
295	10	MED	DIABETES AGE 0-35	.7487	5.6	26
296	10	MED	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE >69 AND/OR C.C.	.8979	7.3	27
297	10	MED	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 18-69 W/O C.C.	.7923	6.8	26
298	10	MED	• NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 0-17	.7838	5.4	22
299	10	MED	INBORN ERRORS OF METABOLISM	.9487	6.8	27
300	10	MED	ENDOCRINE DISORDERS AGE >69 AND/OR C.C.	.9751	7.8	26
301	10	MED	ENDOCRINE DISORDERS AGE <70 W/O C.C.	.8143	6.4	24
302	11	SURG	KIDNEY TRANSPLANT	6.6322	24.1	44
303	11	SURG	KIDNEY,URETER + MAJOR BLADDER PROCEDURE FOR NEOPLASM	2.5397	16.2	36
304	11	SURG	KIDNEY,URETER + PRJ BLDR PROC FOR NON-MALIG AGE >69 +/OR C.C.	1.7952	12.8	33
305	11	SURG	KIDNEY,URETER + PRJ BLDR PROC FOR NON-MALIG AGE <70 W/O C.C.	1.7043	11.9	32
306	11	SURG	PROSTATECTOMY AGE >69 AND/OR C.C.	1.1399	8.8	29
307	11	SURG	PROSTATECTOMY AGE <70 W/O C.C.	.9813	7.2	26
308	11	SURG	MINOR BLADDER PROCEDURES AGE >69 AND/OR C.C.	1.0441	7.1	27
309	11	SURG	MINOR BLADDER PROCEDURES AGE <70 W/O C.C.	.9290	5.7	26
310	11	SURG	TRANSURETHRAL PROCEDURES AGE >69 AND/OR C.C.	.7071	4.9	22
311	11	SURG	TRANSURETHRAL PROCEDURES AGE <70 W/O C.C.	.5871	4.1	22
312	11	SURG	URETHRAL PROCEDURES, AGE >69 AND/OR C.C.	.7424	5.2	21
313	11	SURG	URETHRAL PROCEDURES, AGE 18-69 W/O C.C.	.6897	5.1	21
314	11	SURG	• URETHRAL PROCEDURES, AGE 0-17	.4368	2.3	10
315	11	SURG	OTHER KIDNEY + URINARY TRACT O.R. PROCEDURES	2.4884	9.8	30

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
316	11	MED	RENAL FAILURE W/O DIALYSIS	1.3314	6.7	27
317	11	MED	• RENAL FAILURE WITH DIALYSIS	.2385	1.2	3
318	11	MED	KIDNEY • URINARY TRACT NEOPLASMS AGE >69 AND/OR C.C.	.9142	5.5	26
319	11	MED	KIDNEY • URINARY TRACT NEOPLASMS AGE <70 W/O C.C.	.7942	4.2	24
320	11	MED	KIDNEY • URINARY TRACT INFECTIONS AGE >69 AND/OR C.C.	.8123	7.0	27
321	11	MED	KIDNEY • URINARY TRACT INFECTIONS AGE 18-69 W/C C.C.	.6803	5.6	23
322	11	MED	• KIDNEY • URINARY TRACT INFECTIONS AGE 0-17	.4553	3.7	13
323	11	MED	URINARY STONES AGE >69 AND/OR C.C.	.7131	4.9	25
324	11	MED	URINARY STONES AGE <70 W/O C.C.	.5472	3.9	19
325	11	MED	KIDNEY • URINARY TRACT SIGNS • SYMPTOMS AGE >69 AND/OR C.C.	.7247	5.4	25
326	11	MED	KIDNEY • URINARY TRACT SIGNS • SYMPTOMS AGE 18-69 W/O C.C.	.5879	4.3	21
327	11	MED	• KIDNEY • URINARY TRACT SIGNS • SYMPTOMS AGE 0-17	.5027	3.1	14
328	11	MED	• URETHRAL STRICTURE AGE >69 AND/OR C.C.	.6508	4.8	22
329	11	MED	URETHRAL STRICTURE AGE 18-69 W/O C.C.	.5326	3.9	17
330	11	MED	• URETHRAL STRICTURE AGE 0-17	.2817	1.6	5
331	11	MED	OTHER KIDNEY • URINARY TRACT DIAGNOSES AGE >69 AND/OR C.C.	.8919	6.3	26
332	11	MED	OTHER KIDNEY • URINARY TRACT DIAGNOSES AGE 18-69 W/O C.C.	.7763	5.0	25
333	11	MED	• OTHER KIDNEY • URINARY TRACT DIAGNOSES AGE 0-17	.5146	3.2	18
334	12	SURG	MAJOR MALE PELVIC PROCEDURES WITH C.C.	1.5612	12.7	30
335	12	SURG	MAJOR MALE PELVIC PROCEDURES W/O C.C.	1.3598	11.8	29
336	12	SURG	TRANSURETHRAL PROSTATECTOMY AGE >69 AND/OR C.C.	1.0879	8.0	22
337	12	SURG	TRANSURETHRAL PROSTATECTOMY AGE <70 W/O C.C.	.8491	7.2	17
338	12	SURG	TESTES PROCEDURES, FOR MALIGNANCY	.9869	6.3	26
339	12	SURG	TESTES PROCEDURES, NON-MALIGNANT AGE >17	.6093	3.5	15
340	12	SURG	• TESTES PROCEDURES, NON-MALIGNANT AGE 0-17	.4381	2.4	7
341	12	SURG	PENIS PROCEDURES	.9983	6.0	21
342	12	SURG	CIRCUMCISION AGE >17	.4228	2.0	10
343	12	SURG	• CIRCUMCISION AGE 0-17	.3828	1.7	4
344	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY	1.1204	7.4	27
345	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIG	.8334	5.6	26
346	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE >69 AND/OR C.C.	.9395	6.9	27
347	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE <70 W/C C.C.	.8304	5.7	24
348	12	MED	BENIGN PROSTATIC HYPERTROPHY AGE >69 AND/OR C.C.	.8864	6.2	26
349	12	MED	BENIGN PROSTATIC HYPERTROPHY AGE <70 W/O C.C.	.6998	4.9	22
350	12	MED	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM	.6096	5.2	22
351	12	MED	• STERILIZATION, MALE	.2655	1.3	2
352	12	MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES	.6385	4.4	25
353	13	SURG	PELVIC EVISCERATION, RADICAL HYSTERECTOMY • VULVECTOMY	1.9376	12.4	32
354	13	SURG	RCA-RADICAL HYSTERECTOMY AGE >69 AND/OR C.C.	1.1188	9.6	20
355	13	SURG	NON-RADICAL HYSTERECTOMY AGE <70 W/C C.C.	1.0156	8.8	17
356	13	SURG	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	.8468	8.1	18
357	13	SURG	UTERUS • ADNEXA PROCEDURES, FOR MALIGNANCY	1.9188	13.9	34
358	13	SURG	UTERUS • ADNEXA PROC FOR NON-MALIGNANCY EXCEPT TUBAL INTERRUPT	1.0898	8.8	20
359	13	SURG	• TUBAL INTERRUPTION FOR NON-MALIGNANCY	.4279	2.3	7
360	13	SURG	VAGINA, CERVIX • VULVA PROCEDURES	.5985	4.2	19

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LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	DC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
361	13	SURG	• LAPAROSCOPY • ENDOSCOPY (FEMALE) EXCEPT TUBAL INTERRUPTION	.4964	2.6	[illegible]
362	13	SURG	• LAPAROSCOPIC TUBAL INTERRUPTION	.3126	1.4	[illegible]
363	13	SURG	D&C,CONIZATION • RADIO-IMPLANT, FOR MALIGNANCY	.6516	4.3	18
364	13	SURG	D&C,CONIZATION EXCEPT FOR MALIGNANCY	.4028	2.6	9
365	13	SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1.7969	12.7	35
366	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE >69 AND/OR C.C.	.8444	5.2	25
367	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE <70 W/O C.C.	.5786	3.5	24
368	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	.7944	6.7	27
369	13	MED	PERINEAL • OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	.6959	5.1	25
370	14	SURG	• CESAREAN SECTION WITH C.C.	.9912	7.6	15
371	14	SURG	• CESAREAN SECTION W/O C.C.	.7535	6.1	10
372	14	MED	• VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES	.5530	3.8	9
373	14	MED	VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES	.4063	3.2	9
374	14	SURG	• VAGINAL DELIVERY WITH STERILIZATION AND/OR D&C	.5492	3.6	7
375	14	SURG	• VAGINAL DELIVERY WITH O.R. PROC EXCEPT STERIL &/OR D&C	.6889	4.4	15
376	14	MED	• POSTPARTUM DIAGNOSES W/O O.R. PROCEDURE	.4158	2.9	10
377	14	SURG	• POSTPARTUM DIAGNOSES WITH O.R. PROCEDURE	.4761	2.2	8
378	14	MED	• ECTOPIC PREGNANCY	.8094	5.5	11
379	14	MED	• THREATENED ABORTION	.3169	2.2	8
380	14	MED	• ABORTION W/O D&C	.2705	1.5	4
381	14	MED	• ABORTION WITH D&C	.3602	1.4	4
382	14	MED	• FALSE LABOR	.1842	1.2	2
383	14	MED	• OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS	.4317	3.4	14
384	14	MED	• OTHER ANTEPARTUM DIAGNOSES W/O MEDICAL COMPLICATIONS	.3245	2.2	9
385	15		• NEONATES, DIED OR TRANSFERRED	.6883	1.8	14
386	15		• EXTREME IMMATURITY, NEONATE	3.6863	17.9	38
387	15		•• PREMATURITY WITH MAJOR PROBLEMS	1.8459	13.3	33
388	15		•• PREMATURITY W/O MAJOR PROBLEMS	1.1693	8.6	29
389	15		• FULL TERM NEONATE WITH MAJOR PROBLEMS	.5482	4.7	16
390	15		• NEONATES WITH OTHER SIGNIFICANT PROBLEMS	.3523	3.4	9
391	15		• NORMAL NEWBORNS	.2241	3.1	7
392	16	SURG	SPLENECTOMY AGE >17	2.7746	16.4	36
393	16	SURG	• SPLENECTOMY AGE 0-17	1.5366	9.1	29
394	16	SURG	OTHER O.R. PROCEDURES OF THE BLOOD • BLOOD FORMING ORGANS	1.1146	6.1	26
395	16	MED	RED BLOOD CELL DISORDERS AGE >17	.7839	6.1	26
396	16	MED	• RED BLOOD CELL DISORDERS AGE 0-17	.6295	4.1	18
397	16	MED	COAGULATION DISORDERS	.9863	6.7	27
398	16	MED	RETICULOENDOTHELIAL • IMMUNITY DISORDERS AGE >69 AND/OR C.C.	.9908	6.1	26
399	16	MED	RETICULOENDOTHELIAL • IMMUNITY DISORDERS AGE <70 W/O C.C.	.8459	5.6	26
400	17	SURG	LYMPHOMA OR LEUKEMIA WITH MAJOR O.R. PROCEDURE	2.9272	16.9	37
401	17	SURG	LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROC AGE >69 AND/OR C.C.	1.2489	8.9	29
402	17	SURG	• LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROCEDURE AGE <70 W/O C.C.	1.1316	7.1	27
403	17	MED	LYMPHOMA OR LEUKEMIA AGE >69 AND/OR C.C.	1.1715	7.1	27
404	17	MED	LYMPHOMA OR LEUKEMIA AGE 18-69 W/O C.C.	1.1787	6.4	26
405	17	MED	• LYMPHOMA OR LEUKEMIA AGE 0-17	1.0517	4.9	25

• MEDPAR DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
•• DRG CATEGORIES COMBINED (IN PAIRS) IN THE CALCULATION OF THE CASE MIX INDEX.
••• DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND ARITH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
406	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPLASM W MAJ O.R.PROC + C.C.	2.2671	15.0	[illegible]
407	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R.PROC W/O C.C.	2.1366	13.3	55
408	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL WITH MINOR O.R.PROC	1.1389	7.1	27
409	17	MED	• RADIOTHERAPY	.8134	5.7	26
410	17	MED	CHEMOTHERAPY	.3527	2.6	12
411	17	MED	HISTORY OF MALIGNANCY W/O ENDOSCOPY	.7221	4.7	25
412	17	MED	HISTORY OF MALIGNANCY WITH ENDOSCOPY	.3460	2.0	[illegible]
413	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE>69 +/OR C.C	1.0975	7.3	27
414	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE<70 W/O C.C.	1.0359	6.4	26
415	18	SURG	O.R. PROCEDURE FOR INFECTIOUS + PARASITIC DISEASES	3.0027	15.1	55
416	18	MED	SEPTICEMIA AGE >17	1.5504	9.2	29
417	18	MED	• SEPTICEMIA AGE 0-17	.7152	5.2	20
418	18	MED	POSTOPERATIVE + POST-TRAUMATIC INFECTIONS	.9968	8.4	28
419	18	MED	FEVER OF UNKNOWN ORIGIN AGE >69 AND/OR C.C.	.8628	6.9	27
420	18	MED	FEVER OF UNKNOWN ORIGIN AGE 18-69 W/O C.C.	.8022	6.2	26
421	18	MED	VIRAL ILLNESS AGE >17	.6045	5.4	21
422	18	MED	• VIRAL ILLNESS + FEVER OF UNKNOWN ORIGIN AGE 0-17	.4368	3.2	10
423	18	MED	OTHER INFECTIOUS + PARASITIC DISEASES DIAGNOSES	1.2107	8.8	29
424	19	SURG	O.R. PROCEDURES WITH PRINCIPAL DIAGNOSIS OF MENTAL ILLNESS	2.1938	14.2	54
425	19	MED	ACUTE ADJUST REACT + DISTURBANCES OF PSYCHOSOCIAL DYSFUNCTION	.6812	5.8	26
426	19	MED	DEPRESSIVE NEUROSES	.9495	9.4	29
427	19	MED	NEUROSES EXCEPT DEPRESSIVE	.7678	6.9	27
428	19	MED	DISORDERS OF PERSONALITY + IMPULSE CONTROL	.9741	8.3	28
429	19	MED	ORGANIC DISTURBANCES + MENTAL RETARDATION	.9523	8.8	29
430	19	MED	PSYCHOSES	1.0934	10.8	31
431	19	MED	• CHILDHOOD MENTAL DISORDERS	2.2519	15.4	55
432	19	MED	• OTHER DIAGNOSES OF MENTAL DISORDERS	1.0525	7.2	27
433	20		•• SUBSTANCE USE + SUBST INDUCED ORGANIC MENTAL DISORDERS, LEFT AMA	.4457	2.5	17
434	20		•• DRUG DEPENDENCE	1.0404	9.1	29
435	20		•• DRUG USE EXCEPT DEPENDENCE	1.0738	8.0	28
436	20		•• ALCOHOL DEPENDENCE	.8853	8.1	28
437	20		•• ALCOHOL USE EXCEPT DEPENDENCE	.6183	5.5	24
438	20		•• ALCOHOL + SUBSTANCE INDUCED ORGANIC MENTAL SYNDROME	.8420	6.9	27
439	21	SURG	• SKIN GRAFTS FOR INJURIES	1.8219	8.9	28
440	21	SURG	• WOUND DEBRIDEMENTS FOR INJURIES	1.4867	7.2	27
441	21	SURG	• HAND PROCEDURES FOR INJURIES	.7180	3.0	16
442	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE >69 AND/OR C.C.	1.9026	9.1	29
443	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE <70 W/O C.C.	1.5211	5.6	27
444	21	MED	MULTIPLE TRAUMA AGE >69 AND/OR C.C.	.8830	6.7	27
445	21	MED	MULTIPLE TRAUMA AGE 18-69 W/O C.C.	.7559	5.2	22
446	21	MED	• MULTIPLE TRAUMA AGE 0-17	.4846	2.4	10
447	21	MED	ALLERGIC REACTIONS AGE >17	.4789	3.7	19
448	21	MED	• ALLERGIC REACTIONS AGE 0-17	.3565	2.9	[illegible]
449	21	MED	TOXIC EFFECTS OF DRUGS AGE >69 AND/OR C.C.	.7331	5.6	26
450	21	MED	TOXIC EFFECTS OF DRUGS AGE 18-69 W/O C.C.	.5997	3.9	23

