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MAXIMUS
CHEMONICS•ARABSOFT

COST RECOVERY IN HEALTH PROJECT (CRHP)

مشروع إسترداد نفقات العلاج

Prepared for
U S Agency for International Development
Health Insurance Organization, Egypt

Contract Number
263-0170-C-00-3042-00

COST ACCOUNTING SYSTEM

FUNCTIONAL DESIGN

USAID Project Number 263-0170
[Develop a Detailed and Updated Management Information System for the Egyptian Health Insurance Organization, Cost Recovery Project]

Prepared by
The Cost Accounting Team
MAXIMUS - CHEMONICS - ARABSOFT

Draft Date
March 10, 1994
For Review and Discussion Only

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HIO CRHP

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مشروع إسترداد نفقات العلاج

March 10, 1994

Dr Mohamed Arafa
Chairman
Health Insurance Organization
Heliopolis
Cairo, Egypt

Dear Dr Arafa

MAXIMUS is pleased to submit this draft document for the Cost Accounting System Functional Design This functional design was developed based on numerous site visits to HIO Headquarters, branch offices, clinics and hospitals, and through consultation with key personnel related to those sites The NWDB's **Cost Accounting Handbook** has also been referred to extensively in the development of this functional design

The Cost Accounting System Functional Design outlines a system that records, monitors and allocates costs This system also provides powerful tools for analysis and reporting We ask that you review this document 1) to verify that the design reflects what was discussed during site visits and walk-throughs, 2) to validate that, when seen as a whole, the automated process will enhance the effectiveness of each operational area, 3) to confirm that assumptions are valid, and 4) to identify any organizational, policy and procedural changes which may be necessary for the success of the project

The Cost Accounting System described in this document includes extensive reporting and analysis capabilities For this reason, you may wish to have your senior managers review the functional design to ensure that the system meets their information needs

Because further development of this module is so heavily dependent on your input, we would greatly appreciate receiving the response to your review within two or three weeks We look forward to your comments and suggestions If you have any questions, please do not hesitate to contact me

Sincerely,

Thomas E Knotts
Chief of Party

cc Dr Fahd El Minshawy, HIO
Ms Mellen Tanamly, USAID Project Officer

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HIO CRHP
MAXIMUS CHEMONICS•ARABSOFT
مشروع إسترداد نفقات العلاج

March 10, 1994

Ms Mellen Tanamly
Project Officer
USAID - Egypt
106 Kasr El Aini Street, 7th Floor
Cairo, Egypt

Ref Project Number 263-0170

Dear Ms Tanamly

MAXIMUS is pleased to submit this draft document for the Cost Accounting System Functional Design This functional design was developed based on numerous site visits to HIO Headquarters, branch offices, clinics and hospitals, and through consultation with key personnel related to those sites The NWDB's **Cost Accounting Handbook** has also been referred to extensively in the development of this functional design

The Cost Accounting System Functional Design outlines a system that records, monitors and allocates costs This system also provides powerful tools for analysis and reporting We have asked HIO to review this document to verify that the design reflects what was discussed during the site visits and walk-throughs We have also requested of HIO to validate that, when seen as a whole, the automated process will enhance the effectiveness of each operational area and to confirm that the assumptions presented are valid We anticipate that during this review process, HIO will identify any organizational, policy and procedural changes which may be necessary for the success of the project

We welcome your review of this document and a discussion by the concerned parties so that we may address all questions and concerns about the details of the design When this has been satisfied, we may then proceed to initiate the detailed systems design

If you have any questions about this report, please do not hesitate to contact me

Sincerely,

Thomas E Knotts
Chief of Party

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1 INTRODUCTION

This document presents the functional design for the Cost Accounting System Cost accounting is one of the first phase modules of the automated Management Information System for use by the Egyptian Health Insurance Organization (HIO) This system is being developed in conjunction with the HIO and the U S Agency for International Development (USAID)

1 1 Purpose of the Document

This Functional Design document is intended to serve essentially the same function as a blueprint for a building, to provide a design for the technicians to follow in creating the project, and to provide a document for review and change before the design is put into place

At a high level, this document describes the following

- who, organizationally, are the users who directly interact with the system,
- what functions the system provides to those users,
- what organizational, policy and procedural changes must be implemented along with the system for the system to be effective, and
- any assumptions upon which the design is based

This document intends to serve as a baseline for review and comment It documents discussions held to date and information gathered during site visits It lays out a design that, given the information known, appears to be useful and realistic

1 2 Process Used to Develop the Design

A system design cannot be created absent an understanding of the existing operational processes To understand these, the Cost Accounting Team conducted site visits, particularly in the NWDB since it was the first and is currently the only branch to implement a full Cost Accounting System A summary of site visits and the contacted persons is given in Appendix E of this document

Several walk-throughs to review our proposed system have been conducted with HIO personnel and HIO consultants as well as with USAID representatives

1 3 Intended Audience

This document represents a high level, but technical, specification of the discussions held thus far with the HIO It is merely a structured method of recording the design discussed and documenting the alternatives selected

It is expected that the audience for this document is the managers of the organizational areas that will be affected by the design, as well as HIO senior management This document should be reviewed for the following

- o to verify that it represents what was discussed during the site visits and the walk-throughs,
- o to validate that, when seen as a whole, the automated process described will enhance the functioning of each operational area,
- o to agree that the assumptions used are valid, and
- o to commit to the organizational, policy, and procedural changes outlined as necessary for success

In addition, senior managers should review this document to ensure that the information collected by the system will assist in making more accurate management decisions

2 GENERAL SYSTEM OVERVIEW

The development of Management Information System (MIS) for use by the Health Insurance Organization is a large undertaking, of which the Cost Accounting System is one piece Logframes are shown in Exhibit 2-1 for overall project activities as well as for this module specifically

This section provides a high level overview of the modules to be included in the HIO Management Information System, and the interaction between these modules This section also includes a description of the existing operational processes associated with cost accounting After a review of the current practices, the proposed process is described This section presents a high level view only The technical functional design is provided in Section 4 of this document

2 1 Overview of the HIO Management Information System

The HIO Management Information System is being developed in phases During this phase, software applicable to clinics and branches is being developed In the next phase, inpatient hospital software will be developed

The modules of the first phase are

- o beneficiary registration,
- o drug control,
- o cost accounting, and
- o medical history/visit tracking

None of these modules stands alone Each contributes information to the database, and uses information provided by other modules The purpose of all the modules, in addition to supporting operational areas, is to collect and provide to management detailed information about the HIO With this improved level of information, HIO management can make well-informed and timely decisions regarding cost containment and service provision, a decision-making capacity that is essential as the organization continues to grow and evolve

All applications for a branch or clinic reside on the machine at that facility Therefore within a facility all applications have access to the database on that facility's machine For example, visit information already entered through beneficiary registration does not need to be reentered for drug control In addition, data can be shared between facilities

The data sharing is transparent to the user The applications are designed to share data and the user needs to do nothing to have this happen On the other hand, the fact that all data is shareable between applications does not mean that the database is open to all

Exhibit 2-1(A)
DRAFT LOGICAL FRAMEWORK
- OVERALL PROJECT -

PROJECT NARRATIVE	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Project Goal Improve HIO ability to raise treatment quality & contain cost	**End of Project Status** Lower costs for drugs per patient Shorter lengths of stay in hospitals Reduced number of patient visits per episode of illness Lower cost of treatment per patient Higher proportion of favorable outcomes per patient	Statistical data from HIO Statistical data from MIS	HIO supports a MIS HIO involved in MIS design HIO provides resources HIO adopts policies & procedures to maximize use of system
Project Purpose Build & implement a MIS throughout the HIO	**Measures of Achievement** Number of HIO sites automated & using MIS Number of S/W application modules running	Site visits End of Project Status Evaluation	HIO managers involved in system implementation
Outputs MIS systems in use in facilities System generated reports Trained HIO staff	**Magnitude of Outputs** 200+ systems installed in Egypt Electronic & hard copy reports for every HIO function 2000+ staff trained	Site visits Project reports End of Project Status Evaluation	Staff available for training Enough qualified staff found for each job HIO purchases needed equipment HIO obtains telecom lines

(continued)

4

Exhibit 2-1(A)
DRAFT LOGICAL FRAMEWORK
- OVERALL PROJECT -
(cont)

PROJECT NARRATIVE	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Inputs	**Magnitude of Inputs**		
USAID funding	$21M+	Financial records	MIS remains a priority of the HIO
- Training			
- Technical Assistance			Resource support from HIO continues
- Commodities			
HIO Project Resources			
- Vehicles	Eight project vehicles	Status reports	
- Office space	Al Ahram Building	End of Project Status	
- Furniture	Furnish each clinic computer room	Evaluation	
- Electronic power		Site visits	
- Telecom lines	250 KVA transformer		
HIO Reg Resources			
- Facilities	Eight computer centers		
- Clinical	Medical practice committee		
- Administrative	Drug formulary committee		
	Management analysis office		
	Computer supplies budget		
	Telecom cost budget		
	Hardware maintenance budget		