• MEDPAR DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
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••• DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

TABLE 5 Page 1 of 11

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	GEOMETRIC MEAN LOS	OUTLIER CUTOFFS
451	21	MED	* TOXIC EFFECTS OF DRUGS AGE 0-17	.2912	2.1	6
452	21	MED	COMPLICATIONS OF TREATMENT AGE >69 AND/OR C.C.	.8492	5.5	26
453	21	MED	COMPLICATIONS OF TREATMENT AGE <70 W/O C.C.	.9020	5.1	25
454	21	MED	OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE >69 AND/OR C.C.	.8224	5.3	25
455	21	MED	* OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE <70 W/O C.C.	.6185	3.5	22
456	22		** BURNS, TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	2.0902	11.6	32
457	22		** EXTENSIVE BURNS	6.8631	12.6	33
458	22	SURG	** NON-EXTENSIVE BURNS WITH SKIN GRAFTS	2.8572	18.3	38
459	22	SURG	** NON-EXTENSIVE BURNS WITH WOUND DEBRIDEMENT & OTHER O.R. PROC	2.7560	12.7	33
460	22	MED	** NON-EXTENSIVE BURNS W/O O.R. PROCEDURE	1.4225	9.0	29
461	23	SURG	O.R. PROC WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	1.6587	8.0	28
462	23	MED	* REHABILITATION	1.8268	13.5	36
463	23	MED	SIGNS & SYMPTOMS WITH C.C.	.7702	6.3	26
464	23	MED	SIGNS & SYMPTOMS W/O C.C.	.7322	6.0	26
465	23	MED	** AFTERCARE WITH HISTORY OF MALIGNANCY AS SECONDARY DX	.2071	1.5	6
466	23	MED	** AFTERCARE W/O HISTORY OF MALIGNANCY AS SECONDARY DX	.6377	3.7	24
467	23	MED	OTHER FACTORS INFLUENCING HEALTH STATUS	.9799	6.1	26
468			UNRELATED OR PROCEDURE	2.1037	11.2	31
469			*** PDX INVALID AS DISCHARGE DIAGNOSIS	.0000	.0	0
470			*** UNGROUPABLE	.0000	.0	0

* MEDPAR DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
** DRG CATEGORIES COMBINED (IN PAIRS) IN THE CALCULATION OF THE CASE MIX INDEX.
*** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.

BILLING CODE 4120-03-C

APPENDIX D

USAF FORMS 235

REPORT OF PATIENTS

CODE	REPORTS CONTROL SYMBOL
REPORTING FACILITY AND LOCATION	PERIOD COVERED / DATE ENDING

I. DAILY AVERAGE STRENGTH SERVED FOR MEDICAL CARE, EAD MILITARY PERSONNEL

LINE		AIR FORCE A	ARMY B	NAVY MARINE C
1	TOTAL			
2	ATCH FOR OUTPT CARE			
3	ON BASE			
4	OFF BASE			
5	NEGROID			
6	OTHER			
7	ATCH THROUGH DISP			
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

II. OUTPATIENT AND QUARTERS PATIENT VISITS FOR OBSERVATION, DIAGNOSIS, TREATMENT, FLIGHT OR OTHER COMPLETE PHYSICAL EXAMS

	PERSONNEL CATEGORY	NO. OF VISITS
21	TOTAL	
22	EXTENDED AD MIL	
23	AIR FORCE	
24	ARMY	
25	NAVY - MARINE	
26	OTHER ACTIVE MIL SVC	
27	AD MEMBERS NONMIL UNIF SVC	
28	RETIRED MEMBERS UNIF SVC	
29	DEPN AD MEMBERS UNIF SVC	
30	AIR FORCE	
31	ARMY	
32	NAVY - MARINE	
33	OTHER	
34	DEPN, RET AND DECD MEMBERS UNIF SVC	
35	U. S. CIVILIAN EMPLOYEES	
36	ALL OTHER	

III. OTHER VISIT AND PHYSICAL EXAM DATA

		NUMBER
37	FLIGHT PHYSICAL EXAMS	
38	OTHER COMPLETE PHYSICAL EXAMS	
39	IMMUNIZATIONS	
40	TOTAL VISITS FOR TREATMENT	
41	VISITS BY INDIVIDUAL APPOINTMENT	

IV. DEATHS

LINE	STATUS AT TIME OF DEATH	EXTENDED ACTIVE DUTY: AF A	ARMY B	NAVY MARINE C	OTHER D
42	TOTAL				
43	PATIENT, NONBATTLE				
44	PATIENT, BATTLE CASUALTY				
45	CHO, NONBATTLE				
46	CHO, BATTLE CASUALTY				

V. NEW, NOT-EPTS, VD CASES TREATED, EAD MILITARY PATIENTS

		GONORRHEA A	SYPHILIS B	OTHER VD C
47	AIR FORCE			
48	NEGROID			
49	OTHER			
50	ARMY			
51	NEGROID			
52	OTHER			
53	NAVY - MARINE			
54	NEGROID			
55	OTHER			

VI. DIAGNOSTIC TESTS AND EXAMINATIONS, AND PRESCRIPTIONS

		TOTAL A	IN-PATIENT B	OUTPNT AND OTR PNT C
56	X-RAY FILMS EXPOSED			
57	FLUOROSCOPIC EXAMS			
58	ROUTINE 12 LEAD ECG'S			
59	OTHER SPEC CARDIOVASC STUDIES			
60	EEG'S			
61	BMR'S			
62	VENTILOMETRY			
63	OTHER SPEC PULM FUNCT TESTS			
64	AUDIOGRAMS			
65	REFRACTIONS			
66	GASTROSCOPIES			
67	PROCTOSIGMOIDOSCOPIES			
68	OTHER ENDOSCOPIES			
69	PSYCHOLOGICAL TESTS			
70	LABORATORY SPEC PRCS			
71	PRESCRIPTIONS			

VII. EAD MIL PATIENTS EXCUSED FROM DUTY

	DIAGNOSIS CATEGORY	AIR FORCE A	ARMY B	NAVY MARINE C
72	TOTAL			
73	DISEASE			
74	NONBATTLE INJURY			
75	AIRCRAFT			
76	MOTOR VEHICLE			
77	OTHER			
78	BATTLE CASUALTY			

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REPORT OF PATIENTS	CODE	REPORT CONTROL SYMBOL
REPORTING FACILITY AND LOCATION	PERIOD COVERED	DATE ENDING

VIII. SELECTED DATA, ACCORDING TO CLINICAL SPECIALTY OR ANCILLARY SERVICE INVOLVED

LINE	SPECIALTY OR SERVICE	VISITS		MED SVC PROV BY CIV DR	REFERRALS TO OTHER US GOVT FACILITIES (not incl transfers)		VISITS	
		INPATIENT A	OUTPATIENT AND QTR PATIENT B	C	D	E	MEDICAL TECHNICIANS F	PHYSICIANS ASSISTANTS G
76	TOTAL							
80	CLINIC SERVICES							
81	GENERAL PRACTICE							
84	EMERGENCY ROOM							
85	MEDICAL CLINICS							
86	ALLERGY							
88	CARDIOLOGY							
89	DERMATOLOGY							
87	GASTROENTEROLOGY							
88	HEMATOLOGY							
89	MEDICINE							
90	NEUROLOGY							
91	PEDIATRICS							
92	PSYCHIATRY							
93	PULMONARY							
94	OTHER MEDICAL CLINICS							
95	SURGICAL CLINICS							
96	GYNECOLOGY							
97	NEUROSURGERY							
98	OBSTETHICS							
99	OPHTHALMOLOGY							
100	ORTHOPEDICS							
101	OTOLARYNGOLOGY							
102	PLASTIC SURGERY							
103	SURGERY							
104	THORACIC SURGERY							
105	UROLOGY							
106	FAMILY PLANNING CLINIC							
107	OTHER SURGICAL CLINICS							
108	FLIGHT MEDICINE SERVICE							
109	INDUSTRIAL MEDICINE SERVICE							
110	ANCILLARY SERVICES							
111	RADIATION THERAPY							
112	OCCUPATIONAL THERAPY							
113	PHYSICAL THERAPY							
114	PODIATRY							
115	OTHER BASE MEDICAL SERVICE							
116	FAMILY PRACTICE CLINIC							

IX. MISCELLANEOUS

		TOTAL A	AIR FORCE B	ARMY C	NAVY + MARINE D	OTHER E
117	TOTAL SICK DAYS					
118	TRANSIENTS RECEIVED					
119	BED OCCUPANCY DAYS, TRANSIENTS					
120	TRANSIENT BEDS OCCUPIED, MAXIMUM DAY					
121	BED OCCUPANCY DAYS IN NONFED HOSPS					

DATE REPORT PREPARED	TYPED OR PRINTED NAME AND GRADE	SIGNATURE

AF FORM SEP 73 235a

REPORT OF PATIENTS - HOSPITAL SUPPLEMENT	CODE	REPORT CONTROL SYMBOL
REPORTING FACILITY AND LOCATION	PERIOD COVERED	DATE ENDING

X. INPATIENT ADMISSIONS AND INPATIENT DAYS

LINE	CATEGORY OF PATIENT	INPATIENT ADMISSIONS TOTAL A	INPATIENT ADMISSIONS BY TRANSFER B	DAYS SUBSISTING OUT C	DAYS OCCUPYING BEDS TOTAL D	DAYS OCCUPYING BEDS PATIENT PAID FOR MEALS E	F
1	ALL PATIENTS - TOTAL						
2	EXTENDED AD MIL	( )	( )	( )	( )	( )	( )
3	AIR FORCE						
4	ARMY						
5	NAVY - MARINE						
6	OTHER ACTIVE MIL SVC	( )	( )	( )	( )	( )	( )
7	AIR FORCE						
8	ARMY						
9	NAVY - MARINE						
10	MEMBERS, NONMIL UNIF SERVICE	( )	( )	( )	( )	( )	( )
11	COAST GUARD						
12	PUBLIC HEALTH SERVICE						
13	NOAA						
14	RETIRED MEMBERS	( )	( )	( )	( )	( )	( )
15	AIR FORCE						
16	ARMY						
17	NAVY - MARINE						
18	COAST GUARD						
19	PUBLIC HEALTH SERVICE						
20	NOAA						
21	DEPENDENTS, UNIF SERVICE	( )	( )	( )	( )	( )	( )
22	ACTIVE DUTY, AIR FORCE						
23	ACTIVE DUTY, ARMY						
24	ACTIVE DUTY, NAVY - MARINE						
25	RETIRED AND DECEASED AIR FORCE						
26	RETIRED AND DECEASED ARMY						
27	RETIRED AND DECEASED NAVY - MARINE						
28	COAST GUARD						
29	PUBLIC HEALTH SERVICE						
30	NOAA						
31	SPECIAL CATEGORIES	( )	( )	( )	( )	( )	( )
32	ALLIED AND NEUTRAL MILITARY						
33	DEPN OF ALLIED AND NEUTRAL MILITARY						
34	DEPN OF AUTH CIVILIAN EMPLOYEES						
35	OWCP BENEFICIARIES						
36	OTHER US EMPLOYEES						
37	VA BENEFICIARIES						
38	PRISONERS OF WAR						
39	ALL OTHER						

XI. DISPOSITION OF INPATIENTS

	TYPE OF DISPOSITION	AF A	ARMY B	NAVY-MARINE C	OTHER D
40	TOTAL				
41	TSFR TO AIR FORCE				
42	TSFR TO ARMY				
43	TSFR TO NAVY				
44	EVACUATED TO US				
45	OTHER				

XII.

46				
47				
48				
49				

XIII. BIRTHS

50	LIVEBIRTHS	
51	*FETAL DEATHS (20 Compl was *)	

XIV BED CAPACITY DATA

		NORMAL		DESIGNATED
52	BEDS			
53	BASSINETS			

XV. OPERATING BED DATA

54	OPERATING BEDS	
55		
56		

FORM AF JUL 70 2356 PREVIOUS EDITION WILL BE USED.

APPENDIX E

OPERATING EXPENSE ACCOUNTS WITH CORRESPONDING UCA PERFORMANCE AND ASSIGNMENT FACTORS

OPERATING EXPENSE ACCOUNTS WITH CORRESPONDING PERFORMANCE AND ASSIGNMENT FACTORS

OPERATING EXPENSE ACCOUNT	PERFORMANCE FACTOR	ASSIGNMENT FACTOR
A. INPATIENT CARE	Occupied Bed Day	None-Final Operating Expense Account
B. AMBULATORY CARE	Visit	None-Final Operating Expense Account
C. DENTAL CARE	Weighted Dental Procedure	None-Final Operating Expense Account
Weighted Prosthodontic Work Unit	None-Final Operating Expense Account	
D. ANCILLARY SERVICES		
Pharmacy	Weighted Procedure	Ratio of Weighted Procedures to Total Weighted Procedures Performed
Pathology	Weighted Procedure	Ratio of Weighted Procedures to Total Weighted Procedures Performed
Radiology	Weighted Procedure	Ratio of Weighted Procedures to Total Weighted Procedures Performed
Special Procedures Services	Procedure/Weighted Procedure	Ratio of Procedures/Weighted Procedures to Total Procedures Performed
Central Sterile Supply/Material Service	Hours of Service/$	Ratio of Hours of Service/$ to Total Hours of Service/$
Surgical Service	Hours of Service	Ratio of Hours of Service to Total Hours of Service
Same Day Service	Hours of Service	Ratio of Hours of Service to Total Hours of Service
Rehabilitative Service	Visit	Ratio of Visits to Total Visits
Nuclear Medicine	Weighted Procedure	Ratio of Weighted Procedures to Total Weighted Procedures Performed
E. SUPPORT SERVICE		
Depreciation	Not Applicable to Performance Factor	Sub-Account Specific With Respect

Source: U.S., Department of Defense, Uniform Chart of Accounts for Fixed Medical and Dental Treatment Facilities, DOD 6010.10M July 25, 1979 (First Ammendment), pp. 3-7 -- 3-9.

OPERATING EXPENSE ACCOUNT	PERFORMANCE FACTOR	ASSIGNMENT FACTOR
Command and Administrative Support Service	FTE Man-Months	Ratio of FTE Man-Months to Total FTE Man-Months
Personnel Support Services	Not Applicable	Ratio of Square Feet to Total Square Feet
Public Works	Not Applicable	Actual or Ratio of Hours of Service or Square Feet to Total Hours of Service or Square Feet
Material Services	Dollars	Ratio of Dollar Value of Issues to Total Dollar Value of Issues
Housekeeping and Janitorial Service	Hours of Service/$	Ratio of Hours of Service or $ to Total Hours /$ of Service Provided
Biomedical Equipment Repair	Hours of Service	Ratio of Hours of Service to Total Hours of Service Provided
Linen & Laundry Service	Pounds of Dry Laundry	Ratio of Pounds of Dry Laundry to Total Pounds of Dry Laundry Processed
Inpatient Food Service	Inpatient Rations Served	Ratio of Rations Served to Total Rations Served
Inpatient Affairs	Occupied Bed Day	Ratio of Occupied Bed Days to Total Occupied Bed Days
Ambulatory Care Administraiton	Outpatient Visits	Ratio of Outpatient Visits to Total Outpatient Visits
F. SPECIAL PROGRAMS		
Specified Health Related Programs	Various	None-Final Operating Expense Account
Public Health Services	Various	None-Final Operating Expense Account
Health Care Services Support	Various	None-Final Operating Expense Account
Military Unique Medical Activities	Various	None-Final Operating Expense Account
Patient Movement and Military Patient Administration	Various	None-Final Operating Expense Account

APPENDIX F

WHMC COST CENTERS AND CORRESPONDING UCA DESIGNATIONS

INPATIENT CARE

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455104	AAXD	Medical/surgical Nursing Unit 4 (Medical Evaluation Board/Physical Evaluation Board Ward)
455105	AAXE	Medical/Surgical Nursing Unit 5 (Self Care)
455106	AAXF	Medical/Surgical Nursing Unit 6 (Cooperative Care)
455108	AAXH	Medical/Surgical Nursing Unit 8 (Intermediate Care)
455109	AAXI	Medical/Surgical Nursing Unit 9 (Intensive Care)
455111	AAXJ	Medical Nursing Unit 1 (General Medicine)
455112	AAXK	Medical Nursing Unit 2 (Coronary Care/Telemetry)
455114	AAXM	Medical Nursing Unit 4 (Hematology/Oncology)
455115	AAXN	Medical Nursing Unit 5 (Neurology/Dermatology)
455116	AAXO	Medical Nursing Unit 6 (General Medicine)
455117	AAXP	Medical Nursing Unit 7 (Medical Self-Care)
455122	ABXA	Surgical Nursing Unit 2 (Surgical Preadmission)
455123	ABXC	Surgical Nursing Unit 3 (General Surgery)
455124	ABXD	Surgical Nursing Unit 4 (ENT & Ophthalmology)
455125	ABXE	Surgical Nursing Unit 5 (Miscellaneous Surgery)
455127	ABXG	Surgical Nursing Unit 7 (General Surgery)
455131	ACXA	Obstetric/Gynecology Nursing Unit 1 (Gynecology/Oncology)
455132	ACXB	Obstetric/Gynecology Nursing Unit 2 (Postpartum/Labor & Delivery)
455133	ACXC	Obstetric/Gynecology Nursing Unit 3 (Antipartum)
455141	ADXA	Pediatric Nursing Unit 1 (Pediatrics)
455143	ADXC	Pediatric Nursing Unit 3 (Pediatrics Intensive Care)
455144	ADXD	Pediatric Nursing Unit 4 (Nursery)

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455151	AEXA	Orthopedic Nursing Unit 1 (Orthopedics/General Surgery)
455152	AEXB	Orthopedic Nursing Unit 2 (Orthopedics)
455161	AFXA	Psychiatric Nursing Unit 1 (Psychiatric)
455162	AFXB	Psychiatric Nursing Unit 2 (Psychiatric)
455163	AFXC	Psychiatric Nursing Unit 3 (Substance Abuse)
455311	AAA	Internal Medicine
455312	AAB	Cardiology/Telemetry
455313	AAC	Coronary Care
455314	AAD	Dermatology
455315	AAE	Endocrinology
455316	AAF	Gastroenterology
455317	AAG	Hematology
455318	AAH	Intensive Care (Medical)
455319	AAI	Nephrology
455321	AAJ	Neurology
455322	AAK	Oncology
455323	AAL	Pulmonary (Non-TB)
455324	AAM	Rheumatology
455325	AAZ	Infectious Disease
455327	AAZC	Allergy
455328	AAZD	Pulmonary (TB)
455331	ABA	General Surgery
455332	ABB	Cardiovascular/Thoracic Surgery
455333	ABC	Intensive Care (Surgical)
455334	ABD	Neurosurgery

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455335	ABE	Opthalmology
455336	ABF	Oral Surgery
455337	ABG	Otorhinolaryngology
455338	ABH	Pediatric Surgery
455339	ABI	Plastic Surgery
455342	ABK	Urology
455343	ABZA	Organ Transplant
455344	ABZB	Hand Surgery
455345	ABZC	Vascular Surgery
455351	ACA	Gynecology
455352	ACB	Obstetrics
455361	ADA	Pediatrics
455362	ADB	Nursery
455363	ADC	Neonatal Intensive Care Unit
455371	AEA	Orthopedics
455372	AEB	Podiatry
455380	AF	Psychiatry
		OUTPATIENT CARE
455402	BI	Emergency Medical Care
4D5403	BJ	Flight Medicine
455411	BAA	Internal Medicine Clinic
455412	BAB	Allergy Clinic
455413	BAC	Cardiology Clinic
455414	BAP	Dermatology Clinic
455415	BAE	Diabetic Clinic

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455416	BAF	Endocrinology Clinic
455417	BAG	Gastroentrology Clinic
455418	BAH	Hematology Clinic
455421	BAJ	Nephrology Clinic
455422	BAK	Neurology Clinic
455423	BAL	Nutrition Clinic
455424	BAM	Oncology Clinic
455425	BAN	Pulmonary Disease
455426	BAO	Rheumatology Clinic
455427	BAZ	Infectious Disease
455431	BBA	General Surgery Clinic
455432	BBB	Cardiovascular/Thoracic Surgery Clinic
455433	BBC	Neurosurgery Clinic
455434	BBD	Ophthalmology Clinic
455435	BBE	Organ Transplant CLinic
455436	BBF	Otorhinolaryngology Clinic
455437	BBG	Plastic Surgery Clinic
455439	BBI	Urology Clinic
455451	BCA	Family Planning Clinic
455452	BCB	Gynecology Clinic
455453	BCC	Obstetrics Clinic
455461	BDA	Pediatric Clinic
455462	BDB	Adolescent Clinic
455463	BDO	Well-Baby Clinic
455471	BEA	Orthopedic Clinic

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455472	BEB	Cast Clinic
455475	BEE	Orthopedic Appliance Clinic
455476	BEF	Podiatry Clinic
455481	BFA	Psychiatry Clinic
455482	BFB	Psychology Clinic
455483	BFC	Child Guidance Clinic
455484	BFD	Mental Health Clinic
455491	BHA	Primary Care Clinic
4D5491	BHA	Dispensary Primary Care CLinic
455492	BHB	Medical Examination Clinic
455493	BHC	Optometry Clinic
455494	BHD	Audiology CLinic
455495	BHE	Speech Pathology Clinic
		DENTAL SERVICES
455511	CA	Dental Services
4B5511	CA	Dunn Dental Services
455513	CC	Dental Prosthetic Laboratory
4B5513	CC	Dunn Dental Prosthetic Laboratory
		ANCILLARY SERVICES
455610	DA	Pharmacy
4D5610	DA	Dispensary Pharmacy
455621	DBA	Clinical Pathology
4A5621	DBA	Clinical Pathology (Immunology)
4B5621	DBA	Clinical Pathology (Microbiology)
4C5621	DBA	Clinical Pathology (Automation)

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
4D5621	DBA	Dispensary Clinical Pathology
4E5621	DBA	Clinical Pathology (Special Chemistry)
4F5621	DBA	Clinical Pathology (Laboratory Training)
4G5621	DBA	Clinical Pathology (Central Operations)
4H5621	DBA	Clinical Pathology (Hematology)
455622	DBB	Anatomical Pathology (Cytology)
4A5622	DBB	Anatomical Pathology (Histopathology)
455623	DBC	Blood Bank
455631	DCA	Diagnostic Radiology
4D5631	DCA	Dispensary Diagnostic Radiology
455632	DCB	Therapeutic Radiology
455641	DDA	Elctrocardiogaphy
455642	DDB	Electroencephalography
455643	DDC	Electromyelography
455644	DDD	Pulmonary Function
455645	DDE	Cardiac Catheterization
455651	DEA	Central Sterile Supply
455652	DEB	Central Materiel Services
4A5652	DEB	Central Processing And Distribution - Special Items
455661	DFA	Anesthesiology/Recovery Room
4A5661	DFA	Recovery Room Nursing
4B5661	DFA	Advanced Life Support
455662	DFB	Surgical Suite
455671	DGA	Same Day Surgery
455672	DGB	Hemodialysis

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455681	DHA	Inhalation/Respiratory Therapy
455682	DHB	Occupational Therapy
455684	DHD	Physical Therapy
455685	DHE	Social Workers
455690	DI	Nuclear Medicine
4A4590	DI	Health Physics
		SUPPORT SERVICES
455240	EE	Materiel
344250	EDB	Operation of Utilities
455260	EDC	Maitenance of Real Property
455270	EDD	Minor Construction
455280	EDE	Other Engineering Support
455701	EK	Ambulatory Care Administration
455720	EB	Command and Administration Support
455721	EBYB	Communications
455723	ECB	USAF Consumer Health Education Program
455732	ECB	Police Protection
455741	EDA	Plant Management
455743	EDG	Transportation
455750	EF	Housekeeping
455760	EG	Biomedical Equipment Repair
455770	EH	Linen
455781	EIA	Dietetics
455782	EIB	Subsistence
455790	EJ	Inpatient Affairs

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
		SPECIAL PROGRAMS
455812	FAB	Area Dental Laboratory
455815	FAE	Alcohol/Drug Rehabilitation Program
455818	FAH	Clinical Investigation Program
Externally Sponsored Continuing Health Education		
4A585	FAL	Hospital Services
4B5845	FAL	Common Support
4C5845	FAL	Dental
4D5845	FAL	Dispensary
4E5845	FAL	Clinical Investigation
4F5845	FAL	Environmental Health
4C5843	FAL	Education
455851	FBAA	Bioenvironmental Engineering
455852	FBAB	Environmental Health
455853	FBB	Immunization
4D5853	FBB	Dispensary Immunizations
455854	FBC	Community Mental Health Agency
455861	FCA	Supplemental Care
455862	FCB	Military and Civilian Guest Lecture Program
455863	FCC	CHAMPUS Beneficiary Support
455864	FCD	Support to Other Military Activities
455871	FDA	Contingency and Emergency Operations
4A5871	FDA	Disaster Preparedness
4B5871	FDA	Mobility Program
455873	FDC	Non-Patient Food Operations

COST CENTER	UCA CODE	ORGANIZATIONAL DESCRIPTION
455875	FDE	Initial Outfitting
455879	FDZ	Red Flag
455880	FDZ	WHMC Dedication
455891	FEA	Patient Transportation
455892	FEB	Travel/Materiel for Patient Moves
455893	FEC	Aeromedical Staging Facility/Transient Patient Care
455894	FED	Military Patient Personnel Administration
455933	N/A	Armed Forces Whole Blood Processing Laboatory
455961	FCA	Active Duty Care in Non-Defense Facilities
		WHMC Tri-Service Management Information Systems (Reimbursments)
455882	FDZ	Automated Health Records
455883	FDZ	General Support
455884	FDZ	Medical AdministrationManagement System Revised/ Tri-Service Patient Administration System
		WHMC Education
4A5843	FAJ	Medical Photography
4B5843	FAJ	Medical Library
4C5843	FAJ	Education Directorate
4E5843	FAJ	Audio-Visual Aids
4F5843	FAJ	Illustrations

APPENDIX G

DD FORM 2202

DOD MEDICAL EXPENSE AND PERFORMANCE REPORT [1]	*See Instructions in Chapter 5 of DOD 6010.10-M*	*RCS*

NAME AND ADDRESS OF FACILITY *(Include ZIP Code)*	FACILITY CODE *(UIC)*	REPORT PERIOD
REPORTING AUTHORITY	DOD MEDICAL REGION	

PART I - DIRECT PATIENT CARE *(Direct Expenses Plus Support and Ancillary Services Assignments and Performance)*

INPATIENT CARE	DISPOSITIONS	TOTAL EXPENSES INCLUDING CLINICIAN SALARY	CLINICIAN SALARY EXPENSE	OCCUPIED BED DAYS
MEDICAL CARE				
SURGICAL CARE				
OBSTETRICAL/GYNECOLOGICAL CARE				
PEDIATRIC CARE				
ORTHOPEDIC CARE				
PSYCHIATRIC CARE				
TOTAL				

AMBULATORY CARE	TOTAL OUTPATIENT EXPENSES	OUTPATIENT VISITS	INPATIENT VISITS [2]
MEDICAL CARE			
SURGICAL CARE			
OBSTETRICAL/GYNECOLOGICAL CARE			
PEDIATRIC CARE			
ORTHOPEDIC CARE			
PSYCHIATRIC/MENTAL HEALTH CARE			
FAMILY PRACTICE CARE			
PRIMARY MEDICAL CARE			
EMERGENCY MEDICAL CARE			
FLIGHT MEDICINE CARE			
UNDERSEAS MEDICINE CARE			
TOTAL			

DENTAL CARE	TOTAL EXPENSES	WEIGHTED DENTAL PROCEDURE	WEIGHTED DENTAL PROSTHETIC WORK UNIT
DENTAL SERVICES			NA
DENTAL LABORATORIES *(Class 2 and 3 only)*		NA	
TOTAL			

DD FORM [illegible] 2282

PART II - ANCILLARY SERVICES [3] *(Direct Expenses Plus Support Services Assignments and Performance)*

ANCILLARY SERVICES	TOTAL EXPENSES	WORKLOAD *(Weighted Procedures)*	EXPENSES *(Weighted Procedures)*
PHARMACY			
PATHOLOGY			
RADIOLOGY			
OTHER ANCILLARY SERVICES			NA
TOTAL			