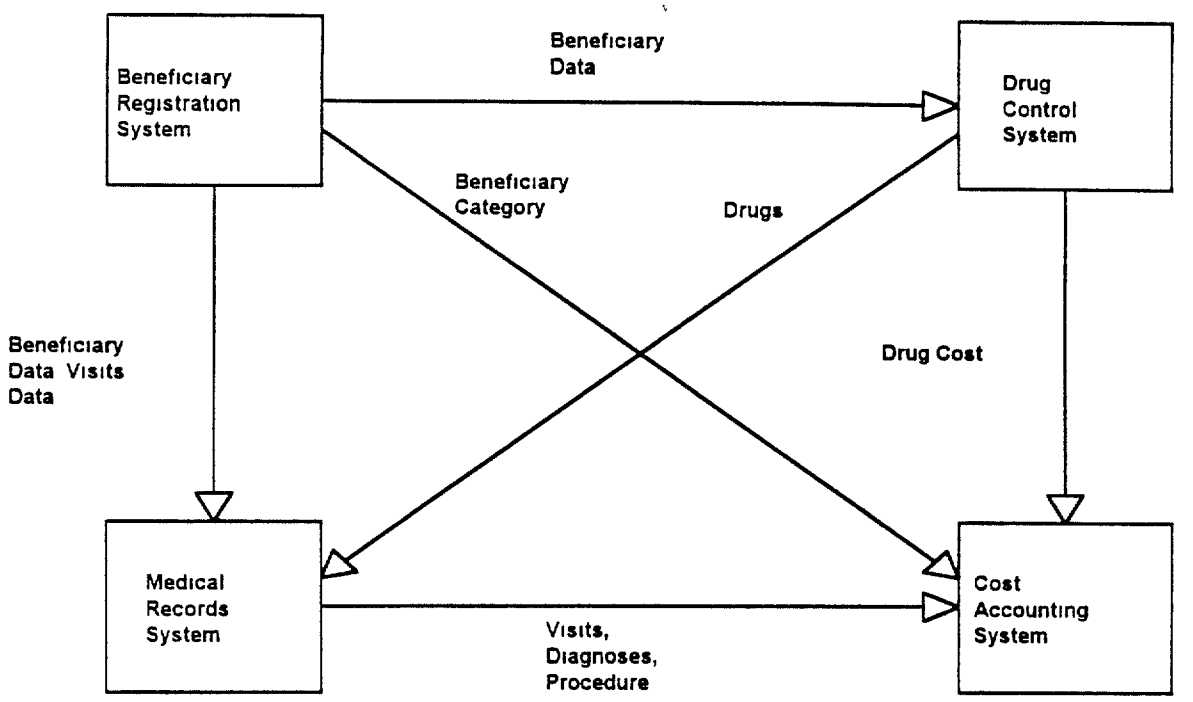
Exhibit 2-1(B)
DRAFT LOGICAL FRAMEWORK
- COST ACCOUNTING -

PROJECT NARRATIVE	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Module Goal Improve HIO ability to monitor the cost of medical service per facility or by type of service	**End of Project Status** Better and timely cost information for the different HIO levels	Cost accounting reports	HIO agrees to proposed system HIO uses module
Module Purpose Automate the cost accounting process	**Measures of Achievement** Number of HIO branches automated & using the module	Site visits End of Project Status Evaluation	HIO managers involved in system implementation
Outputs Cost accounting module in use in facilities System generated reports Trained HIO staff	**Magnitude of Achievement** Number of HIO branches automated & using the module	Site visits Project reports End of Project Status Evaluation	Staff available for training Enough qualified staff found for each job
Inputs HIO decision-making resources	**Magnitude of Inputs** Cost accounting user group	Status reports End of Project Status Evaluation Site visits	Resource support from HIO continues

DRAFT

Exhibit 2-2 depicts data being shared among applications For an operational overview of the interrelationship between beneficiary registration, drug control, and medical history, actual scenarios of daily activities have been developed These scenarios are available in printed form for review

Exhibit 2-2
FLOW OF DATA AMONG PHASE I APPLICATIONS



2 2 The Current HIO Cost Accounting System

Cost accounting is a very important tool in cost recovery/cost containment HIO has realized the importance of cost accounting Two years ago, HIO formed a committee to study the development of a Cost Accounting System for monitoring the costs in the different HIO facilities The developed system was implemented in the North-West Delta Branch (NWDB) as a pilot The plan was to implement the system in the other branches, but, so far, NWDB is still the only branch implementing a full manual Cost Accounting System Other branches are implementing parts of this cost accounting system, mainly in the areas of salaries and drugs

As stated in the RFP, the objectives of cost accounting applications are to

- o produce clear and accurate costs for each HIO service and for inventory valuation, and
- o provide HIO management with timely cost information to support decision making for planning and control

The current Cost Accounting System is a cost center based system The different HIO facilities are considered main cost centers The facilities are divided into subcost centers In the clinics, each specialty is considered as a cost center In the hospital, each hospital section is considered a cost center Each subsection in the hospital is considered a subcost center

The main cost centers used in the current system are

1) Administration Cost Centers

2) Production Service Cost Centers

3) Production Cost Centers

The hospital part of the current system is processed in the Cost Accounting Unit in NWDB hospitals The clinic part is processed in the medical zone Cost Accounting Section The two parts are sent to the branch Cost Accounting Department for consolidation The Cost Accounting Department prepares the quarterly report and sends it to the branch manager and the HIO Cost Accounting Committee

All the facility expenses are gathered by the Cost Accounting Units The expenses are allocated directly to the utilizing cost centers Some expenses cannot be initially allocated to one cost center, so they are allocated indirectly to the different cost centers according to different allocation criteria At the end of the cost accounting period, currently quarterly, administration cost center total expenses (direct and indirect) are allocated to production services and production cost centers as an indirect expense (first allocation step) The total salaries for each cost center is taken as the allocation criterion The total expenses of the production services cost centers are then allocated to the production cost centers according to different allocation criteria These allocation criteria depend on the service cost center type (second allocation step) The end result is the total expense (direct and indirect) of each production cost center

The reports mainly compare the similar cost centers in the different branch facilities to see the exception cases and monitor deviation from the average cost center

2 3 Review of the Current Cost Accounting System

Review of the current cost accounting system has led to the following conclusions

- The current system is a cost center based system The only expense tracked is the cost center expense There is no way to monitor the cost of treatment for a certain disease Also, there is no way to monitor the cost of a certain HIO service (HIO Charge Master)

- Zone, branch and headquarters expenses are not yet allocated down to the clinic or to the hospital

- The expenses of production services cost centers are allocated to the production cost centers, even though they may operate independently, serving non-HIO patients Thus, not all their expenses should be allocated to the production cost centers

- Comparing the different HIO units can be unfair in some cases, since some facilities are specialized in treatment of more critical diseases or provide critical services (resulting in higher expenses)

- In a clinic, allocation of pharmacy expenses (other than drugs) to the different cost centers is based on the number of prescriptions filled for a certain cost center In a hospital, it is based on the amount of drugs dispensed to a certain cost center We recommend unifying the handling of the pharmacy expenses in both the clinic and the hospital, and allocating the pharmacy cost based on the number of prescriptions

2 4 The Proposed Cost Accounting System

The proposed Cost Accounting System uses the current NWDB system design as a base for determining the total costs of the different cost centers Allocating indirect expenses to the production cost centers will be modified in such a way that the cost for providing a service to a non-HIO patient will be deducted from the total cost Based upon the medical records, the number of units required for treating a certain disease or providing a certain medical service can be calculated Using weighting factors, the cost of treatment or service can be calculated

It is also proposed that changes be made in the handling of some production services cost centers Cost centers that can operate independently, such as the laboratories and radiology sections, are to be treated differently in allocating their expenses to the production cost centers

3 GENERAL ASSUMPTIONS

This section contains the assumptions that are required for the system to work successfully and efficiently It is important for the reviewers of this document to read this section carefully If there are any assumptions made that are erroneous or appear unfeasible, this must be noted at this stage All future iterations of the design are predicated on these assumptions being reality

3 1 Assumptions Related to Work Flow

The following are the assumptions related to the work flow of the proposed Cost Accounting System

- The automated Cost Accounting System is to run on the branch computer system No cost accounting modules will run on the clinic or hospital computers

- Manually prepared cost accounting transactions will be sent once a month from either the zone (for clinic transactions) or from the hospital (for hospital transactions) to the branch computer center for processing These transactions are to be entered in the branch computer system by the data entry operators Although the current Cost Accounting System produces quarterly reports, it is recommended that the data be gathered monthly The benefit from gathering the data monthly is

    it matches the monthly general accounting period,

    it facilitates data gathering by eliminating the process of summing up the three-month data, and

    in the future, cost accounting reports can be produced monthly without a change in the work flow

- Drug costs data for both HIO pharmacies and contracted pharmacies will be transferred over the communication lines (or on magnetic media) from the clinic to the branch computer system

- Data related to the beneficiary medical records will be transferred over the communication lines (or on magnetic media) from the clinics and the hospitals to the branch computer system

- After the manual transactions are entered and verified, and medical records data are transferred to the branch computer, the cost accounting processing functions can be executed Reports are printed in the branch computer center and distributed to the different HIO management levels

- Cost data related to prosthesis and treatment outside Egypt will be captured separately and will not be allocated to the different cost centers The cost will appear at the branch level reports

3.2 Assumptions Related to the Charts of Accounts

The current General Ledger Chart of Accounts (the expenses part) will be used in the proposed system without any modification This chart complies with the Unified Accounting System used in the Government Economic Organizations as well as the Public Sector

3.3 Assumptions Related to the Cost Centers Chart

The Cost Centers Charts may be modified in such a way that some of the current production service centers (those that can operate independently and offer services to non-HIO patients) are moved to the production cost centers

3 4 Assumptions Related to Expense Allocation Criteria

It is assumed that HIO will agree to the different allocation criteria presented in this document Some of these allocation criteria are used currently in NWDB for allocating indirect costs The others are proposed in this document

- Administration cost center costs are allocated to the production and production services cost centers based upon the total salaries of these cost centers

- Production services cost centers will be allocated to the production cost centers based upon allocation criteria These criteria depend on the usage volume of the production cost centers These allocation criteria are detailed in Section 4 of this document

- HIO Headquarters total expenses are allocated down to the different branches using the total branch expense as an allocation factor

- Branch expenses (including the allocated HIO Headquarters expenses) are allocated down to the medical zone using the total medical zone expenses (the sum of the expenses of all the units belonging to the medical zone and the medical zone's own expenses) as an allocation factor

- The medical zone expenses (including the allocated branch expenses) are allocated down to the clinics and hospitals related to the medical zone based upon the total expenses of these units

3 5 Assumptions Related to Human Resources and Training

Since cost accounting is newly implemented in the HIO, the need for proper training for the different user classes is essential Users can be divided into different classes according to their training needs

- **HIO top level management and branch management** are to be trained on the basic aspects of the proposed cost accounting system, and how to interpret the generated reports and to make decisions based upon these reports

- **Branch accounting and cost accounting departments** are to be trained on the basic aspects of the proposed system, and how to revise and control the data prepared by the different cost accounting sections in the different HIO facilities

- **Zone cost accounting clerks** are to be trained in preparing the manual cost accounting entries that are sent to the branch computer center

- **Hospital cost accounting clerks** are also to be trained in preparing the manual cost accounting entries

- **Branch data entry operators/data validation clerks** are to be trained in entering the different cost accounting entries into the computer They should also be trained on validating the entered data

- **Branch computer center operators** are to be trained in collecting the different cost accounting data periodically from all the automated HIO facilities and producing the final cost accounting reports

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4 FUNCTIONAL DESIGN

In this section, a detailed functional design is presented This section is divided into two main subsections The first subsection is related to the functions performed at the clinic level The second subsection is related to the functions performed at the hospital level

4 1 Clinic Cost Accounting

This subsection discusses the detailed functions performed at the clinic level

4 1 1 Define Cost Centers Chart

This function is used to define the different cost centers operating in the clinics

Production Cost Centers (Cost Centers Number 5) are the cost centers that reflect the production activities performed by all medical departments (treatment units) inside all types of clinics The cost centers chart includes main cost centers subdivided into lower level subcost centers Transactions will be accepted only for the **lowest level** cost centers and not for the main cost centers Examples of these cost centers are

- o General Practitioner Cost Center, and
- o Specialist Cost Center (for all Specialties in a Polyclinic Surgery, Internal Medicine, Ophthalmology, Gynecology and Obstetrician, ENT, etc)

Production Services Cost Center (Cost Centers Number 6) serve the production cost centers mentioned above by providing certain auxiliary services to aid general practitioners and specialists outside hospitals in the treatment cycle Generally, they are not directly related to a specific product or to a specific production cost center, but are related indirectly to all the products

The production services cost centers are divided into

- o Medical Services Cost Centers (#61), examples of which are

  Labs,

  Radiology,

  Pharmacies, and

  Physiotherapy

- o Nonmedical Services Cost Centers (#62), examples of which are

  Medical Archiving Unit, and

  Medical Registrar Unit

Administration and Finance Cost Centers (Cost Centers Number 8) consist of three levels

- o unit level (clinic, polyclinic, specialized center, etc),
- o medical zone level, and
- o branch level

Within these levels there are three main cost centers

unit management,

administration, and

financial affairs

For a full list of the cost center chart please refer to Appendix F of this document

4 1 2 Define Cost Elements (Expense Accounts)

The chart of accounts for the cost accounting complies with the Unified Accounting system used in the Government Economic Organizations as well as the public sector The accounts are General Ledger expense accounts defined further into subaccounts The transactions are accepted only on the **lowest level** accounts, no transactions are to be performed on main accounts

Payroll Cost Elements (Account Number 31) is the account charged with all payroll expenses basic salaries, bonuses, incentives, overtime, social insurance and medical insurance

Commodities Cost Elements (Account Number 32) is the account charged with all the expenses of commodities needed by all cost centers The commodities are categorized into

- o Storable Commodities drugs, medical equipment, medical supplies, prosthesis elements, chemicals, stationery, printouts, etc , and
- o Nonstorable Commodities water, electricity, power, as well as drugs dispensed from contracted pharmacies

Services Cost Elements (Account Number 33) is the account charged with all expenses that serve different units in accomplishing their services and do not constitute a fixed asset or any inventory element Examples of these expenses are maintenance, research, publicity, transportation, and rents

Other Cost Elements involve the following

- o Cost of Goods Sold (Account Number 34)
- o Current Transfer Expenses (Account Number 35)
- o Specific Current Transfers (Account Number 36)

Account 34 may be more common in some branches than in others due to the fact that individual branches have different prevailing activities Account numbers 35 and 36 are of a common nature represented in depreciation, rent evaluation either for HIO-owned facilities or rented ones, debts, fines, and so forth For a full list of the chart of accounts please refer to Appendix H of this document

4 1 3 Process Cost Elements Entries

This section discusses the functions needed to charge cost element accounts with all the expense entries and allocate them directly or indirectly to the different cost centers according to their relation to the final product or service rendered by the cost center

Our suggestion concerning the automation of the Cost Accounting System is to collect forms monthly for each expense account's entries payroll cost elements, commodities cost elements (except drugs), services cost elements and other cost elements The entries are on the lowest level of subcost centers and the lowest level of subaccounts The forms are prepared by the medical zone for each clinic and sent to the branch At the branch level, these forms are fed into the computer by cost accounting data entry employees The rest of the data is either extracted from the other systems like Drug Control or Medical Records, or entered into the main computer by cost accounting data entry employees, (monthly, in the case of the unavailability of, for example, statistical data) Cost elements are either allocated to cost centers by actual use or by using allocation factors

4 1 3 1 Allocation by Actual Use

In this case cost elements are direct on the different cost centers In the suggested system totals of these cost elements for every clinic will be prepared by the medical zone for the lowest level cost center These forms are then sent to the branch for data entry by cost accounting data entry employees

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4 1 3 1.1 Process Payroll Entries

The personnel (administration) department in the medical zone prepares the Payroll Form aggregated by cost center at the end of the month (based on the Summary Cost Accounting Register) for every clinic The form is then sent to the cost accounting department at the branch for data entry to the branch computer Exhibit 4-1 shows an example of the Payroll Form

Exhibit 4-1
SUMMARY PAYROLL FORM (CLINIC)

Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxx

Summary Payroll Form for the month 99/99

				Amount			
				Direct		Indirect	
Cost Center No	Cost Center Name	Account No	Account Name	Fixed	Var	Fixed	Var

4 1 3.1 2 Process Commodities Expenses

Currently, the commodities are divided into two groups storable and nonstorable The drugs have a stand-alone cycle, and a set of specific registers and forms since they are considered the largest share of expenses in HIO The drugs dispensed by HIO pharmacies are considered storable commodities while drugs dispensed by contracted pharmacies are considered nonstorable We will discuss first the document flow for drug consumption

4 1.3.1.2.1 Process Drug Consumption Entries

There are two sources for drug consumption values

o HIO-Owned Pharmacies

In this case, drug consumption is provided automatically by the drug control system and is already related to the beneficiary, physician and episode of illness Hence, cost of drugs can be categorized by beneficiary type (law 32, law 79, pensioners, etc), and cost center (every physician relates to a specific cost center during a certain session)

o Contracted Pharmacies

In this case, drug consumption is provided automatically by the contracted pharmacy module of the drug control system All details of prescriptions are available for beneficiary type categorization, cost center categorization and diagnosis categorization

In both cases a file is extracted from the Drug Control System for cost accounting purposes Following are the data elements of that file

- o year,
- o month,
- o cost center number,
- o amounts of drugs dispensed, and
- o number of prescriptions

In the suggested system, the same table is extracted for the different diagnoses within every cost center

4 1 3 1 2 2 Process Other Storable and Nonstorable Commodities Entries

The nonstorable commodities are fuel electricity, water, power, etc , and are allocated to different cost centers by allocation factors as explained later in this section The rest of the storable commodities include medical supplies and equipment, basic materials, stationery, printouts The medical zone records all cost elements (direct and indirect, fixed and variable) for every clinic This is done monthly, using a specific form This form is sent to the branch where cost accounting data entry employees enter data to the main computer A suggested form is shown in Exhibit 4-2

Exhibit 4-2
SUMMARY COMMODITIES FORM

Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxx

Summary of Commodities Dispensed for the month 99/99
(A/C #32)

Cost Center No	Cost Center Name	Account No	Account Name	Amount			
				Direct		Indirect	
				Fixed	Var	Fixed	Var

4 1 3 1 3 Process Services Cost Elements

These are expenses rendered by entities or organizations outside the HIO Examples of these services are

- o Maintenance (Account Number 331),
- o Research and Development (Account Number 332),
- o Publicity and Advertising (Account Number 334),
- o Transportation (Account Number 335),
- o Rents (Account Number 336), and
- o Miscellaneous Services (Account Number 338)

Our suggestion is that a form, recording a clinic's monthly totals of services expenses rendered and arranged by cost center, be completed by the medical zone The medical zone would then pass this on to the branch for data entry In the case where cost elements for service cover an entire clinic or unit (e g Building Maintenance), allocation is based on allocation factors (described later in this section) Exhibit 4-3 is an example of a form needed to record services cost elements

Exhibit 4-3
SUMMARY OF SERVICES EXPENSES FORM

Egyptian Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxx

Summary of Services Expenses for the month 99/99
(A/C #33)

Cost Center No	Cost Center Name	Account No	Account Name	Amount			
				Direct		Indirect	
				Fixed	Var	Fixed	Var

4 1 3.1 4 Process Other Expenses

These involve expenses charged on Goods Sold Account, Current Transfers Account and Specific Current Transfers Account Since these accounts have the same set of registers as the previous cost elements, we suggest the same system of data collection be used Likewise, we would suggest that where an expense involves more than one cost center, allocation be based on allocation factors Exhibit 4-4 is an example of the type of form needed

4 1 3 2 Allocation by Allocation Factors

In this case, the cost elements cover different cost centers at the same time Examples of these cost elements are electricity, power, water, buildings depreciation, rents, and so forth Allocation is then based on technical measures determined by the Engineering Department

- **Electricity and power** Wattage rating used by equipment and lamps is considered the allocation factor for electricity consumption
- **Water** Number of water outlets is considered as the allocation factor
- **Depreciation, maintenance and rent** Surface area per cost center is considered the allocation factor for building depreciation, maintenance and rent expenses