PART III - SUPPORT SERVICES [4] *(Direct Expenses)*

SUPPORT SERVICES	TOTAL EXPENSES
TOTAL	

PART IV - SPECIAL PROGRAMS *(Direct Expenses Plus Support and Ancillary Services Assignments)*

SPECIAL PROGRAMS	TOTAL EXPENSES
SPECIFIED HEALTH RELATED PROGRAMS	
PUBLIC HEALTH SERVICES	
HEALTH CARE SERVICES SUPPORT	
MILITARY UNIQUE MEDICAL ACTIVITIES	
PATIENT MOVEMENT & MILITARY ADMIN.	
TOTAL	

PART V - NARRATIVE

[3] THESE EXPENSES ARE INCLUDED IN PARTS I AND IV

APPENDIX H

SAMPLE DISTRIBUTION BY CASE COMPLEXITY WEIGHT

VALUE	COUNT	PERCENTS CELL	CUM
0.2483	1	0.1	0.1
0.2643	9	0.7	0.8
0.2705	1	0.1	0.8
0.3126	2	0.2	1.0
0.3130	4	0.3	1.3
0.3147	5	0.4	1.7
0.3463	1	0.1	1.7
0.3533	5	0.4	2.1
0.3602	2	0.2	2.3
0.3695	2	0.2	2.4
0.3697	10	0.8	3.2
0.3822	12	0.9	4.1
0.3977	8	0.6	4.7
0.3990	4	0.3	5.0
0.3993	3	0.2	5.2
0.4028	7	0.5	5.7
0.4060	2	0.2	5.9
0.4116	1	0.1	6.0
0.4144	28	2.1	8.1
0.4153	13	1.0	9.1
0.4228	4	0.3	9.4
0.4275	11	0.8	10.2
0.4349	11	0.8	11.0
0.4358	2	0.2	11.2
0.4360	2	0.2	11.3
0.4519	1	0.1	11.4
0.4553	1	0.1	11.5
0.4617	19	1.4	12.9
0.4687	1	0.1	13.0
0.4789	5	0.4	13.4
0.4857	7	0.5	13.9
0.4864	14	1.1	15.0
0.5010	11	0.8	15.8
0.5064	7	0.5	16.3
0.5131	7	0.5	16.9
0.5217	7	0.5	17.4
0.5388	5	0.4	17.8
0.5417	39	2.9	20.7
0.5482	2	0.2	20.9
0.5630	9	0.7	21.5
0.5652	28	2.1	23.7
0.5680	2	0.2	23.8
0.5854	25	1.9	25.7
0.5871	3	0.2	25.9
0.5875	3	0.2	26.2
0.5895	7	0.5	26.7
0.5906	8	0.6	27.3
0.5964	4	0.3	27.6
0.5985	3	0.2	27.8
0.5998	4	0.3	28.1
0.6045	38	2.9	31.0
0.6063	8	0.6	31.6
0.6066	7	0.5	32.1
0.6093	12	0.9	33.0
0.6096	1	0.1	33.1
0.6113	3	0.2	33.3
0.6136	2	0.2	33.5
0.6183	1	0.1	33.6
0.6185	6	0.5	34.0
0.6258	12	0.9	34.9
0.6289	2	0.2	35.1
0.6301	2	0.2	35.2
0.6337	2	0.2	35.4

VALUE	COUNT	PERCENTS CELL	CUM
0.6381	3	0.2	35.6
0.6385	3	0.2	35.8
0.6392	15	1.1	37.0
0.6408	6	0.5	37.4
0.6475	2	0.2	37.6
0.6476	9	0.7	38.2
0.6488	4	0.3	38.5
0.6559	4	0.3	38.9
0.6576	6	0.5	39.3
0.6673	3	0.2	39.5
0.6803	4	0.3	39.8
0.6812	1	0.1	39.9
0.6814	10	0.8	40.7
0.6897	3	0.2	40.9
0.6959	7	0.5	41.4
0.6975	4	0.3	41.7
0.6998	1	0.1	41.8
0.7049	7	0.5	42.3
0.7068	1	0.1	42.4
0.7071	2	0.2	42.6
0.7093	5	0.4	42.9
0.7131	1	0.1	43.0
0.7160	2	0.2	43.2
0.7177	3	0.2	43.4
0.7180	1	0.1	43.5
0.7239	7	0.5	44.0
0.7256	13	1.0	45.0
0.7279	1	0.1	45.0
0.7315	2	0.2	45.2
0.7322	2	0.2	45.4
0.7329	14	1.1	46.4
0.7444	2	0.2	46.6
0.7457	12	0.9	47.5
0.7466	1	0.1	47.5
0.7538	8	0.6	48.1
0.7548	1	0.1	48.2
0.7551	24	1.8	50.0
0.7676	3	0.2	50.3
0.7678	14	1.1	51.3
0.7730	8	0.6	51.9
0.7763	4	0.3	52.2
0.7840	2	0.2	52.4
0.7923	3	0.2	52.6
0.7944	3	0.2	52.8
0.8022	2	0.2	53.0
0.8035	5	0.4	53.4
0.8087	11	0.8	54.2
0.8096	19	1.4	55.6
0.8123	7	0.5	56.2
0.8143	2	0.2	56.3
0.8236	6	0.5	56.8
0.8303	5	0.4	57.1
0.8304	1	0.1	57.2
0.8392	2	0.2	57.4
0.8420	14	1.1	58.4
0.8459	1	0.1	58.5
0.8460	8	0.6	59.1
0.8470	1	0.1	59.2
0.8491	9	0.7	59.9
0.8593	1	0.1	59.9
0.8599	7	0.5	60.5
0.8620	1	0.1	60.5
0.8620	2	0.2	60.7

VALUE	COUNT	PERCENTS CELL	CUM
0.8706	3	0.2	60.9
0.8853	2	0.2	61.1
0.8863	2	0.2	61.2
0.8864	3	0.2	61.5
0.8919	1	0.1	61.5
0.8952	3	0.2	61.8
0.9014	2	0.2	61.9
0.9020	1	0.1	62.0
0.9024	4	0.3	62.3
0.9033	1	0.1	62.4
0.9069	2	0.2	62.5
0.9182	13	1.0	63.5
0.9247	4	0.3	63.8
0.9281	4	0.3	64.1
0.9290	3	0.2	64.3
0.9297	7	0.5	64.9
0.9407	1	0.1	64.9
0.9485	1	0.1	65.0
0.9491	7	0.5	65.5
0.9495	1	0.1	65.6
0.9519	6	0.5	66.1
0.9645	7	0.5	66.6
0.9674	3	0.2	66.8
0.9741	10	0.8	67.6
0.9849	11	0.8	68.4
0.9863	1	0.1	68.5
0.9897	11	0.8	69.3
0.9922	2	0.2	69.5
0.9927	1	0.1	69.5
0.9983	4	0.3	69.8
1.0079	3	0.2	70.1
1.0108	1	0.1	70.1
1.0150	2	0.2	70.3
1.0203	1	0.1	70.4
1.0359	2	0.2	70.5
1.0412	13	1.0	71.5
1.0441	1	0.1	71.6
1.0517	5	0.4	72.0
1.0525	1	0.1	72.0
1.0729	3	0.2	72.3
1.0790	2	0.2	72.4
1.0812	2	0.2	72.6
1.0818	11	0.8	73.4
1.0890	2	0.2	73.5
1.0934	22	1.7	75.2
1.0937	4	0.3	75.5
1.0975	1	0.1	75.6
1.0979	1	0.1	75.7
1.1029	4	0.3	76.0
1.1056	25	1.9	77.9
1.1085	2	0.2	78.0
1.1090	2	0.2	78.2
1.1108	11	0.8	79.0
1.1136	4	0.3	79.3
1.1360	2	0.2	79.4
1.1395	1	0.1	79.5
1.1400	13	1.0	80.5
1.1568	2	0.2	80.7
1.1715	8	0.6	81.3
1.1787	6	0.5	81.7
1.2268	2	0.2	81.9
1.2409	1	0.1	81.9
1.2454	8	0.6	82.5

VALUE	COUNT	PERCENTS CELL	CUM
1.2545	1	0.1	82.6
1.2727	2	0.2	82.8
1.2792	13	1.0	83.7
1.3087	2	0.2	83.9
1.3527	6	0.5	84.4
1.3590	2	0.2	84.5
1.3594	1	0.1	84.6
1.3651	4	0.3	84.9
1.4250	1	0.1	85.0
1.4720	22	1.7	86.6
1.4868	3	0.2	86.8
1.5211	2	0.2	87.0
1.5506	3	0.2	87.2
1.5596	1	0.1	87.3
1.5695	5	0.4	87.7
1.6154	3	0.2	87.9
1.6455	27	2.0	89.9
1.6700	1	0.1	90.0
1.7043	6	0.5	90.5
1.7132	2	0.2	90.6
1.7586	2	0.2	90.8
1.7809	1	0.1	90.9
1.7952	1	0.1	90.9
1.7965	4	0.3	91.2
1.8178	1	0.1	91.3
1.8427	2	0.2	91.5
1.8734	1	0.1	91.5
1.9108	1	0.1	91.6
2.0833	2	0.2	91.8
2.1037	18	1.4	93.1
2.1366	1	0.1	93.2
2.1690	1	0.1	93.3
2.2031	2	0.2	93.4
2.2154	1	0.1	93.5
2.2200	1	0.1	93.6
2.2452	4	0.3	93.9
2.2483	11	0.8	94.7
2.2519	1	0.1	94.8
2.3500	4	0.3	95.1
2.3976	3	0.2	95.3
2.5087	1	0.1	95.4
2.5204	1	0.1	95.5
2.5397	3	0.2	95.7
2.5493	3	0.2	95.9
2.5818	1	0.1	96.0
2.5851	4	0.3	96.3
2.6044	7	0.5	96.8
2.6901	1	0.1	96.9
2.7746	1	0.1	97.0
2.8272	3	0.2	97.2
2.8658	3	0.2	97.4
2.8665	2	0.2	97.6
2.9548	2	0.2	97.7
2.9763	3	0.2	98.0
3.9150	1	0.1	98.0
3.9891	11	0.8	98.9
4.1791	1	0.1	98.9
4.3754	2	0.2	99.1
4.2608	2	0.2	99.2
4.2624	10	0.8	100.0

APPENDIX I

SAMPLE DISTRIBUTION OF SAMPLED SERVICES

BY UCA SERVICE

PAGE 23 DRG STUDY. FEBRUARY 1983
HISTOGRAM OF VARIABLE 15 SERVICE

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	19.575	13.116

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
INT MED	+XXX	258	258	19.5	19.5
CARD	+X	90	348	6.8	26.3
CORCRE	+	0	348	0.0	26.3
DERM	+	0	348	0.0	26.3
ENDO	+	0	348	0.0	26.3
GASTRO	+	0	348	0.0	26.3
HEMAT	+	0	348	0.0	26.3
MICU	+	0	348	0.0	26.3
MCPHR	+	0	348	0.0	26.3
NEURO	+	43	391	3.3	29.6
ONC	+	43	434	3.3	32.8
P-NON-TB	+	0	434	0.0	32.8
RHEUM	+	0	434	0.0	32.8
INTER-CR	+	0	434	0.0	32.8
ALLERGY	+	0	434	0.0	32.8
P-TB	+	0	434	0.0	32.8
MED-NEC	+	0	434	0.0	32.8
GENSURG	+XX	151	585	11.4	44.2
C/T-SURG	+	43	628	3.3	47.5
SICU	+	0	628	0.0	47.5
NEUROSUR	+X	56	684	4.2	51.7
OPTHAL	+X	54	738	4.1	55.8
ORALSUR	+	0	738	0.0	55.8
ENT	+X	76	814	5.7	61.5
PEDSURG	+	0	814	0.0	61.5
PLASURG	+	36	850	2.7	64.2
PROCTO	+	0	850	0.0	64.2
UROLOGY	+X	84	934	6.3	70.6
HAND-SUR	+	0	934	0.0	70.6
SURG-NEC	+	0	934	0.0	70.6
GYN	+X	89	1023	6.7	77.3
OBSTET	+	0	1023	0.0	77.3
PED	+X	100	1123	7.6	84.9
NURSERY	+	11	1134	0.8	85.7
NICU	+	0	1134	0.0	85.7
PED-NEC	+	0	1134	0.0	85.7
ORTHO	+X	129	1263	9.8	95.5
POD	+	0	1263	0.0	95.5
PSYCH	+X	60	1323	4.5	100.0

500 10· 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX J

SAMPLE DISTRIBUTION BY TYPE OF ADMISSION

PAGE 24 DRG STUDY, FEBRUARY 83
HISTOGRAM OF VARIABLE 4 TYPEADM

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	1.147	0.361

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
DIRECT	+XXXXXXXXXXX	1131	1131	85.5	85.5
TRANSFER	+XX	189	1320	14.3	99.8
QUARTERS	+	3	1323	0.2	100.0
CRO	+	0	1323	0.0	100.0
PREADM	+	0	1323	0.0	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

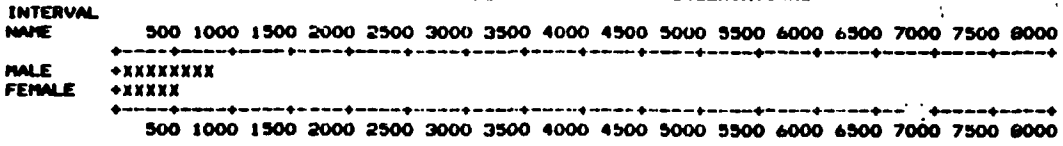
APPENDIX K

SAMPLE DISTRIBUTION BY SEX

HISTOGRAM OF VARIABLE 12 SEX

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	1.406	0.491

EACH SYMBOL REPRESENTS 100 OBSERVATIONS



	FREQUENCY		PERCENTAGE	
	INT.	CUM.	INT.	CUM.
MALE	786	786	59.4	59.4
FEMALE	537	1323	40.6	100.0

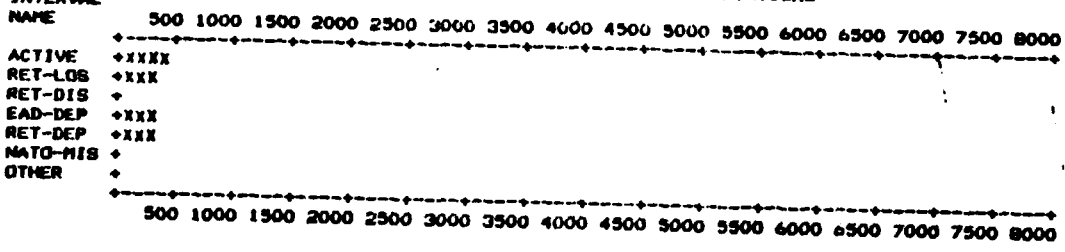
APPENDIX L

SAMPLE DISTRIBUTION BY BENEFICIARY TYPE

PAGE 18 DRG STUDY, FEBRUARY 83
HISTOGRAM OF VARIABLE 8 BENE2

SYMBOL	COUNT	MEAN	ST. DEV.
X	1321	2 738	1. 606

EACH SYMBOL REPRESENTS 100 OBSERVATIONS



FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
437	437	33. 1	33. 1
316	753	23. 9	57. 0
14	767	1. 1	58. 1
268	1035	20. 3	78. 3
282	1317	21. 3	99. 7
4	1321	0. 3	100. 0
0	1321	0. 0	100. 0

APPENDIX M

SAMPLE DISTRIBUTION BY RACE

PAGE 19 DRG STUDY. FEBRUARY 83
HISTOGRAM OF VARIABLE 11 RACE

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	1.927	0.310

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
BLACK	+X	115	115	8.7	8.7
WHITE	+XXXXXXXXXXX	1189	1304	89.9	98.6
OTHER	+	19	1323	1.4	100.0
UNKNOWN	+	0	1323	0.0	100.0
	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000				

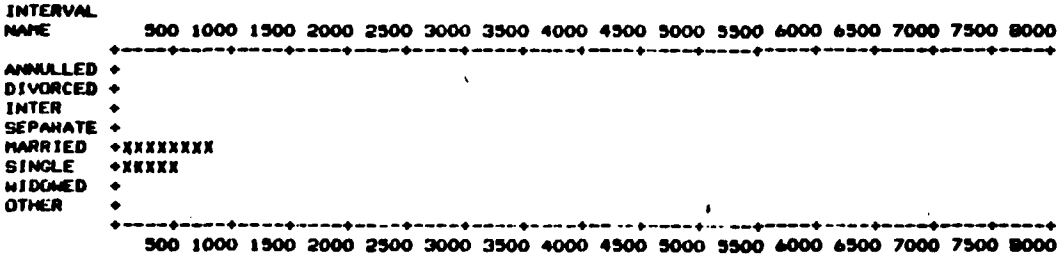
APPENDIX N

SAMPLE DISTRIBUTION BY MARITAL STATUS

HISTOGRAM OF VARIABLE 13 MARITAL

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	5.407	0.605

EACH SYMBOL REPRESENTS 100 OBSERVATIONS



INTERVAL NAME	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
ANNULLED	0	0	0.0	0.0
DIVORCED	6	6	0.5	0.5
INTER	0	6	0.0	0.5
SEPARATE	0	6	0.0	0.5
MARRIED	807	813	61.0	61.5
SINGLE	464	1277	35.1	96.5
WIDOWED	46	1323	3.5	100.0
OTHER	0	1323	0.0	100.0

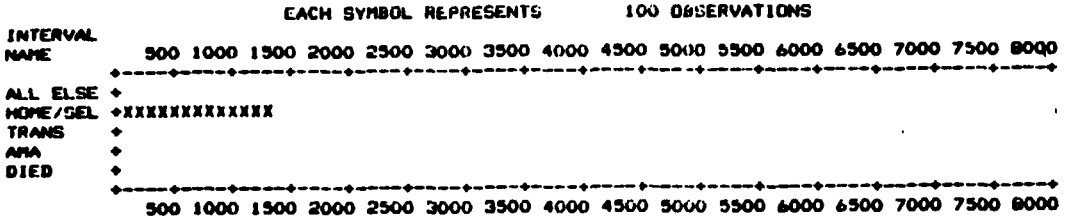
APPENDIX O

SAMPLE DISTRIBUTION BY DISCHARGE LOCATION

PAGE 22 DRG STUDY. FEBRUARY 83
HISTOGRAM OF VARIABLE 30 DCODE

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	1.225	1.972

EACH SYMBOL REPRESENTS 100 OBSERVATIONS



INTERVAL NAME	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
ALL ELSE	0	0	0.0	0.0
HOME/SEL	1302	1302	98.4	98.4
TRANS	5	1307	0.4	98.8
AMA	2	1309	0.2	98.9
DIED	14	1323	1.1	100.0

APPENDIX P

SAMPLE DISTRIBUTION BY BED DAYS

AT WILFORD HALL MEDICAL CENTER

PAGE 28 DRG STUDY, FEBI ARY 83
HISTOGRAM OF VARIABLE 29 b DFAC

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	10.551	17.533

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL MAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
*0.00000	+	0	0	0.0	0.0
*2.00000	+XXX	270	270	20.4	20.4
*4.00000	+XXX	270	540	20.4	40.8
*6.00000	+XX	175	715	13.2	54.0
*8.00000	+X	145	860	11.0	65.0
*10.0000	+X	96	956	7.3	72.3
*12.0000	+X	61	1017	4.6	76.9
*14.0000	+X	53	1070	4.0	80.9
*16.0000	+	39	1109	2.9	83.8
*18.0000	+	40	1149	3.0	86.8
*20.0000	+	24	1173	1.8	88.7
*22.0000	+	14	1187	1.1	89.7
*24.0000	+	13	1200	1.0	90.7
*26.0000	+	17	1217	1.3	92.0
*28.0000	+	11	1228	0.8	92.8
*30.0000	+	17	1245	1.3	94.1
*32.0000	+	7	1252	0.5	94.6
*34.0000	+	5	1257	0.4	95.0
*36.0000	+	9	1266	0.7	95.7
*38.0000	+	4	1270	0.3	96.0
*40.0000	+	2	1272	0.2	96.1
*42.0000	+	10	1282	0.8	96.9
*44.0000	+	2	1284	0.2	97.1
*46.0000	+	2	1286	0.2	97.2
*48.0000	+	2	1288	0.2	97.4
*50.0000	+	4	1292	0.3	97.7
*52.0000	+	2	1294	0.2	97.8
*54.0000	+	3	1297	0.2	98.0
*56.0000	+	3	1300	0.2	98.3
*58.0000	+	3	1303	0.2	98.5
*60.0000	+	1	1304	0.1	98.6
*62.0000	+	2	1306	0.2	98.7
*64.0000	+	2	1308	0.2	98.9
*66.0000	+	2	1310	0.2	99.0
*68.0000	+	1	1311	0.1	99.1
*70.0000	+	0	1311	0.0	99.1
*72.0000	+	2	1313	0.2	99.2
*74.0000	+	0	1313	0.0	99.2
*76.0000	+	0	1313	0.0	99.2
*78.0000	+	0	1313	0.0	99.2
*80.0000	+	0	1313	0.0	99.2
*82.0000	+	1	1314	0.1	99.3
*84.0000	+	0	1314	0.0	99.3
*86.0000	+	1	1315	0.1	99.4
*88.0000	+	0	1315	0.0	99.4
*90.0000	+	0	1315	0.0	99.4
*92.0000	+	0	1315	0.0	99.4
*94.0000	+	1	1316	0.1	99.5
*96.0000	+	0	1316	0.0	99.5
*98.0000	+	0	1316	0.0	99.5
*100.000	+	0	1316	0.0	99.5
*LAST	+	7	1323	0.5	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX Q

SAMPLE DISTRIBUTION BY UCA TOTAL COST PER STAY

HISTOGRAM OF VARIABLE 106)(106)

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	2819.485	4750.563

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
*100.000	+	0	0	0.0	0.0
*200.000	+	5	5	0.4	0.4
*300.000	+X	58	63	4.4	4.8
*400.000	+	27	90	2.0	6.8
*500.000	+X	65	155	4.9	11.7
*600.000	+	41	196	3.1	14.8
*700.000	+X	58	254	4.4	19.2
*800.000	+X	98	352	7.4	26.6
*900.000	+X	56	408	4.2	30.8
*1000.00	+	47	455	3.6	34.4
*1100.00	+	36	491	2.7	37.1
*1200.00	+	31	522	2.3	39.5
*1300.00	+X	55	577	4.2	43.6
*1400.00	+	12	589	0.9	44.5
*1500.00	+X	65	654	4.9	49.4
*1600.00	+	8	662	0.6	50.0
*1700.00	+	36	698	2.7	52.8
*1800.00	+	43	741	3.3	56.0
*1900.00	+	19	760	1.4	57.4
*2000.00	+	43	803	3.3	60.7
*2100.00	+	15	818	1.1	61.8
*2200.00	+	16	834	1.2	63.0
*2300.00	+	33	867	2.5	65.5
*2400.00	+	17	884	1.3	66.8
*2500.00	+	16	900	1.2	68.0
*2600.00	+	26	926	2.0	70.0
*2700.00	+	6	932	0.5	70.4
*2800.00	+	18	950	1.4	71.8
*2900.00	+	14	964	1.1	72.9
*3000.00	+	16	980	1.2	74.1
*3100.00	+	13	993	1.0	75.1
*3200.00	+	20	1013	1.5	76.6
*3300.00	+	8	1021	0.6	77.2
*3400.00	+	7	1028	0.5	77.7
*3500.00	+	14	1042	1.1	78.8
*3600.00	+	13	1055	1.0	79.7
*3700.00	+	5	1060	0.4	80.1
*3800.00	+	12	1072	0.9	81.0
*3900.00	+	10	1082	0.8	81.8
*4000.00	+	5	1087	0.4	82.2
*4100.00	+	2	1089	0.2	82.3
*4200.00	+	7	1096	0.5	82.8
*4300.00	+	8	1104	0.6	83.4
*4400.00	+	5	1109	0.4	83.8
*4500.00	+	10	1119	0.8	84.6
*4600.00	+	4	1123	0.3	84.9
*4700.00	+	8	1131	0.6	85.5
*4800.00	+	8	1139	0.6	86.1
*4900.00	+	2	1141	0.2	86.2
*5000.00	+	8	1149	0.6	86.8
*LAST	+XX	174	1323	3.2	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX R

ANALYSIS OF UCA TOTAL COST PER STAY

```
PAGE  10     DRG STUDY, FEBRUARY 83

  ************
  * X(106)   *                                MAXIMUM      91912.5546875
  ************                                MINIMUM        143.5800018
                                              RANGE        91768.9765625
VARIABLE NUMBER                  106          VARIANCE 22567844.0000000
NUMBER OF DISTINCT VALUES        372          ST DEV.       4750.5625000
NUMBER OF VALUES COUNTED        1323          (Q3-Q1)/2     1173.2600098
NUMBER OF VALUES NOT COUNTED       0          MX ST. SC.      18.75
                                              MN ST. SC.      -0.56

LOCATION ESTIMATES                                  ST. ERROR
                  MEAN          2819.4860840      130.6065979
                  MEDIAN        1591.1999512       60.6305122
                  MODE           744.4800415

                                                                                  H
                                                                                  H
                                                                                  H
                                                                                  H                                  EACH 'H'
                                                                                  H                                  REPRESENTS
                                                                                  H                                     98
                                                                                  H                                  COUNT(S)
                                                                                  HH
                                                                                  HH
                                                                                  HHHHHHH H H H        H       H
                                                                                 L-------------------------------U

                                                                                      EACH '-' ABOVE =     3000.0000
                                                                                                  L=        0.0000
                                                                                                  U=    93000.0000
                                                                                 CASE NO. OF MIN. VAL. =  459
                                                                                 CASE NO. OF MAX. VAL. =    1

                                                                                                          Q1=  744.4800415
                                                                                      VALUE   VALUE/S.E.  Q3= 3091.0000000
                                                                          SKEWNESS     8.93      132.55  S-=-1931.0764160
                                                                          KURTOSIS   128.71      955.63  S+= 7570.0488281

                                                                                      EACH '.' BELOW =     750.0000

  S   Q  Q     S
  -  MMMM3     +
  ...IOEE.....................................................................................................M
     NDDA                                                                                                    A
                                                                                                             X
```

APPENDIX S

SAMPLE DISRTIBUTION BY UCA DIRECT COST PER SLAY

HISTOGRAM OF VARIABLE 107 (107)

SYMBOL	COUNT	MEAN	ST. DEV
X	1323	325.965	1011.460

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM	PERCENTAGE INT.	PERCENTAGE CUM.
•100.000	•XXXXXX	598	598	45.2	45.2
•200.000	•XXX	328	926	24.8	70.0
•300.000	•X	143	1069	10.8	80.8
•400.000	•X	86	1155	6.5	87.3
•500.000	•	37	1192	2.8	90.1
•600.000	•	20	1212	1.5	91.6
•700.000	•	20	1232	1.5	93.1
•800.000	•	10	1242	0.8	93.9
•900.000	•	8	1250	0.6	94.5
•1000.00	•	5	1255	0.4	94.9
•1100.00	•	6	1261	0.5	95.3
•1200.00	•	3	1264	0.2	95.5
•1300.00	•	5	1269	0.4	95.9
•1400.00	•	2	1271	0.2	96.1
•1500.00	•	5	1276	0.4	96.4
•1600.00	•	3	1279	0.2	96.7
•1700.00	•	1	1280	0.1	96.7
•1800.00	•	0	1280	0.0	96.7
•1900.00	•	0	1280	0.0	96.7
•2000.00	•	0	1280	0.0	96.7
•2100.00	•	3	1283	0.2	97.0
•2200.00	•	3	1286	0.2	97.2
•2300.00	•	1	1287	0.1	97.3
•2400.00	•	1	1288	0.1	97.4
•2500.00	•	0	1288	0.0	97.4
•2600.00	•	0	1288	0.0	97.4
•2700.00	•	0	1288	0.0	97.4
•2800.00	•	1	1289	0.1	97.4
•2900.00	•	0	1289	0.0	97.4
•3000.00	•	0	1289	0.0	97.4
•3100.00	•	1	1290	0.1	97.5
•3200.00	•	3	1293	0.2	97.7
•3300.00	•	1	1294	0.1	97.8
•3400.00	•	0	1294	0.0	97.8
•3500.00	•	2	1296	0.2	98.0
•3600.00	•	2	1298	0.2	98.1
•3700.00	•	1	1299	0.1	98.2
•3800.00	•	7	1306	0.5	98.7
•3900.00	•	0	1306	0.0	98.7
•4000.00	•	1	1307	0.1	98.8
•4100.00	•	0	1307	0.0	98.8
•4200.00	•	1	1308	0.1	98.9
•4300.00	•	0	1308	0.0	98.9
•4400.00	•	0	1308	0.0	98.9
•4500.00	•	1	1309	0.1	98.9
•4600.00	•	0	1309	0.0	98.9
•4700.00	•	0	1309	0.0	98.9
•4800.00	•	0	1309	0.0	98.9
•4900.00	•	0	1309	0.0	98.9
•5000.00	•	0	1309	0.0	98.9
•LAST	•	14	1323	1.1	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX T