Exhibit 4-4
SUMMARY OF COST OF GOODS SOLD, CURRENT TRANSFERS AND SPECIFIC CURRENT TRANSFERS FORM (CLINIC)

Egyptian Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxx

Summary of Cost of Goods Sold, Current Transfers and Specific Current Transfers for the month 99/99 (A/C #34, 35, 36)

Cost Center No	Cost Center Name	Account No	Account Name	Amount			
				Direct		Indirect	
				Fixed	Var	Fixed	Var

We suggest that at the end of each month, the medical zone completes a form recording a clinic's total water bill, electricity bill and other cost elements not allocated to particular cost centers At the branch, the technical measures or allocation factors received from the Engineering Department are fed into the computer Allocation factors can be changed whenever a change or renovation happens in the unit The allocation of expenses on every cost center is accomplished automatically Exhibit 4-5 is an example of the form needed to record this kind of expense

Exhibit 4-5
TOTAL EXPENSES FORM (CLINIC)

Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxx

Total Expenses for the month 99/99

Account Number	Account Name	Amount
3224	Electricity	
3225	Gas	
3226	Others	
3271	Water	
3272	Lighting	
3312	Buildings Maintenance	
3522	Buildings Depreciation	
353	Rents	

The weighting factors for every cost center are recorded in a file and can be updated periodically The data for this table are provided by the Engineering Department and are entered into the computer by the cost accounting data entry employees Provided with both total expenses and allocation factor by cost center, the share per cost center is calculated automatically These cost elements are allocated indirectly from the first step on different cost centers Exhibit 4-6 is an example of the form to be completed by the Engineering Department

Exhibit 4-6
ALLOCATION FACTORS FORM

Egyptian Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxx

Allocation Factors

Account Number	Account Name	Cost Center Number	Cost Center Name	Allocation Factor

4 1 4 Record Entries for Non-HIO Beneficiaries

In order to have an accurate cost accounting reporting system, the services rendered to non-HIO beneficiaries should be recorded and discounted from the total expenses allocated to different cost centers In the current system, there is no way to track these expenses, so we suggest that every clinic complete a form specifying the different services rendered to non-HIO beneficiaries This form is sent to the medical zone then to the branch and is fed into the computer for cost accounting purposes Exhibit 4-7 is an example of the form

Exhibit 4-7
SERVICES RENDERED TO NON-HIO BENEFICIARY FORM

Egyptian Health Insurance Organization
Branch xxxxxx
Clinic xxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Services Rendered to Non-HIO Beneficiaries
for the month 99/99

Cost Center Number	Cost Center Name	Service Type	Service Name	Number of Cases

4 1 5 Process Monthly Statistics

Statistical data is needed in order to allocate total production services expenses on production cost centers Some of this statistical data is automatically provided by the medical record system (number of X-rays, number of analyses, etc) The rest has to be fed into the computer at the branch for allocation purposes

The data extracted from the medical records will be kept in a file with the following data elements

- o year,
- o month,
- o serving cost center,
- o service type, and
- o number of units

4 1 6 Perform Indirect Cost Allocation

Expenses should be allocated in order to obtain the final cost for the production cost centers The suggested allocation process is similar to the current manual system, but with four-step allocation instead of two-step allocation The result of each allocation step will be kept as a separate data element In the following sections, the following notations are used

CC5x	Any production cost center
CC6x	Any production service cost center
CC5	All the production cost centers
CC6	All the production service cost centers

First Allocation Step Allocation of Administrative Cost Centers Expenses

The total expenses of the administrative cost centers (cost centers number "8") are allocated as indirect cost elements to production service cost centers (cost centers number "6") and production cost center (cost centers number "5") by a ratio of their total **payroll** (total amounts on account number "31") for the same cost accounting period This data is provided to cost accounting by the medical zone as described earlier in processing payroll entries

The allocation formulae are

$$\text{CC5x Share} = \frac{(\text{Total Administrative Expense}) * (\text{CC5x Payroll Expense})}{(\text{Total CC5 Payroll} + \text{Total CC6 Payroll})}$$

$$\text{CC6x Share} = \frac{(\text{Total Administrative Expenses}) * (\text{CC6x Payroll Expense})}{(\text{Total CC5 Payroll} + \text{Total CC6 Payroll})}$$

Second Allocation Step Allocation of All Nonmedical Production Services and Some Medical Production Services Expenses

The total expenses of nonmedical production services cost centers including the allocated administrative expenses from step one are allocated first to some medical services cost centers (labs, radiology, physiotherapy) and then to every production cost center The data needed in this case are the allocation criteria table and the statistical table described earlier The weighting factor is the number of visits for every cost center The nonmedical production services cost centers in a clinic are

- **Archiving Unit** The allocation is based on the number of visits per cost center

$$\text{CC5x Share} = \frac{\text{(Total Archiving Expense)} * \text{(Number of Visits per CC5x)}}{\text{(Total Number of Visits per Clinic)}}$$

$$\text{CC6x Share} = \frac{\text{(Total Archiving Expense)} * \text{(Number of Visits per CC6x)}}{\text{(Total Number of Visits per Clinic)}}$$

- **Medical Registrar** The allocation is based on the number of visits per cost center

$$\text{CC5x Share} = \frac{\text{(Total Med Registrar Expense)} * \text{(Number of Visits per CC5x)}}{\text{(Total Number of Visits per Clinic)}}$$

$$\text{CC6x Share} = \frac{\text{(Total Med Registrar Expense)} * \text{(Number of Visits per CC6x)}}{\text{(Total Number of Visits per Clinic)}}$$

The number of visits is given by the statistical table and the weighting factor in this case is 1 and is provided in the allocation criteria table

In this step also, pharmacy expenses are allocated to production cost centers In a clinic, a pharmacy (a medical services cost center) does not operate independently to non-HIO beneficiaries

- **Pharmacies.** The allocation is based on the number of prescriptions dispensed per cost center during a certain cost accounting period All pharmacy expenses, except drugs, are allocated

$$\text{CC5x Share} = \frac{\text{(Total Pharmacy expense)} * \text{(CC5} * \text{\# of Prescriptions)}}{\text{(Total number of Prescriptions)}}$$

Third Allocation Step· Allocation of Medical Production Services Expenses

This step is accomplished in order to produce the reports used in the current manual system In this case, expenses of some medical production services cost centers like labs, radiology and physiotherapy are allocated to production cost centers In the suggested system these cost centers are considered production cost centers as well as production services cost centers because they can operate independently and their product can be sold to non-HIO beneficiaries As described in step two, there are two tables needed in the allocation The first Exhibit 4-8(A) involves the number of units rendered per service type (see the statistical table described earlier) This table can be entered monthly by cost accounting data entry employees, or can be extracted automatically from the medical records The second Exhibit 4-8(B) is a static table defining the weighting factor for every service rendered and is updated when necessary if any of the components changes This table would involve the following data elements

- o serving cost center number,
- o service type, and
- o weighting factor

The medical production services cost centers in a clinic are

- o **Radiology** In this case the allocation criterion is the price of the raw X-ray film Exhibit 4-8 shows an example of Radiology expense allocation for illustration The allocation of the rest of the medical services cost centers follows the same example

Exhibit 4-8(A)
EXAMPLE OF THE ALLOCATION PROCEDURE

Statistical Data for the Month 99/99

Serving Cost Center Number	Served Cost Center Number	Service Type	Number of Units
613	5132	1	30
613	5132	2	35
613	5133	2	10
613	5133	3	15

Exhibit 4-8(B)
EXAMPLE OF THE ALLOCATION PROCEDURE

Cost Center Allocation Criteria Table

Serving Cost Center Number	Serving Cost Center Name	Service Type	Service Name	Weighting Factor
613	Radiology	1	X ray 1 with film size 1	10
613	Radiology	2	X ray 2 with film size 2	20
613	Radiology	3	X ray 3 with film size 3	30

The allocation steps are

Calculate weighted total units for all served cost centers
$(30 * 10 + 35 * 20 + 10 * 20 + 15 * 30) = 1650$

Calculate weighted total for every served cost center

CC 5132 $= 30 * 10 + 35 * 20 = 1000$

CC 5133 $= 10 * 20 + 15 * 30 = 650$

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Using an assumed total radiology expense of L E of 3300, calculate the share for every cost center

$$\text{CC 5132 share} = \frac{3300 \times 1000}{(1650)}$$

$$\text{CC 5133 share} = \frac{3300 \times 650}{(1650)}$$

Thus CC 5132 share of allocated second step is **L E 2000**
CC 5133 share of allocated second step is **L E 1300**

- **Labs:** In this case the allocation criterion is the lab test price based on the HIO charge master The number of lab tests performed for every cost center is retrieved from the medical record system and the price of each analysis type is found in the allocation criteria file

- **Physiotherapy.** In this case the allocation criterion is the session price that exists in the HIO charge master The number of sessions required by every cost center is retrieved from the medical record system and the price of each session type is found in the allocation criteria file

- **Nursing Cost Center:** In a clinic, the nursing staff serves all cost centers Therefore the allocation of its expenses is based on the rate of usefulness to every production cost center This rate is calculated through the number of hours worked by nurses in every cost center This data is supposed to be sent by the clinic administration to the medical zone and then to the branch for computer feeding

Fourth Allocation Step Allocation of Zone, Branch, Headquarters Expenses

Currently, the administrative expenses of zone, branch, and the HIO Headquarters are not allocated down to the clinic or to the hospital In the suggested system, these expenses will be allocated down to the clinic as follows

- HIO Headquarters total expenses are allocated down to the different branches using the total branch expense as an allocation factor This will be done at the branch level