ANALYSIS OF UCA DIRECT COST PER STAY

```
PAGE  11     DRG STUDY, FEBRUARY 83

  ************
  * X(107)   *
  ************

VARIABLE NUMBER . . . . . . .        107
NUMBER OF DISTINCT VALUES .          343
NUMBER OF VALUES COUNTED. .         1323
NUMBER OF VALUES NOT COUNTED           0

LOCATION ESTIMATES                                  ST. ERROR
                MEAN            329.9649048         27.8079338
                MEDIAN          103.7999954          4.0183592
                MODE             51.6000023

                                MAXIMUM      18898.5000000
                                MINIMUM          0.0000000
                                RANGE        18898.5000000
                                VARIANCE   1023050.8750000
                                ST. DEV.      1011.4597778
                                (Q3-Q1)/2       92.0999985
                                MX. ST. SC.      18.36
                                MN. ST. SC.      -0.32

                                                                H
                                                                H
                                                                H
                                                                H                                  EACH 'H'
                                                                H                                REPRESENTS
                                                                H                                    124
                                                                H                                  COUNT(S)
                                                                H
                                                                H
                                                                HHHHHHHHHHHH     H     H
                                                               L-------------------------------------U

                                                                     EACH '-' ABOVE =      750.0000
                                                                                 L=        0.0000
                                                                                 U=    23250.0000
                                                                CASE NO. OF MIN. VAL. =    98
                                                                CASE NO. OF MAX. VAL. =     5

                                                                                      Q1=    51.6000023
                                                                     VALUE    VALUE/S.E.  Q3=   235.8000031
                                                      SKEWNESS        9.22       136.85   S-= -685.4948730
                                                      KURTOSIS      120.10       891.70   S+= 1337.4246826

                                                                     EACH '.' BELOW =      200.0000

                S  QQ     S
                -  M3M    +                                                                M
                ...I.E.....................................................................A
                   N A                                                                    X
                     N
```

APPENDIX U

SAMPLE DISTRIBUTION BY UCA SUPPORT COST PER STAY

HISTOGRAM OF VARIABLE [illegible] X(108)

SYMBOL	COUNT	MEAN	ST. DEV.
X	1323	376.133	814.203

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
*10.0000	+	0	0	0.0	0.0
*30.0000	+X	65	65	4.9	4.9
*50.0000	+	49	114	3.7	8.6
*70.0000	+XX	195	309	14.7	23.4
*90.0000	+X	109	418	8.2	31.6
*110.000	+X	58	476	4.4	36.0
*130.000	+X	70	546	5.3	41.3
*150.000	+X	74	620	5.6	46.9
*170.000	+X	63	683	4.8	51.6
*190.000	+X	57	740	4.3	55.9
*210.000	+X	52	792	3.9	59.9
*230.000	+	39	831	2.9	62.8
*250.000	+	42	873	3.2	66.0
*270.000	+	35	908	2.6	68.6
*290.000	+	12	920	0.9	69.5
*310.000	+	40	960	3.0	72.6
*330.000	+	28	988	2.1	74.7
*350.000	+	15	1003	1.1	75.8
*370.000	+	9	1012	0.7	76.5
*390.000	+	31	1043	2.3	78.8
*410.000	+	11	1054	0.8	79.7
*430.000	+	21	1075	1.6	81.3
*450.000	+	18	1093	1.4	82.6
*470.000	+	14	1107	1.1	83.7
*490.000	+	8	1115	0.6	84.3
*510.000	+	9	1124	0.7	85.0
*530.000	+	8	1132	0.6	85.6
*550.000	+	6	1138	0.5	86.0
*570.000	+	5	1143	0.4	86.4
*590.000	+	5	1148	0.4	86.8
*610.000	+	10	1158	0.8	87.5
*630.000	+	9	1167	0.7	88.2
*650.000	+	4	1171	0.3	88.5
*670.000	+	10	1181	0.8	89.3
*690.000	+	6	1187	0.5	89.7
*710.000	+	0	1187	0.0	89.7
*730.000	+	5	1192	0.4	90.1
*750.000	+	3	1195	0.2	90.3
*770.000	+	4	1199	0.3	90.6
*790.000	+	2	1201	0.2	90.8
*810.000	+	8	1209	0.6	91.4
*830.000	+	1	1210	0.1	91.5
*850.000	+	1	1211	0.1	91.5
*870.000	+	1	121[illegible]	0.1	91.6
*890.000	+	2	121[illegible]	0.2	91.8
*910.000	+	7	122[illegible]	0.5	92.3
*930.000	+	2	122[illegible]	0.2	92.4
*950.000	+	1	122[illegible]	0.1	92.5
*970.000	+	0	122[illegible]	0.0	92.5
*990.000	+	3	123[illegible]	0.2	92.7
*LAST	+X	96	1323	7.3	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX V

ANALYSIS OF UCA SUPPORT COST PER STAY

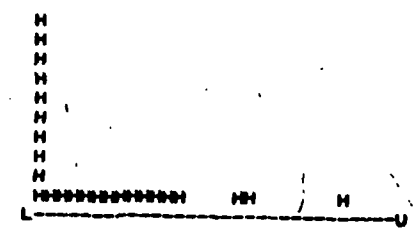
****
* X(ICS) *
****

VARIABLE NUMBER	108
NUMBER OF DISTINCT VALUES	372
NUMBER OF VALUES COUNTED	1323
NUMBER OF VALUES NOT COUNTED	0

MAXIMUM	13446.0000000
MINIMUM	21.7999992
RANGE	13424.2001953
VARIANCE	662929.8125000
ST. DEV.	814.2025757
(Q3-Q1)/2	131.2799988
MX. ST. SC.	16.05
MN ST. SC.	-0.44

LOCATION ESTIMATES

		ST. ERROR
MEAN	376.1327820	22.3847656
MEDIAN	164.1600037	5.4501905
MODE	65.4000015	

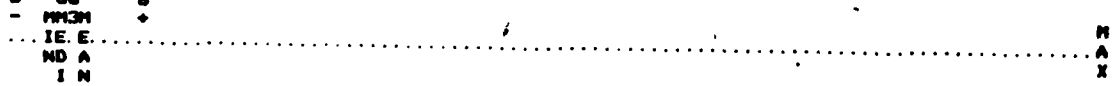


EACH '-' ABOVE = 500.0000
L= 0.0000
U= 15500.0000
CASE NO. OF MIN. VAL. = 275
CASE NO. OF MAX. VAL. = 5

	VALUE	VALUE/S.E.
SKEWNESS	7.46	110.81
KURTOSIS	80.38	596.80

Q1= 84.8000031
Q3= 347.3599854
S-= -438.0697937
S+= 1190.3353271

EACH '.' BELOW = 150.0000



APPENDIX W

SAMPLE DISTRIBUTION BY ANCILLARY COST PER STAY

PAGE 34 DRG STUDY, FEBRUARY 83
HISTOGRAM OF VARIABLE 109 (109)

SYMBOL	COUNT	MEAN	ST. DEV
X	1323	1200.970	2453.090

EACH SYMBOL REPRESENTS 100 OBSERVATIONS

INTERVAL NAME	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000	FREQUENCY INT.	FREQUENCY CUM.	PERCENTAGE INT.	PERCENTAGE CUM.
*10.0000	+	0	0	0.0	0.0
*30.0000	+	0	0	0.0	0.0
*50.0000	+	8	8	0.6	0.6
*70.0000	+	18	26	1.4	2.0
*90.0000	+	4	30	0.3	2.3
*110.000	+	20	50	1.5	3.8
*130.000	+	19	69	1.4	5.2
*150.000	+	27	96	2.0	7.3
*170.000	+	13	109	1.0	8.2
*190.000	+	30	139	2.3	10.5
*210.000	+	23	162	1.7	12.2
*230.000	+	3	165	0.2	12.5
*250.000	+	43	208	3.3	15.7
*270.000	+	11	219	0.8	16.6
*290.000	+X	54	273	4.1	20.6
*310.000	+	11	284	0.8	21.5
*330.000	+	4	288	0.3	21.8
*350.000	+	48	336	3.6	25.4
*370.000	+X	63	399	4.8	30.2
*390.000	+	25	424	1.9	32.0
*410.000	+	31	455	2.3	34.4
*430.000	+	7	462	0.5	34.9
*450.000	+	11	473	0.8	35.8
*470.000	+	20	493	1.5	37.3
*490.000	+	35	528	2.6	39.9
*510.000	+	5	533	0.4	40.3
*530.000	+	4	537	0.3	40.6
*550.000	+	3	540	0.2	40.8
*570.000	+	17	557	1.3	42.1
*590.000	+	27	584	2.0	44.1
*610.000	+	37	621	2.8	46.9
*630.000	+	8	629	0.6	47.5
*650.000	+	10	639	0.8	48.3
*670.000	+	15	654	1.1	49.4
*690.000	+	5	659	0.4	49.8
*710.000	+	36	695	2.7	52.5
*730.000	+	6	701	0.5	53.0
*750.000	+	11	712	0.8	53.8
*770.000	+	6	718	0.5	54.3
*790.000	+	0	718	0.0	54.3
*810.000	+	22	740	1.7	55.9
*830.000	+	22	762	1.7	57.6
*850.000	+	18	780	1.4	59.0
*870.000	+	24	804	1.8	60.8
*890.000	+	1	805	0.1	60.8
*910.000	+	5	810	0.4	61.2
*930.000	+	7	817	0.5	61.8
*950.000	+	19	835	1.4	63.1
*970.000	+	0	835	0.0	63.1
*990.000	+	4	839	0.3	63.4
*LAST	+XXXXX	484	1323	36.6	100.0

500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000

APPENDIX X

ANALYSIS OF UCA ANCILLARY COST PER STAY

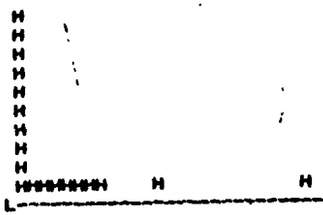
****
* X(109) *
****

VARIABLE NUMBER	109
NUMBER OF DISTINCT VALUES	372
NUMBER OF VALUES COUNTED	1323
NUMBER OF VALUES NOT COUNTED	0

MAXIMUM	63668.0781250
MINIMUM	32.7999992
RANGE	63635.2773438
VARIANCE	6017645.0000000
ST. DEV.	2453.0888672
(Q3-Q1)/2	476.8100281
MX. ST. SC.	25.46
MN. ST. SC.	-0.48

LOCATION ESTIMATES

		ST. ERROR
MEAN	1200.9687500	67.4424515
MEDIAN	698.7999878	17.8372574
MODE	352.5299988	



EACH '-' ABOVE =	2500.0000
L=	0.0000
U=	77500.0000
CASE NO. OF MIN. VAL. =	459
CASE NO. OF MAX. VAL. =	1

	VALUE	VALUE/S.E.
SKEWNESS	14.97	222.29
KURTOSIS	339.90	2493.95

Q1=	349.3999939
Q3=	1303.0200195
S-=	-1252.1201172
S+=	3654.0576172
EACH '.' BELOW =	500.0000

APPENDIX Y

UCA CASE COMPLEXITY SCORES

VARIABLE NO.	NAME	GROUPING VARIABLE	LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
105	X(105)			1323	1.000	1.685	0.0463	1.68490	0.051	-0.56	32.599	18.75	32.548
		DRG	*1.0000	2	1.301	0.895	0.6331	0.68829	0.668	-0.71	1.934	0.71	1.266
			*2.0000	0									
			*3.0000	0									
			*4.0000	4	0.557	0.176	0.0882	0.31671	0.371	-1.05	0.742	1.05	0.371
			*5.0000	1	1.105	0.000	0.0000	0.00000	1.105	0.00	1.105	0.00	0.000
			*6.0000	3	0.149	0.000	0.0001	0.00171	0.148	-0.58	0.149	1.15	0.000
			*7.0000	0									
			*8.0000	7	0.965	1.095	0.4138	1.13426	0.149	-0.75	2.901	1.77	2.752
			*9.0000	0									
			*10.0000	2	1.259	0.737	0.5213	0.58552	0.738	-0.71	1.780	0.71	1.043
			*11.0000	1	0.593	0.000	0.0000	0.00000	0.593	0.00	0.593	0.00	0.000
			*12.0000	4	0.732	0.374	0.1869	0.51069	0.204	-1.41	1.069	0.90	0.866
			*13.0000	2	0.229	0.252	0.1782	1.09994	0.051	-0.71	0.407	0.71	0.356
			*14.0000	6	0.553	0.380	0.1550	0.68624	0.255	-0.79	1.273	1.90	1.018
			*15.0000	3	0.354	0.230	0.1328	0.64999	0.102	-1.10	0.553	0.86	0.451
			*16.0000	1	1.261	0.000	0.0000	0.00000	1.261	0.00	1.261	0.00	0.000
			*17.0000	2	0.751	0.197	0.1398	0.26296	0.611	-0.71	0.890	0.71	0.279
			*18.0000	0									
			*19.0000	4	2.644	4.916	2.4579	1.85930	0.102	-0.52	10.015	1.50	9.913
			*20.0000	0									
			*21.0000	2	0.729	0.000	0.0000	0.00000	0.729	0.00	0.729	0.00	0.000
			*22.0000	0									
			*23.0000	2	0.913	0.260	0.1838	0.28478	0.729	-0.71	1.096	0.71	0.368
			*24.0000	1	0.439	0.000	0.0000	0.00000	0.439	0.00	0.439	0.00	0.000
			*25.0000	15	0.667	0.727	0.1877	1.08958	0.051	-0.85	2.852	3.01	2.801
			*26.0000	11	0.399	0.263	0.0793	0.65955	0.084	-1.20	1.049	2.47	0.965
			*27.0000	0									
			*28.0000	0									
			*29.0000	0									
			*30.0000	0									
			*31.0000	0									
			*32.0000	1	0.074	0.000	0.0000	0.00000	0.074	0.00	0.074	0.00	0.000
			*33.0000	1	0.074	0.000	0.0000	0.00000	0.074	0.00	0.074	0.00	0.000
			*34.0000	1	0.611	0.000	0.0000	0.00000	0.611	0.00	0.611	0.00	0.000
			*35.0000	3	0.186	0.156	0.0900	0.83937	0.051	-0.86	0.356	1.10	0.306
			*36.0000	5	1.121	0.836	0.3738	0.74552	0.335	-0.94	2.343	1.46	2.008
			*37.0000	9	0.353	0.247	0.0822	0.69836	0.167	-0.75	0.920	2.30	0.753
			*38.0000	0									
			*39.0000	11	0.380	0.316	0.0953	0.83114	0.084	-0.94	1.088	2.24	1.004
			*40.0000	8	0.772	0.904	0.3197	1.17107	0.084	-0.76	2.394	2.01	2.310
			*41.0000	2	0.293	0.177	0.1255	0.60609	0.167	-0.71	0.418	0.71	0.251
			*42.0000	8	0.701	0.417	0.1474	0.59509	0.251	-1.08	1.422	1.73	1.171
			*43.0000	0									
			*44.0000	0									
			*45.0000	0									
			*46.0000	0									
			*47.0000	7	0.430	0.400	0.1510	0.92865	0.084	-0.87	1.255	2.06	1.171
			*48.0000	2	0.251	0.000	0.0000	0.00000	0.251	0.00	0.251	0.00	0.000
			*49.0000	0									
			*50.0000	2	0.903	0.160	0.1129	0.17678	0.790	-0.71	1.016	0.71	0.226
			*51.0000	0									
			*52.0000	4	0.629	0.288	0.1440	0.45757	0.229	-1.39	0.915	0.99	0.687
			*53.0000	7	0.580	0.547	0.2067	0.94213	0.226	-0.65	1.693	2.03	1.467

VARIABLE NO.	NAME	GROUPING VARIABLE LEVE	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*54. 000	0									
		*55. 000	13	0.441	0.269	0.0746	0.60931	0.226	-0.80	1.144	2.61	0.919
		*56. 000	28	0.563	0.420	0.0793	0.74627	0.226	-0.80	2.257	4.04	2.032
		*57. 000	0									
		*58. 000	4	0.339	0.160	0.0798	0.47140	0.226	-0.71	0.564	1.41	0.339
		*59. 000	5	0.429	0.281	0.1257	0.65526	0.226	-0.72	0.903	1.69	0.677
		*60. 000	9	0.226	0.000	0.0000	0.00000	0.226	0.00	0.226	0.00	0.000
		*61. 000	0									
		*62. 000	0									
		*63. 000	2	0.395	0.080	0.0564	0.20203	0.339	-0.71	0.451	0.71	0.113
		*64.0000	2	0.406	0.384	0.2715	0.94657	0.134	-0.71	0.677	0.71	0.543
		*65.0000	6	0.634	0.284	0.1159	0.44729	0.113	-1.84	0.866	0.81	0.753
		*66.0000	1	0.451	0.000	0.0000	0.00000	0.451	0.00	0.451	0.00	0.000
		*67.0000	0									
		*68.0000	2	0.836	0.560	0.3961	0.66989	0.440	-0.71	1.232	0.71	0.792
		*69.0000	39	0.239	0.115	0.0184	0.48103	0.088	-1.31	0.528	2.52	0.440
		*70.0000	10	0.295	0.092	0.0292	0.31307	0.104	-2.07	0.440	1.56	0.336
		*71.0000	0									
		*72.0000	1	1.144	0.000	0.0000	0.00000	1.144	0.00	1.144	0.00	0.000
		*73.0000	7	0.500	0.312	0.1178	0.62328	0.226	-0.88	1.016	1.66	0.790
		*74.0000	1	0.113	0.000	0.0000	0.00000	0.113	0.00	0.113	0.00	0.000
		*75.0000	7	2.607	1.308	0.4942	0.50165	1.381	-0.94	5.369	2.11	3.988
		*76.0000	1	3.644	0.000	0.0000	0.00000	3.644	0.00	3.644	0.00	0.000
		*77.0000	1	2.112	0.000	0.0000	0.00000	2.112	0.00	2.112	0.00	0.000
		*78.0000	0									
		*79.0000	0									
		*80.0000	0									
		*81.0000	0									
		*82.0000	13	1.679	1.838	0.5097	1.09488	0.352	-0.72	7.481	3.16	7.129
		*83.0000	0									
		*84.0000	0									
		*85.0000	0									
		*86.0000	0									
		*87.0000	0									
		*88.0000	13	0.597	0.396	0.1099	0.66358	0.219	-0.95	1.320	1.82	1.101
		*89.0000	4	1.034	0.603	0.3014	0.58294	0.352	-1.13	1.584	0.91	1.232
		*90.0000	11	0.392	0.234	0.0706	0.59702	0.088	-1.30	0.880	2.09	0.792
		*91.0000	7	0.496	0.256	0.0967	0.51539	0.208	-1.13	0.937	1.72	0.729
		*92.0000	0									
		*93.0000	0									
		*94.0000	0									
		*95.0000	0									
		*96.0000	0									
		*97.0000	13	0.433	0.304	0.0842	0.70101	0.088	-1.14	1.320	2.92	1.232
		*98.0000	11	0.444	0.225	0.0680	0.50801	0.150	-1.30	0.937	2.19	0.787
		*99.0000	5	0.722	0.488	0.2181	0.67570	0.264	-0.94	1.496	1.59	1.232
		*100.000	8	0.468	0.406	0.1436	0.86831	0.088	-0.94	1.249	1.92	1.161
		*101.000	1	1.041	0.000	0.0000	0.00000	1.041	0.00	1.041	0.00	0.000
		*102.000	4	0.495	0.260	0.1301	0.52632	0.208	-1.10	0.833	1.30	0.625
		*103.000	0									
		*104.000	0									
		*105.000	2	2.461	0.550	0.3892	0.22364	2.072	-0.71	2.850	0.71	0.778
		*106.000	10	6.197	9.327	2.9495	1.50504	1.973	-0.45	32.599	2.83	30.626
		*107.000	11	2.253	1.390	0.4192	0.61699	1.096	-0.83	6.249	2.87	5.153

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*108.000	2	2.030	0.957	0.6767	0.47140	1.353	-0.71	2.707	0.71	1.353
		*109.000	3	0.902	0.677	0.3911	0.75074	0.208	-1.02	1.562	0.97	1.353
		*110.000	0									
		*111.000	4	3.281	1.781	0.8905	0.54290	2.210	-0.60	5.940	1.49	3.730
		*112.000	4	2.657	1.335	0.6675	0.50247	1.458	-0.90	4.495	1.38	3.037
		*113.000	0									
		*114.000	0									
		*115.000	1	0.110	0.000	0.0000	0.00000	0.110	0.00	0.110	0.00	0.000
		*116.000	2	2.576	0.853	0.6030	0.33099	1.973	-0.71	3.179	0.71	1.206
		*117.000	0									
		*118.000	1	0.658	0.000	0.0000	0.00000	0.658	0.00	0.658	0.00	0.000
		*119.000	0									
		*120.000	1	0.792	0.000	0.0000	0.00000	0.792	0.00	0.792	0.00	0.000
		*121.000	0									
		*122.000	4	1.507	0.966	0.4828	0.64059	0.658	-0.88	2.850	1.39	2.193
		*123.000	2	0.099	0.015	0.0108	0.15465	0.088	-0.71	0.110	0.71	0.022
		*124.000	1	1.206	0.000	0.0000	0.00000	1.206	0.00	1.206	0.00	0.000
		*125.000	27	1.048	1.230	0.2367	1.17345	0.110	-0.76	5.591	3.69	5.481
		*126.000	0									
		*127.000	0									
		*128.000	0									
		*129.000	3	1.174	1.258	0.7264	1.07209	0.088	-0.86	2.552	1.10	2.464
		*130.000	7	1.083	0.561	0.2119	0.51800	0.110	-1.73	1.754	1.20	1.644
		*131.000	7	0.750	0.478	0.1805	0.63686	0.138	-1.28	1.381	1.32	1.243
		*132.000	13	2.318	3.336	0.9253	1.43914	0.110	-0.66	12.607	3.08	12.498
		*133.000	7	2.325	3.401	1.2853	1.46261	0.219	-0.62	9.807	2.20	9.588
		*134.000	7	0.558	0.443	0.1674	0.79281	0.088	-1.06	1.232	1.52	1.144
		*135.000	2	2.234	2.423	1.7131	1.08462	0.521	-0.71	3.947	0.71	3.426
		*136.000	3	0.694	0.335	0.1934	0.48238	0.329	-1.09	0.987	0.87	0.658
		*137.000	3	0.378	0.320	0.1845	0.84640	0.104	-0.86	0.729	1.10	0.625
		*138.000	5	0.949	0.836	0.3738	0.88052	0.329	-0.74	2.376	1.71	2.048
		*139.000	5	0.611	0.474	0.2121	0.77668	0.176	-0.92	1.232	1.31	1.056
		*140.000	1	0.110	0.000	0.0000	0.00000	0.110	0.00	0.110	0.00	0.000
		*141.000	2	0.616	0.249	0.1760	0.40406	0.440	-0.71	0.792	0.71	0.352
		*142.000	2	0.639	0.032	0.0230	0.05079	0.616	-0.71	0.662	0.71	0.046
		*143.000	10	0.535	0.645	0.2039	1.20473	0.110	-0.66	2.302	2.74	2.193
		*144.000	0									
		*145.000	0									
		*146.000	0									
		*147.000	1	2.747	0.000	0.0000	0.00000	2.747	0.00	2.747	0.00	0.000
		*148.000	3	3.788	3.587	2.0711	0.94710	1.124	-0.74	7.867	1.14	6.743
		*149.000	1	5.619	0.000	0.0000	0.00000	5.619	0.00	5.619	0.00	0.000
		*150.000	0									
		*151.000	0									
		*152.000	0									
		*153.000	0									
		*154.000	1	0.999	0.000	0.0000	0.00000	0.999	0.00	0.999	0.00	0.000
		*155.000	0									
		*156.000	1	3.748	0.000	0.0000	0.00000	3.748	0.00	3.748	0.00	0.000
		*157.000	0									
		*158.000	6	0.645	0.477	0.1946	0.73870	0.250	-0.83	1.374	1.53	1.124
		*159.000	2	3.421	1.060	0.7492	0.29260	2.872	-0.71	4.370	0.71	1.498
		160.000	3	0.957	0.072	0.0416	0.07531	0.874	-1.15	0.999	0.58	0.125
		161.000	1	0.499	0.000	0.0000	0.00000	0.499	0.00	0.499	0.00	0.000

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*162.000	25	0.504	0.305	0.0610	0.60412	0.250	-0.84	1.748	4.08	1.498
		*163.000	2	0.156	0.074	0.0521	0.47140	0.104	-0.71	0.208	0.71	0.104
		*164.000	0									
		*165.000	3	0.832	0.260	0.1501	0.31225	0.624	-0.80	1.124	1.12	0.499
		*166.000	0									
		*167.000	11	0.534	0.250	0.0755	0.46915	0.375	-0.63	1.124	2.36	0.749
		*168.000	0									
		*169.000	0									
		*170.000	0									
		*171.000	3	0.828	0.488	0.2819	0.58978	0.499	-0.67	1.389	1.15	0.890
		*172.000	2	0.570	0.142	0.1006	0.24957	0.470	-0.71	0.671	0.71	0.201
		*173.000	2	0.346	0.394	0.2786	1.13982	0.067	-0.71	0.624	0.71	0.557
		*174.000	4	0.682	0.132	0.0660	0.19355	0.528	-1.17	0.792	0.83	0.264
		*175.000	6	0.631	0.239	0.0975	0.37872	0.352	-1.17	1.056	1.78	0.704
		*176.000	0									
		*177.000	0									
		*178.000	0									
		*179.000	0									
		*180.000	0									
		*181.000	2	0.375	0.177	0.1249	0.47140	0.250	-0.71	0.499	0.71	0.250
		*182.000	6	0.655	0.535	0.2183	0.81598	0.088	-1.06	1.672	1.90	1.584
		*183.000	28	0.596	0.667	0.1261	1.12088	0.088	-0.76	2.728	3.20	2.640
		*184.000	12	0.627	0.413	0.1192	0.65915	0.208	-1.01	1.562	2.26	1.353
		*185.000	0									
		*186.000	0									
		*187.000	4	0.156	0.060	0.0301	0.38490	0.104	-0.87	0.208	0.87	0.104
		*188.000	2	1.436	1.501	1.0614	1.04529	0.375	-0.71	2.497	0.71	2.123
		*189.000	6	0.583	0.458	0.1871	0.78636	0.125	-1.00	1.249	1.45	1.124
		*190.000	0									
		*191.000	1	1.623	0.000	0.0000	0.00000	1.623	0.00	1.623	0.00	0.000
		*192.000	0									
		*193.000	0									
		*194.000	0									
		*195.000	1	1.873	0.000	0.0000	0.00000	1.873	0.00	1.873	0.00	0.000
		*196.000	0									
		*197.000	3	0.916	0.401	0.2317	0.43835	0.624	-0.73	1.374	1.14	0.749
		*198.000	13	0.941	0.384	0.1064	0.40748	0.499	-1.15	1.873	2.43	1.374
		*199.000	0									
		*200.000	1	0.104	0.000	0.0000	0.00000	0.104	0.00	0.104	0.00	0.000
		*201.000	0									
		*202.000	0									
		*203.000	4	0.738	0.442	0.2208	0.59844	0.268	-1.06	1.207	1.06	0.939
		*204.000	0									
		*205.000	0									
		*206.000	4	1.311	0.617	0.3083	0.47037	0.528	-1.27	1.998	1.11	1.470
		*207.000	0									
		*208.000	2	2.248	2.296	1.6233	1.02138	0.624	-0.71	3.871	0.71	3.247
		*209.000	11	1.637	0.696	0.2100	0.42543	0.818	-1.18	3.051	2.03	2.232
		*210.000	2	2.753	1.789	1.2649	0.64977	1.488	-0.71	4.018	0.71	2.530
		*211.000	0									
		*212.000	2	0.893	0.105	0.0744	0.11785	0.818	-0.71	0.967	0.71	0.149
		*213.000	0									
		*214.000	2	1.669	1.207	0.8532	0.72282	0.816	-0.71	2.522	0.71	1.706
		*215.000	22	1.655	2.840	0.6055	1.71549	0.297	-0.48	13.989	4.34	13.692

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		#216.000	1	1.488	0.000	0.0000	0.00000	1.488	0.00	1.488	0.00	0.000
		#217.000	0									
		#218.000	1	1.261	0.000	0.0000	0.00000	1.261	0.00	1.261	0.00	0.000
		#219.000	2	12.203	16.836	11.9051	1.37972	0.298	-0.71	24.108	0.71	23.810
		#220.000	0									
		#221.000	2	1.637	0.737	0.5208	0.44998	1.116	-0.71	2.158	0.71	1.042
		#222.000	11	0.670	0.213	0.0642	0.31817	0.446	-1.05	1.042	1.75	0.595
		#223.000	0									
		#224.000	3	0.397	0.172	0.0992	0.43301	0.298	-0.58	0.595	1.15	0.298
		#225.000	9	0.413	0.163	0.0542	0.39345	0.223	-1.17	0.670	1.58	0.446
		#226.000	0									
		#227.000	2	0.558	0.474	0.3348	0.84853	0.223	-0.71	0.893	0.71	0.670
		#228.000	0									
		#229.000	4	1.228	1.240	0.6199	1.00990	0.298	-0.75	3.051	1.47	2.753
		#230.000	1	0.298	0.000	0.0000	0.00000	0.298	0.00	0.298	0.00	0.000
		#231.000	6	1.476	1.926	0.7861	1.30487	0.298	-0.61	5.357	2.02	5.060
		#232.000	8	0.874	0.666	0.2356	0.76223	0.149	-1.09	2.381	2.26	2.232
		#233.000	0									
		#234.000	8	0.818	0.698	0.2468	0.85312	0.223	-0.85	1.860	1.49	1.637
		#235.000	2	2.121	2.052	1.4509	0.96762	0.670	-0.71	3.572	0.71	2.902
		#236.000	0									
		#237.000	0									
		#238.000	0									
		#239.000	1	0.134	0.000	0.0000	0.00000	0.134	0.00	0.134	0.00	0.000
		#240.000	0									
		#241.000	0									
		#242.000	0									
		#243.000	24	0.737	0.684	0.1396	0.92761	0.074	-0.97	2.827	3.06	2.753
		#244.000	0									
		#245.000	3	0.918	1.139	0.6576	1.24119	0.223	-0.61	2.232	1.15	2.009
		#246.000	0									
		#247.000	4	1.802	2.067	1.0337	1.14709	0.148	-0.80	4.762	1.43	4.614
		#248.000	2	1.042	1.052	0.7441	1.01015	0.298	-0.71	1.786	0.71	1.488
		#249.000	1	1.563	0.000	0.0000	0.00000	1.563	0.00	1.563	0.00	0.000
		#250.000	0									
		#251.000	4	0.372	0.338	0.1691	0.90921	0.074	-0.88	0.818	1.32	0.744
		#252.000	5	0.119	0.052	0.0230	0.43291	0.074	-0.87	0.208	1.73	0.134
		#253.000	1	0.298	0.000	0.0000	0.00000	0.298	0.00	0.298	0.00	0.000
		#254.000	12	0.825	0.994	0.2871	1.20588	0.074	-0.75	3.274	2.46	3.200
		#255.000	1	0.149	0.000	0.0000	0.00000	0.149	0.00	0.149	0.00	0.000
		#256.000	3	0.769	0.900	0.5197	1.17066	0.074	-0.77	1.786	1.13	1.711
		#257.000	2	1.873	0.530	0.3746	0.28284	1.498	-0.71	2.248	0.71	0.749
		#258.000	3	1.790	0.439	0.2532	0.24502	1.374	-0.95	2.248	1.04	0.874
		#259.000	0									
		#260.000	0									
		#261.000	14	0.819	0.220	0.0589	0.26927	0.572	-1.12	1.373	2.51	0.801
		#262.000	19	0.388	0.242	0.0556	0.62495	0.125	-1.08	0.999	2.52	0.874
		#263.000	0									
		#264.000	2	3.118	2.831	2.0017	0.90796	1.116	-0.71	5.120	0.71	4.003
		#265.000	0									
		#266.000	1	0.687	0.000	0.0000	0.00000	0.687	0.00	0.687	0.00	0.000
		#267.000	3	1.041	0.945	0.5459	0.90863	0.375	-0.70	2.123	1.14	1.748
		#268.000	5	0.664	0.446	0.1995	0.67219	0.229	-0.97	1.373	1.59	1.144
		#269.000	0									