- Branch expenses (including the allocated HIO Headquarters expenses) are allocated down to the medical zones and hospitals This is done using the total medical zone and hospital expenses as allocation factors Medical zone expenses include the sum of the medical zone's ow expenses as well as the expenses of all units belonging to the zone The al cation will take place at the branch computer system

- The medical zone expenses (including the allocated branch expenses) are allocated down to the clinics related to the medical zone using the total clinic expenses (after three steps of the allocation) as an allocation factor Within the clinic the expenses allocated from the medical zone can be allocated to every cost center by ratio of the cost center total expenses

4 1 7 Produce Final Clinic Cost Accounting Reports

The suggested system will produce the same reports as the current system as well as some new reports to track cost per diagnosis and cost per treatment procedure Exhibits 4-9 through 4-13 are sample cost accounting reports that will be produced automatically at the branch at the end of each cost accounting period (currently quarterly) The first report is produced for the clinic, medical zone, and branch levels

Exhibit 4-9
CLINIC PRODUCTION COST CENTERS COST (CLINIC LEVEL)

Health Insurance Organization
Branch xxxxxxxxxxxxx
Clinic xxxxxxxxxxxxxxxxxx

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part I

	Direct Expenses						Indirect Expenses							
Production Cost Center	Payroll	Commo-ditics	Services	Transfers	Others	Total	Alloc First Step	Alloc Second Step	X-rays	Labs	Others	Alloc Third Step	Alloc Fourth Step	Total Cost
Total Cost														

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part II

Cost Center	Total Cost	Number of Visits	Beneficiary Type	Average Cost of Visit		Variance (Amount)	Variance (Percentage)
				This Period	Last Year		
Total							

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Exhibit 4-10
CLINIC PRODUCTION COST CENTERS COST (MEDICAL ZONE LEVEL)

Health Insurance Organization
Branch xxxxxxxxxxxxx
Medical Zone xxxxxxxxxxxxxxxxxx

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part I

	Direct Expenses						Indirect Expenses							
Production Cost Center	Payroll	Commo-dities	Services	Transfers	Others	Total	Alloc First Step	Alloc Second Step	X-rays	Labs	Others	Alloc Third Step	Alloc Fourth Step	Total Cost
Total Cost														

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part II

Cost Center	Total Cost	Number of Visits	Beneficiary Type	Average Cost of Visit		Variance (Amount)	Variance (Percentage)
				This Period	Last Year		
Total							

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Exhibit 4-11
CLINIC PRODUCTION COST CENTERS COST (BRANCH)

Health Insurance Organization
Branch xxxxxxxxxxxxx

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part I

	Direct Expenses						Indirect Expenses							
Production Cost Center	Payroll	Commo-ditics	Services	Transfers	Others	Total	Alloc First Step	Alloc Second Step	X-rays	Labs	Others	Alloc Third Step	Alloc Fourth Step	Total Cost
Total Cost														

Clinic Production Centers Cost Accounting Report
Period From 99/99 To 99/99 - Part II

Cost Center	Total Cost	Number of Visits	Beneficiary Type	Average Cost of Visit		Variance (Amount)	Variance (Percentage)
				This Period	Last Year		
Total							

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Exhibit 4-12
DETAILED COST CENTERS EXPENSES REPORT

Health Insurance Organization
Cost Accounting Department
Branch xxxxxxxxxxxxx
Clinic xxxxxxxxxxxxxxxxxx

Detailed Cost Centers Expense Report
For the Period From 99/99 To 99/99

Cost Center xxxxxxxxxxxxxx

Cost Element	Current Period	Same Period Last Year
Direct Expenses		
Payroll		
Commodities		
Services		
Total Direct expenses		
Allocated Expenses		
Expenses Allocated from other cost centers		
Expenses Allocated from Medical Zone		
Expenses Allocated from Branch		
Expenses Allocated from HIO Headquarters		
Total Allocated Expenses		
Total Cost		

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Exhibit 4-13
DETAILED EXPENSES FOR DIAGNOSES

Health Insurance Organization
Cost Accounting Department
Branch xxxxxxxxxxxxx

Period From 99/99 To 99/99

Diagnosis xxxxxxxxxxxxxxxxx

Cost Center	Type of Service	Number Of Units	Amount
Total Cost Center Cost			
Total Cost Center Cost			
Total Cost Center Cost			
Total			

Number of Cases			
Average Cost per Case			

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4 2 Hospital Cost Accounting

This subsection discusses, in more detail, the functions performed at the hospital level

4 2 1 Define Cost Centers Chart

This function is used to define the different cost centers operating in the hospitals

Production Cost Centers (Cost Centers Number 5) are the cost centers that reflect the production activities performed by all medical departments (treatment units) inside the hospitals The cost centers chart includes main cost centers followed by lower level subcost centers Transactions will be accepted only on the **lowest level** cost centers and not on the main cost centers Examples of these cost centers are

- o Surgery Sections,
- o Internal Medicine Sections,
- o Gynecology and Obstetrician Sections, and
- o Intensive Care Units

Production Services Cost Centers (Cost Centers Number 6) serve the production cost centers mentioned above by providing certain auxiliary services to aid the different hospital sections (production cost centers) in the treatment cycle Generally, they are not directly related to a specific product, but are related indirectly to all the products

The production services cost centers can be categorized as Medical and Nonmedical

- o Examples of Medical Services Cost Centers (cost centers number 61)

  Labs,

  Radiology,

  Pharmacies and Stores,

  Operation Rooms,

  Emergency and Minor Surgery,

  Special Medical Services

  Nursing Units, and

  Physician and Nurse Accommodation

- Examples of Nonmedical Services Cost Centers (cost centers no 62)

  Kitchen, Dietary and Food Store,

  Laundry, Ironing and Sewing, and

  Nonmedical Maintenance

Administration and Finance Cost Centers (Cost Centers Number 8) consist of three main cost centers

- Unit Management,
- Administration, and
- Financial Affairs

For the complete Cost Center Chart please refer to Appendix G of this document

4 2 2 Define Cost Elements (Expense Accounts)

The chart of accounts for cost accounting complies with the Unified Accounting System used in the Government Economic Organizations as well as the public sector The accounts are General Ledger expense accounts defined further into subaccounts The transactions are accepted only for the **lowest level** accounts, no transactions are to be performed for main accounts The same chart of accounts is used for both clinic and hospital cost accounting

Payroll Cost Elements (Account Number 31) is the account charged with all payroll expenses including basic salaries, bonuses, incentives, overtime, social insurance and medical insurance

Commodities Cost Elements (Account Number 32) is the account charged with all expenses of commodities needed by all cost centers The commodities are categorized into

- Storable commodities, such as drugs, medical equipment, medical supplies, prosthesis elements, chemicals, stationary, printouts, and so forth, and
- Nonstorable commodities, such as water bills, electricity, and power

Services Cost Elements (Account Number 33) is the account charged with all expenses that serve different units in accomplishing their services and do not constitute a fixed asset or any inventory element Examples of these expenses are maintenance, research, publicity, transportation, rents, and so forth

Other Cost Elements include the following accounts

- o Cost of Goods Sold (Account Number 34),
- o Current Transfer Expenses (Account Number 35), and
- o Specific Current Transfers (Account Number 36)

4.2.3 Process Cost Elements Entries

This section discusses the functions needed to charge cost elements (expense accounts) with all the expense entries and allocate them directly or indirectly to the different cost centers according to their relation to the final product or service rendered by the cost center Illustration is made through data flow diagrams showing the document flow between entities (Appendix C)

Our suggestion concerning the automation of the cost accounting system is to collect forms monthly for each expense account's entries payroll cost elements, commodities cost elements (except drugs), services cost elements and other cost elements The entries are on the lowest level of subcost centers and the lowest level of subaccounts The forms prepared in each hospital having a cost accounting unit The medical zone prepares forms for hospitals without a cost accounting unit These forms are then sent to the branch At the branch level, these forms are fed into the computer by cost accounting data entry employees The rest of the data is extracted from other systems like Drug Control and Medical Records In the case that some statistical data is unavailable in the other systems, data can be entered into the computer by cost accounting data entry employees If needed, this manual data entry is done monthly Cost elements are either allocated to cost centers by actual use or by using allocation factors

4 2 3 1 Allocation by Actual Use

In this case, cost elements are direct on the different cost centers In the suggested system, totals of these cost elements will be prepared by the hospital accounting unit or medical zone, on the lowest level cost center These forms are then sent to the branch for data entry by cost accounting data entry employees

4 2 3 1 1 Process Payroll Entries

The personnel (administration) department in the hospital or the medical zone prepares the Payroll Form aggregated by cost center at the end of the month (based on the Summary Cost Accounting Register) The form is then sent to the cost accounting department at the branch for data entry to the branch computer Please refer to the HIO cost accounting handbook for more details about how these registers are filled Exhibit 4-14 is an example of the Payroll Form

Exhibit 4-14
SUMMARY PAYROLL FORM (HOSPITAL)

Summary Payroll Form for the month 99/99

Cost Center Number	Cost Center Name	Account Number	Account Name	** T/A	Amount			
					Direct		Indirect	
					Fixed	Var	Fixed	Var

** T/A = Treatment or Accommodation

4 2 3 1 2 Process Commodities Expenses

Currently, the commodities are divided into two groups storable and nonstorable commodities The drugs have a stand-alone cycle and a set of specific registers and forms since they are the largest share of expenses in HIO The drugs dispensed by HIO pharmacies are considered storable commodities while drugs dispensed by contracted pharmacies are considered nonstorable We will discuss first the document flow for drug consumption

4 2 3 1 2 1 Process Drug Consumption Entries

In this case, drug consumption will be provided automatically by the Drug Control System and will already be related to the beneficiary, hospital section, physician, service, diagnosis, and episode of illness Hence, cost of drugs can be categorized by beneficiary type (Law 32, Law 79, pensioners, etc) and can be categorized by cost center (every physician relates to a specific cost center during a certain session)