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*270.000	6	0.771	0.504	0.2059	0.65413	0.226	-1.08	1.584	1.61	1.359
		*271.000	0									
		*272.000	1	1.274	0.000	0.0000	0.00000	1.274	0.00	1.274	0.00	0.000
		*273.000	0									
		*274.000	1	1.140	0.000	0.0000	0.00000	1.140	0.00	1.140	0.00	0.000
		*275.000	2	0.326	0.108	0.0764	0.33117	0.250	-0.71	0.402	0.71	0.153
		*276.000	7	0.214	0.094	0.0357	0.44096	0.125	-0.94	0.375	1.70	0.250
		*277.000	2	0.440	0.373	0.2640	0.84853	0.176	-0.71	0.704	0.71	0.528
		*278.000	19	0.434	0.213	0.0488	0.49097	0.125	-1.45	0.967	2.51	0.842
		*279.000	5	0.661	0.538	0.2406	0.81430	0.264	-0.74	1.562	1.67	1.298
		*280.000	0									
		*281.000	0									
		*282.000	0									
		*283.000	0									
		*284.000	0									
		*285.000	3	5.337	2.150	1.2415	0.40290	2.993	-1.09	7.217	0.87	4.225
		*286.000	0									
		*287.000	0									
		*288.000	5	1.299	0.209	0.0934	0.16090	1.124	-0.84	1.623	1.55	0.499
		*289.000	0									
		*290.000	0									
		*291.000	0									
		*292.000	0									
		*293.000	0									
		*294.000	11	1.095	0.891	0.2685	0.81352	0.167	-1.04	3.257	2.43	3.089
		*295.000	12	0.676	0.558	0.1611	0.82614	0.104	-1.02	2.112	2.57	2.008
		*296.000	0									
		*297.000	3	0.791	0.641	0.3699	0.81025	0.250	-0.84	1.498	1.10	1.249
		*298.000	8	0.947	0.974	0.3442	1.02798	0.208	-0.76	2.997	2.10	2.788
		*299.000	1	0.521	0.000	0.0000	0.00000	0.521	0.00	0.521	0.00	0.000
		*300.000	0									
		*301.000	2	0.927	0.787	0.5564	0.84853	0.371	-0.71	1.484	0.71	1.113
		*302.000	0									
		*303.000	3	3.465	1.616	0.9330	0.46632	1.817	-1.02	5.047	0.98	3.230
		*304.000	1	1.918	0.000	0.0000	0.00000	1.918	0.00	1.918	0.00	0.000
		*305.000	6	1.211	0.758	0.3095	0.62583	0.404	-1.07	2.624	1.86	2.221
		*306.000	1	0.606	0.000	0.0000	0.00000	0.606	0.00	0.606	0.00	0.000
		*307.000	0									
		*308.000	1	1.211	0.000	0.0000	0.00000	1.211	0.00	1.211	0.00	0.000
		*309.000	3	0.505	0.175	0.1009	0.34641	0.404	-0.58	0.707	1.15	0.303
		*310.000	2	0.807	0.571	0.4037	0.70711	0.404	-0.71	1.211	0.71	0.807
		*311.000	3	0.673	0.477	0.2754	0.70887	0.303	-0.78	1.211	1.13	0.908
		*312.000	0									
		*313.000	3	1.110	0.925	0.5341	0.83320	0.303	-0.87	2.120	1.09	1.817
		*314.000	0									
		*315.000	0									
		*316.000	0									
		*317.000	0									
		*318.000	0									
		*319.000	0									
		*320.000	1	1.672	0.000	0.0000	0.00000	1.672	0.00	1.672	0.00	0.000
		*321.000	4	0.352	0.190	0.0951	0.54006	0.176	-0.93	0.616	1.39	0.440
		*322.000	1	0.528	0.000	0.0000	0.00000	0.528	0.00	0.528	0.00	0.000
		*323.000	1	0.404	0.000	0.0000	0.00000	0.404	0.00	0.404	0.00	0.000

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*324.000	0									
		*325.000	0									
		*326.000	3	0.505	0.534	0.3084	1.05830	0.101	-0.76	1.110	1.13	1.009
		*327.000	0									
		*328.000	0									
		*329.000	0									
		*330.000	0									
		*331.000	1	1.009	0.000	0.0000	0.00000	1.009	0.00	1.009	0.00	0.000
		*332.000	4	0.656	0.784	0.3920	1.194	0.101	-0.71	1.817	1.48	1.716
		*333.000	0									
		*334.000	0									
		*335.000	2	2.523	1.285	0.9084	0.50912	1.615	-0.71	3.432	0.71	1.817
		*336.000	3	0.538	0.117	0.0673	0.21651	0.404	-1.15	0.606	0.58	0.202
		*337.000	9	0.718	0.185	0.0617	0.25781	0.505	-1.15	1.110	2.12	0.606
		*338.000	2	0.807	0.571	0.4037	0.70711	0.404	-0.71	1.211	0.71	0.807
		*339.000	12	0.412	0.277	0.0800	0.67237	0.202	-0.76	1.110	2.52	0.908
		*340.000	0									
		*341.000	4	0.883	0.301	0.1507	0.34127	0.505	-1.26	1.211	1.09	0.707
		*342.000	4	0.429	0.591	0.2954	1.37702	0.101	-0.56	1.312	1.50	1.211
		*343.000	0									
		*344.000	0									
		*345.000	0									
		*346.000	0									
		*347.000	1	0.202	0.000	0.0000	0.00000	0.202	0.00	0.202	0.00	0.000
		*348.000	3	0.538	0.672	0.3880	1.24844	0.101	-0.65	1.312	1.15	1.211
		*349.000	1	1.413	0.000	0.0000	0.00000	1.413	0.00	1.413	0.00	0.000
		*350.000	1	0.101	0.000	0.0000	0.00000	0.101	0.00	0.101	0.00	0.000
		*351.000	0									
		*352.000	3	0.168	0.058	0.0336	0.34641	0.101	-1.15	0.202	0.58	0.101
		*353.000	0									
		*354.000	11	1.678	1.637	0.4937	0.97588	0.595	-0.66	5.854	2.55	5.259
		*355.000	25	0.790	0.416	0.0831	0.52614	0.496	-0.71	2.481	4.07	1.984
		*356.000	5	0.740	0.118	0.0526	0.15905	0.595	-1.23	0.908	1.43	0.313
		*357.000	1	2.381	0.000	0.0000	0.00000	2.381	0.00	2.381	0.00	0.000
		*358.000	2	0.744	0.210	0.1488	0.28284	0.595	-0.71	0.893	0.71	0.298
		*359.000	0									
		*360.000	3	0.827	0.771	0.4450	0.93209	0.198	-0.82	1.687	1.12	1.488
		*361.000	14	0.447	0.379	0.1012	0.84844	0.198	-0.65	1.488	2.75	1.290
		*362.000	2	0.198	0.000	0.0000	0.00000	0.198	0.00	0.198	0.00	0.000
		*363.000	0									
		*364.000	7	0.411	0.232	0.0878	0.56486	0.198	-0.92	0.893	2.08	0.695
		*365.000	4	1.811	2.026	1.0130	1.11882	0.099	-0.84	4.664	1.41	4.564
		*366.000	0									
		*367.000	0									
		*368.000	3	0.695	0.099	0.0573	0.14286	0.595	-1.00	0.794	1.00	0.198
		*369.000	7	1.091	0.493	0.1863	0.45150	0.496	-1.21	1.786	1.41	1.290
		*370.000	0									
		*371.000	0									
		*372.000	0									
		*373.000	0									
		*374.000	0									
		*375.000	0									
		*376.000	0									
		*377.000	0									

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		*378.000	0									
		*379.000	0									
		*380.000	1	0.298	0.000	0.0000	0.00000	0.298	0.00	0.298	0.00	0.000
		*381.000	2	0.099	0.000	0.0000	0.00000	0.099	0.00	0.099	0.00	0.000
		*382.000	0									
		*383.000	0									
		*384.000	0									
		*385.000	0									
		*386.000	0									
		*387.000	0									
		*388.000	0									
		*389.000	2	0.729	0.147	0.1041	0.20203	0.625	-0.71	0.833	0.71	0.208
		*390.000	0									
		*391.000	0									
		*392.000	1	0.999	0.000	0.0000	0.00000	0.999	0.00	0.999	0.00	0.000
		*393.000	0									
		*394.000	0									
		*395.000	0									
		*396.000	0									
		*397.000	1	0.404	0.000	0.0000	0.00000	0.404	0.00	0.404	0.00	0.000
		*398.000	0									
		*399.000	1	0.528	0.000	0.0000	0.00000	0.528	0.00	0.528	0.00	0.000
		*400.000	3	1.922	1.424	0.8222	0.74091	0.937	-0.69	3.555	1.15	2.618
		*401.000	1	1.207	0.000	0.0000	0.00000	1.207	0.00	1.207	0.00	0.000
		*402.000	0									
		*403.000	8	1.383	1.193	0.4219	0.86264	0.134	-1.05	3.890	2.10	3.756
		*404.000	6	0.581	0.452	0.1846	0.77803	0.134	-0.99	1.342	1.68	1.207
		*405.000	3	1.041	0.375	0.2167	0.36056	0.729	-0.83	1.458	1.11	0.729
		*406.000	0									
		*407.000	1	1.335	0.000	0.0000	0.00000	1.335	0.00	1.335	0.00	0.000
		*408.000	0									
		*409.000	0									
		*410.000	0									
		*411.000	0									
		*412.000	0									
		*413.000	1	0.335	0.000	0.0000	0.00000	0.335	0.00	0.335	0.00	0.000
		*414.000	2	0.470	0.474	0.3354	1.01015	0.134	-0.71	0.805	0.71	0.671
		*415.000	0									
		*416.000	0									
		*417.000	0									
		*418.000	0									
		*419.000	2	2.200	2.116	1.4963	0.96167	0.704	-0.71	3.697	0.71	2.993
		*420.000	2	0.440	0.498	0.3521	1.13137	0.088	-0.71	0.792	0.71	0.704
		*421.000	38	0.290	0.140	0.0227	0.48407	0.088	-1.44	0.616	2.33	0.528
		*422.000	2	0.531	0.309	0.2184	0.58197	0.312	-0.71	0.749	0.71	0.437
		*423.000	0									
		*424.000	0									
		*425.000	1	0.153	0.000	0.0000	0.00000	0.153	0.00	0.153	0.00	0.000
		*426.000	1	0.204	0.000	0.0000	0.00000	0.204	0.00	0.204	0.00	0.000
		*427.000	14	0.771	0.768	0.2053	0.99698	0.098	-0.88	2.452	2.19	2.354
		*428.000	10	3.511	4.312	1.3636	1.22826	0.098	-0.79	14.710	2.60	14.612
		*429.000	0									
		*430.000	22	3.280	2.655	0.5661	0.80956	0.196	-1.16	10.101	2.57	9.904
		*431.000	1	0.102	0.000	0.0000	0.00000	0.102	0.00	0.102	0.00	0.000

VARIABLE NO.	NAME	GROUPING VARIABLE LEVEL	TOTAL FREQUENCY	MEAN	STANDARD DEVIATION	ST.ERR OF MEAN	COEFF. OF VARIATION	SMALLEST VALUE	SMALLEST Z-SCORE	LARGEST VALUE	LARGEST Z-SCORE	RANGE
		#432.000	1	3.463	0.000	0.0000	0.00000	3.463	0.00	3.463	0.00	0.000
		#433.000	0									
		#434.000	0									
		#435.000	0									
		#436.000	2	3.579	1.179	0.8335	0.32934	2.746	-0.71	4.413	0.71	1.667
		#437.000	1	0.445	0.000	0.0000	0.00000	0.445	0.00	0.445	0.00	0.000
		#438.000	14	2.480	0.935	0.2498	0.37692	0.490	-2.13	3.432	1.02	2.942
		#439.000	0									
		#440.000	0									
		#441.000	1	0.298	0.000	0.0000	0.00000	0.298	0.00	0.298	0.00	0.000
		#442.000	0									
		#443.000	2	0.472	0.142	0.1006	0.30170	0.371	-0.71	0.572	0.71	0.201
		#444.000	0									
		#445.000	0									
		#446.000	0									
		#447.000	0									
		#448.000	0									
		#449.000	0									
		#450.000	0									
		#451.000	0									
		#452.000	0									
		#453.000	1	0.343	0.000	0.0000	0.00000	0.343	0.00	0.343	0.00	0.000
		#454.000	0									
		#455.000	0									
		#456.000	0									
		#457.000	0									
		#458.000	0									
		#459.000	0									
		#460.000	0									
		#461.000	0									
		#462.000	0									
		#463.000	0									
		#464.000	2	1.306	1.638	1.1580	1.25360	0.148	-0.71	2.464	0.71	2.316
		#465.000	0									
		#466.000	0									
		#467.000	0									
		#468.000	18	1.872	2.066	0.4869	1.10355	0.202	-	9.273	3.10	9.072

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