In both cases a file will be extracted from the Drug Control System for cost accounting purposes Following are the data elements of that file

- o year,
- o month,
- o cost center number,
- o amounts of drugs dispensed, and
- o number of prescriptions

In the suggested system, a similar table will be extracted for the different diagnoses and medical services

4 2 3 1 2 2 Process Other Storable and Nonstorable Commodities Entries

The nonstorable commodities include fuel, electricity, water, power, etc , and are allocated to different cost centers by allocation factors described later in this section The rest of the storable commodities include medical supplies and equipment, patient and staff food, basic materials, stationery, printouts, and so forth In this case, all cost elements (direct and indirect, fixed and variable) are recorded by each hospital department on a specific form This form is sent to the branch where cost accounting data entry employees enter it into the main computer Exhibit 4-15 is a suggested form

Exhibit 4-15
SUMMARY COMMODITIES FORM (HOSPITAL)

Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxx

Summary of Commodities Dispensed for the month 99/99
(A/C #32)

Cost Center Number	Cost Center Name	Account Number	Account Name	** T/A	Amount			
					Direct		Indirect	
					Fixed	Var	Fixed	Var

** T/A = Treatment or Accommodation

4 2 3 1 3 Process Services Cost Elements

These are expenses rendered by entities or organizations outside the HIO Examples of these services are

- o Maintenance (Account Number 331),
- o Research and Development (Account Number 332),
- o Publicity and Advertising (Account Number 334),
- o Transportation (Account Number 335),
- o Rents (Account Number 336), and
- o Miscellaneous Services (Account Number 338)

Our suggestion is that the hospital accounting unit or the medical zone completes a form with monthly totals of services expenses rendered, arranged by cost center, and sends it to the branch for data entry In the case where cost elements for service cover an entire hospital or unit (e g Building Maintenance), allocation is based on allocation factors described later in this section Exhibit 4-16 is an example of the form needed

Exhibit 4-16
SUMMARY OF SERVICES EXPENSES FORM (HOSPITAL)

Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxx

Summary of Services Expenses for the month 99/99
(A/C #33)

Cost Center Number	Cost Center Name	Account Number	Account Name	** T/A	Amount			
					Direct		Indirect	
					Fixed	Var	Fixed	Var

** T/A = Treatment or Accommodation

4 2 3 1 4 Process Other Expenses

These involve expenses charged on Cost of Goods Sold Account, Current Transfers Account and Specific Current Transfers Account These accounts have the same set of registers and the suggestion for data collection is the same as the previous cost elements In cases where the expense involves more than one cost center, totals are entered into the computer and allocation is accomplished automatically to different cost centers based on the allocation factors table (explained later in this section) Exhibit 4-17 is an example of form needed

Exhibit 4-17
SUMMARY OF COST OF GOODS SOLD, CURRENT TRANSFERS AND SPECIFIC CURRENT TRANSFERS FORM (HOSPITAL)

Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxx

Summary of Cost of Goods Sold, Current Transfers and Specific Current Transfers for the month 99/99 (A/C #34, 35, 36)

Cost Center Number	Cost Center Name	Account Number	Account Name	** T/A	Amount			
					Direct		Indirect	
					Fixed	Var	Fixed	Var

** T/A = Treatment or Accommodation

4 2 3 2 Allocation by Allocation Factors

In this case the cost elements cover different cost centers at the same time Examples of these cost elements are electricity, power, water, buildings depreciation, rents, and so forth Allocation is based on technical measures determined by the Engineering Department

- **Electricity and power·** Wattage rating used by equipment and lamps is considered the allocation factor for electricity consumption

- **Water** Number of water outlets is considered as the allocation factor

- **Depreciation, maintenance and rent** Surface area per cost center is considered the allocation factor for building depreciation, maintenance and rent expenses

We suggest that, at the end of each month, the hospital completes a form with the total water bill, electricity bill and other cost elements that are not allocated to a particular cost center Technical measures or allocation factors received from the Engineering Department are entered into the computer Allocation factors can be changed whenever there is a change or renovation in the unit The allocation of expenses on every cost center is accomplished automatically Exhibit 4-18 is an example of the form needed to record this kind of expense

Exhibit 4-18
TOTAL EXPENSES FORM

Total Expenses for the month 99/99

Account Number	Account Name	Amount
3224	Electricity	
3225	Gas	
3226	Others	
3271	Water	
3272	Lighting	
3312	Building Maintenance	
3522	Buildings Depreciation	
353	Rents	

The weighting factors for every cost center are recorded in a file and can be updated periodically The data for this table is provided by the Engineering Department and is entered into the computer by the cost accounting data entry employees Provided with both total expenses and allocation factor by cost center, the share per cost center is calculated automatically These cost elements are allocated indirectly from the first step to different cost centers Exhibit 4-19 is an example of the form to be completed by the Engineering Department

Exhibit 4-19
ALLOCATION FACTORS FORM

Egyptian Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxx

Allocation Factors

Account Number	Account Name	Cost Center Number	Cost Center Name	Allocation Factor

4 2 4 Record Entries for Non-HIO Beneficiaries

In order to have an accurate cost accounting reporting system, the services rendered to non-HIO beneficiaries should be recorded and discounted from the total expenses to be allocated on different cost centers In the current system there is no way to track these expenses, so we suggest that every hospital fills a form with the different services rendered to non-HIO beneficiaries This form is sent to the branch and is fed into the computer for cost accounting purposes Exhibit 4-20 is an example of the suggested form

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Exhibit 4-20
SERVICES RENDERED TO NON-HIO BENEFICIARIES FORM (HOSPITAL)

Health Insurance Organization
Branch xxxxxx
Hospital xxxxxxxxxxxxxxxxxxxxxxxxxxxx

Services Rendered to Non-HIO Beneficiaries for the month 99/99

Cost Center	Cost Center Name	Service Type	Service Name	Number of Cases

4 2 5 Process Monthly Statistics

Statistical data is needed in order to allocate total production services expenses on production cost centers Some of this statistical data is automatically provided by the Medical Record System (number of X-rays, number of analyses, etc), the rest has to be fed into the computer at the branch for allocation purposes

The data extracted from the medical records will be kept in a file with the following data elements

- o year,
- o month,
- o serving cost center,
- o service type, and
- o number of units

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4 2 6 Perform Indirect Cost Allocation

In order to obtain the final cost of the production cost centers, allocation of expenses should occur The suggested system of allocation is the same as the current manual system with four-step allocation instead of two-step The result of each allocation step will be kept in a separate data element to allow retrieval of the cost center cost after each step In the following sections, the following notations are used

CC5x Any production cost center
CC6x Any production service cost center
CC5 All the production cost centers
CC6 All the production service cost centers

Allocation of kitchen (a production service cost center) expenses requires special handling Since the kitchen can serve administrative as well as production service and production cost centers, kitchen expenses are allocated first, based on service provided This is done before allocation of administrative cost center expenses, so kitchen expenses will not be allocated in later steps

First Allocation Step. Allocation of Administrative Cost Centers Expenses

The total expenses of the administrative cost centers (cost centers number "8") are allocated as indirect cost elements to the production service cost center (cost centers number "6") and the production cost center (cost centers number "5") by a ratio of their total **payroll** (total amounts on account number "31") for the same cost accounting period This data is provided to cost accounting by the hospital accounting units or the medical zone as described earlier in processing payroll entries

The allocation formulae are

$$\text{CC5x Share} = \frac{\text{(Total Administrative Expense)} * \text{(CC5x Payroll Expense)}}{\text{(Total CC5 Payroll + Total CC6 Payroll)}}$$

$$\text{CC6x Share} = \frac{\text{(Total Administrative Expenses)} * \text{(CC6x Payroll Expense)}}{\text{(Total CC5 Payroll + Total CC6 Payroll)}}$$

Second Allocation Step. Allocation of all Nonmedical Production Services and Some Medical Production Services Expenses

The total expenses of nonmedical production services cost centers, including the allocated administrative expenses from step one are allocated first to some medical services cost centers (labs radiology, physiotherapy) and to every production cost center The data needed in this case is the allocation criteria table and the statistical table described earlier The nonmedical production services cost centers in a hospital are

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- **Admission/Discharge/Transfer Office** The allocation is based on the number of visits per cost center

$$\text{CC5x Share} = \frac{\text{(Total A/D/T Expense)} * \text{(Number of Visits per CC5x)}}{\text{(Total Number of Visits per Hospital)}}$$

$$\text{CC6x Share} = \frac{\text{(Total A/D/T Expense)} * \text{(Number of Visits per CC6x)}}{\text{(Total Number of Visits per Hospital)}}$$

- **Laundry, Pressing, and Sewing** The allocation is based upon the number of pieces processed for every hospital cost center

- **Staff Accommodation** The allocation factor is the ratio of the bed occupancy of the different hospital sections (cost centers) to the total bed occupancy

- **Patients' Affairs Section** The allocation factor is the ratio of the bed occupancy of the different hospital sections (cost centers) to the total bed occupancy

- **Nonmedical Maintenance** The allocation is based upon the number of job orders processed for every cost center

The number of visits is given by the statistical table and the weighting factor in this case is 1 and is provided in the allocation criteria table

In this step also, expenses of some medical services cost centers (those which will not operate independently for non-HIO beneficiaries) are allocated to production cost centers These medical production services cost centers in a hospital are

- **Pharmacies** The allocation is based on the number of prescriptions dispensed per cost center during a certain cost accounting period All pharmacy expenses, except drugs, are allocated

- **Medical Equipment Maintenance** The allocation is based upon the number of job orders processed for every cost center

- **Nursing Unit** The allocation factor of the nursing unit expenses is the ratio of the bed occupancy of the different hospital sections (cost centers) to the total bed occupancy

- **Blood Bank** Blood bank expenses are allocated based upon the number of liters dispensed to the different cost centers

- **Nursing School** Nursing school expenses are allocated based upon the ratio of the number of on-the-job training (OJT) person-hours in every cost center to the total number of OJT person-hours

- **Morgue** Morgue expenses are allocated based upon the ratio of the number of death cases of each cost center to the total number of death cases in the hospital

Third Allocation Step Allocation of Medical Production Services Expenses

This step is accomplished in order to produce the reports used in the current manual system In this case expenses of some medical production services cost centers like labs, radiology, operation rooms, etc , are allocated to production cost centers In the suggested system these cost centers are considered production cost centers as well as production services cost centers because they can operate independently and their product can be sold to non-HIO beneficiaries As described in step two, there are two tables needed in the allocation The first table involves the number of units rendered per service type (see the statistical table described earlier) This table can either be entered monthly by cost accounting data entry employees or extracted automatically from the medical records The second table is a static table defining the weighting factor for every service rendered and is updated when necessary if any of the components changes This table would involve the following data elements

- serving cost center number,
- service type, and
- weighting factor

The medical production services cost centers in a hospital are

- **Radiology** In this case the allocation criterion is the price of the raw X-ray film

- **Labs** In this case the allocation criterion is the lab test price based on the HIO charge master The number of lab tests performed for every cost center is retrieved from the medical record system and the price of each analysis type is found in the allocation criteria file

- **Operation Rooms** Operation rooms expenses are allocated to the different cost centers based upon a weighted ratio for the number of operations performed for every cost center The weighting factor depends on the operation size, which is based upon the average number of hours required to perform the operation Exhibit 4-21 shows the allocation factor for each operation size

Exhibit 4-21
ALLOCATION FACTOR FOR OPERATIONS

Operation Size	Average Number of Hours
Special Expert Operation	16
Major Operation	10
Medium Operation	4
Small Operation	2
Minor Operation	1

Fourth Allocation Step: Allocation of Zone, Branch, Headquarters Expenses

Currently, the administrative expenses of zone, branch, and the HIO Headquarters are not allocated to the clinic or hospital levels In the suggested system, these expenses will be allocated to the hospital level as follows

- HIO headquarters total expenses are allocated to the different branches using the total branch expense as an allocation factor This will be done at the branch level

- Branch expenses (including the allocated HIO headquarters expenses) are allocated to the hospitals using the hospital expenses The allocation will take place at the branch computer system

4 2 7 Produce Final Hospital Cost Accounting Reports

The suggested system will produce the same reports as the current system as well as some new reports to track cost per diagnosis and cost per treatment procedure or medical service Exhibits 4-22 and 4-23 are the sample cost accounting reports that will be produced automatically at the branch at the end of each cost accounting period (currently quarterly)

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Exhibit 4-22
DETAILED COST CENTERS EXPENSES REPORT

Health Insurance Organization
Cost Accounting Department
Branch xxxxxxxxxxxxx
Hospital xxxxxxxxxxxxxxxxxx

For the Period From 99/99 To 99/99

Cost Center xxxxxxxxxxxxxx

Cost Element	Current Period	Same Period Last Year
Direct Expenses		
Payroll		
Commodities		
Services		
Total Direct expenses		
Allocated Expenses		
Expenses Allocated from other cost centers		
Expenses Allocated from Medical Zone		
Expenses Allocated from Branch		
Expenses Allocated from HIO Headquarters		
Total Allocated Expenses		
Total Cost		

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Exhibit 4-23
DETAILED EXPENSES FOR DIAGNOSES/PROCEDURES

Health Insurance Organization
Cost Accounting Department
Branch xxxxxxxxxxxxx

Period From 99/99 To 99/99

Diagnosis/Procedure xxxxxxxxxxxxxxxxx

Cost Center	Type of Service	Number Of Units	Amount
Total Cost Center Cost			
Total Cost Center Cost			
Total Cost Center Cost			
Total			

Number of Cases			
Average Cost per Case			

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GLOSSARY

Allocation of Cost. Allocation is the process of calculating the indirect cost share of a certain cost center in another cost center that serves more than one cost center

Cost Accounting Period The cost accounting period is usually one fiscal year (from July 1 till June 30) Quarterly or monthly reports can be produced for control purposes

Cost Center A cost center is a unit for special activity or service producing homogeneous and measurable product or service

Cost Element The cost element is a general ledger expense account It represents a type of expenses related to the cost center either directly or indirectly

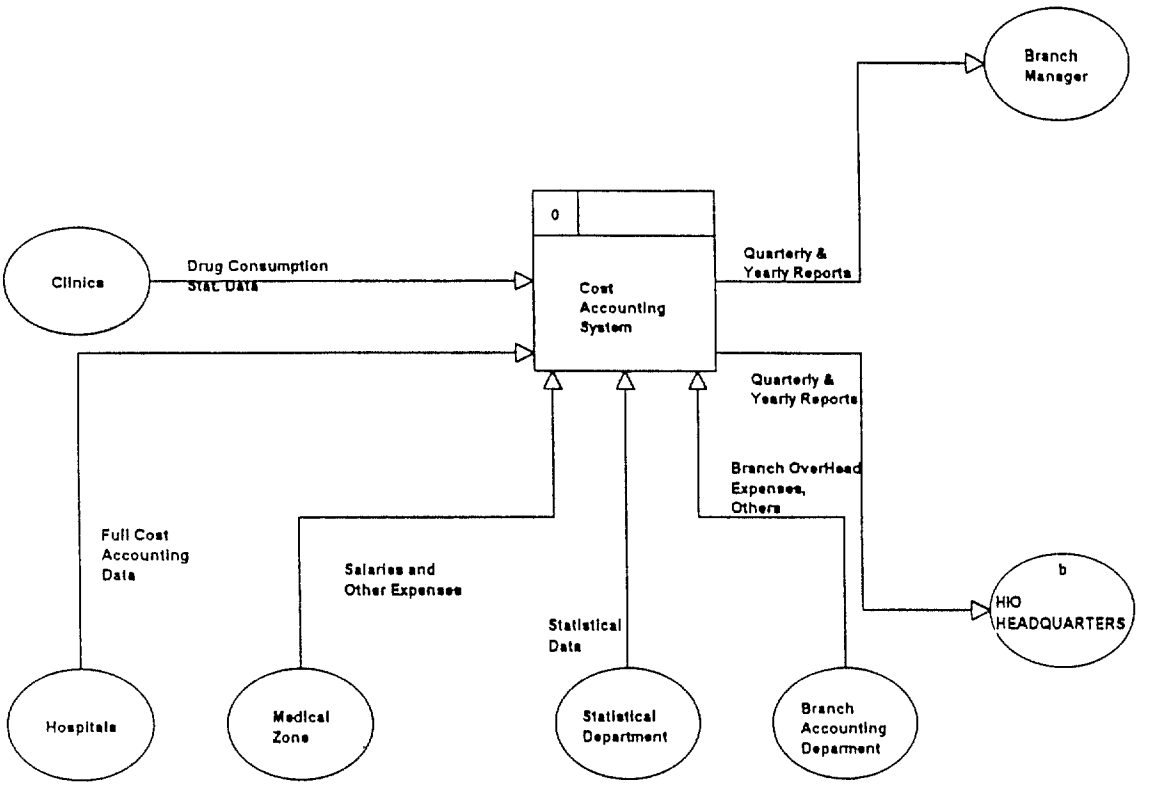
Full Cost Full cost is the sum of direct cost and indirect cost

Indirect Cost Indirect cost is the cost allocated from another cost center

APPENDIX B

DATA FLOW DIAGRAMS

DFD-1
COST ACCOUNTING SYSTEM



This process deals with all entities in the cost accounting system

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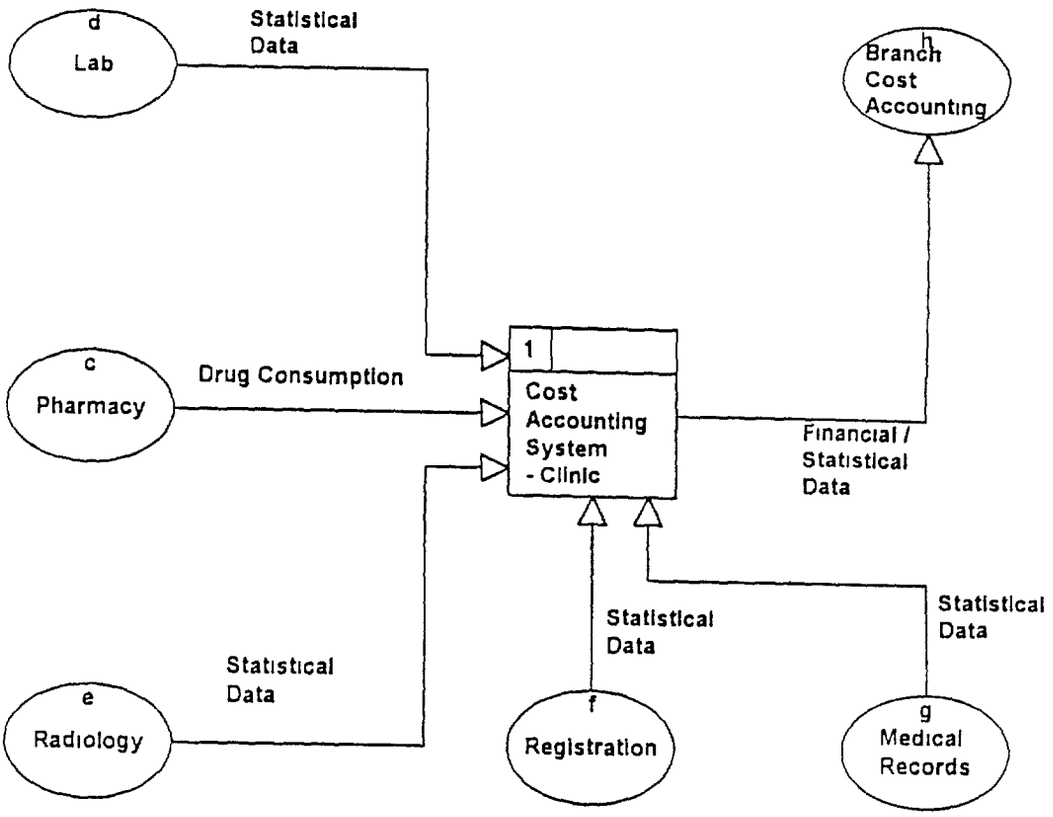
DFD-2
COST ACCOUNTING SYSTEM - CLINIC



This process deals with all entities in the cost accounting system at the clinic level

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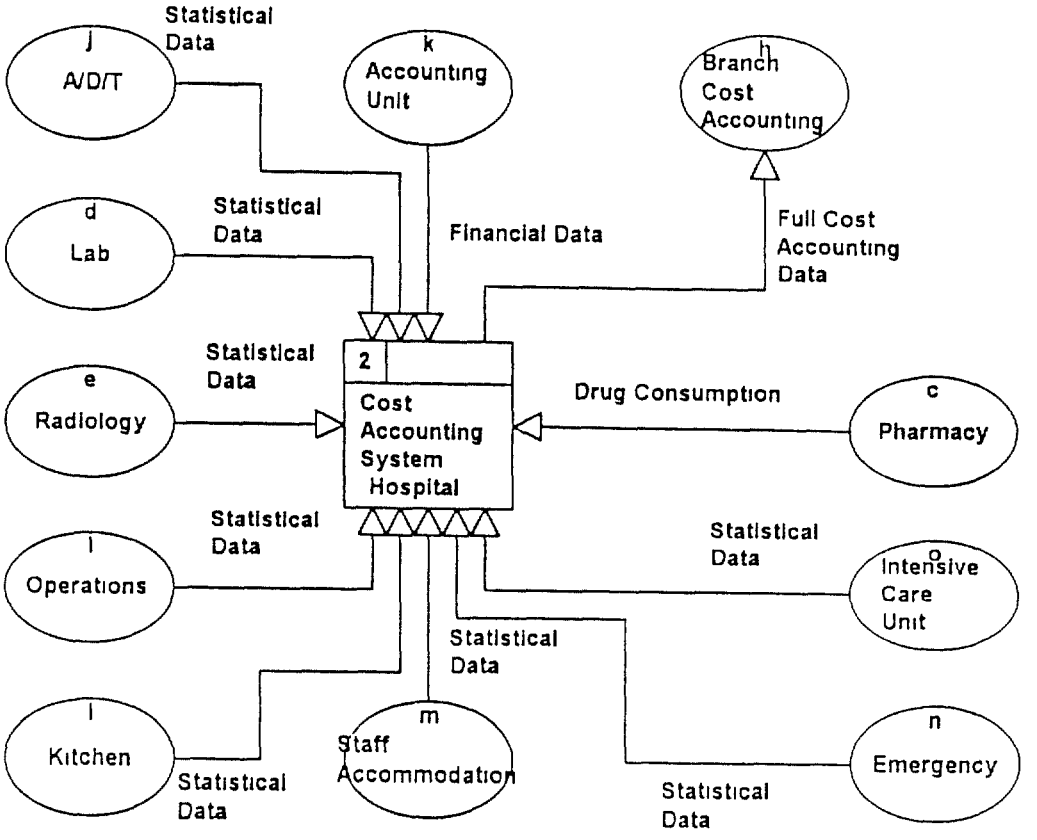
DFD-3
COST ACCOUNTING SYSTEM - HOSPITAL



This process deals with all entities in the cost accounting system at the hospital level

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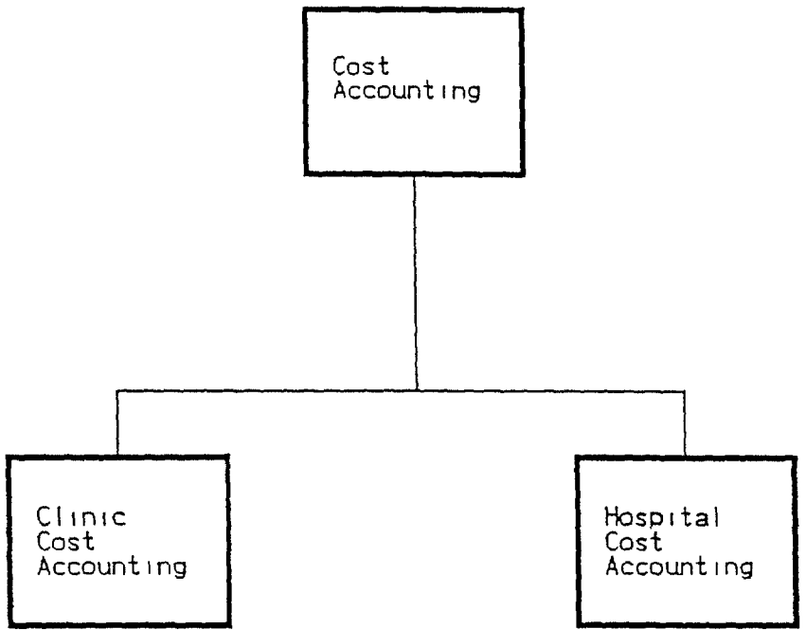
APPENDIX C

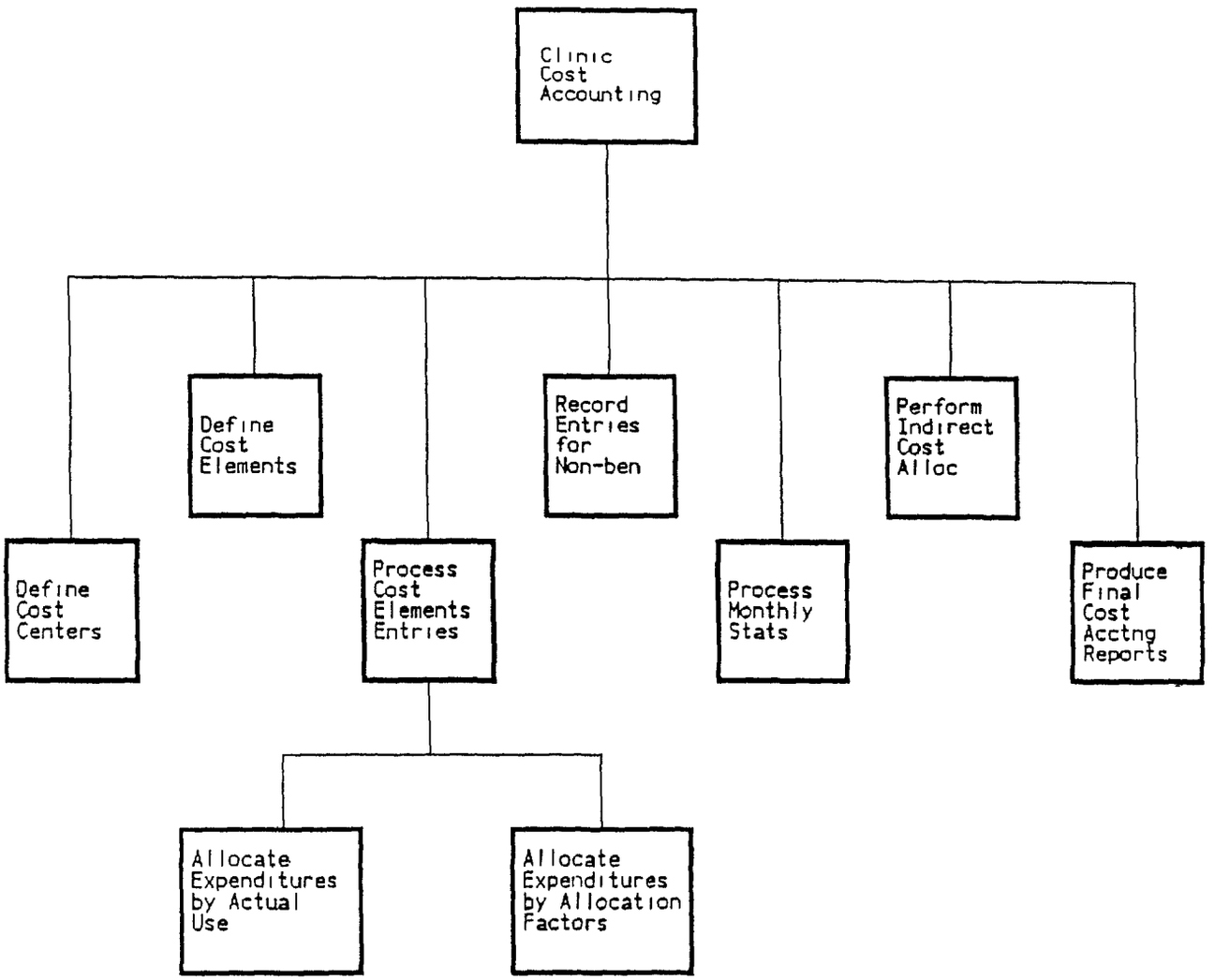
FUNCTIONAL DECOMPOSITIONS

FD-1
COST ACCOUNTING



The cost accounting system provides specialized accounting capabilities for both the clinic and branch levels

FD-2
CLINIC COST ACCOUNTING



At the clinic level, the cost accounting system

- o Defines the three main cost centers and their sublevels The three main cost centers are the Production Cost Center, the Production Services Cost Center, and the Administration and Finance Cost Center

- o Defines the four main cost elements and their subaccounts in compliance with the United Accounting System used by the Government Economic Organization The four main cost elements are Payroll Commodities, Services & Other

- o Processes cost element entries The entries will be on the lowest levels of subcost centers and subaccounts Cost elements are allocated either by actual use or allocation factors

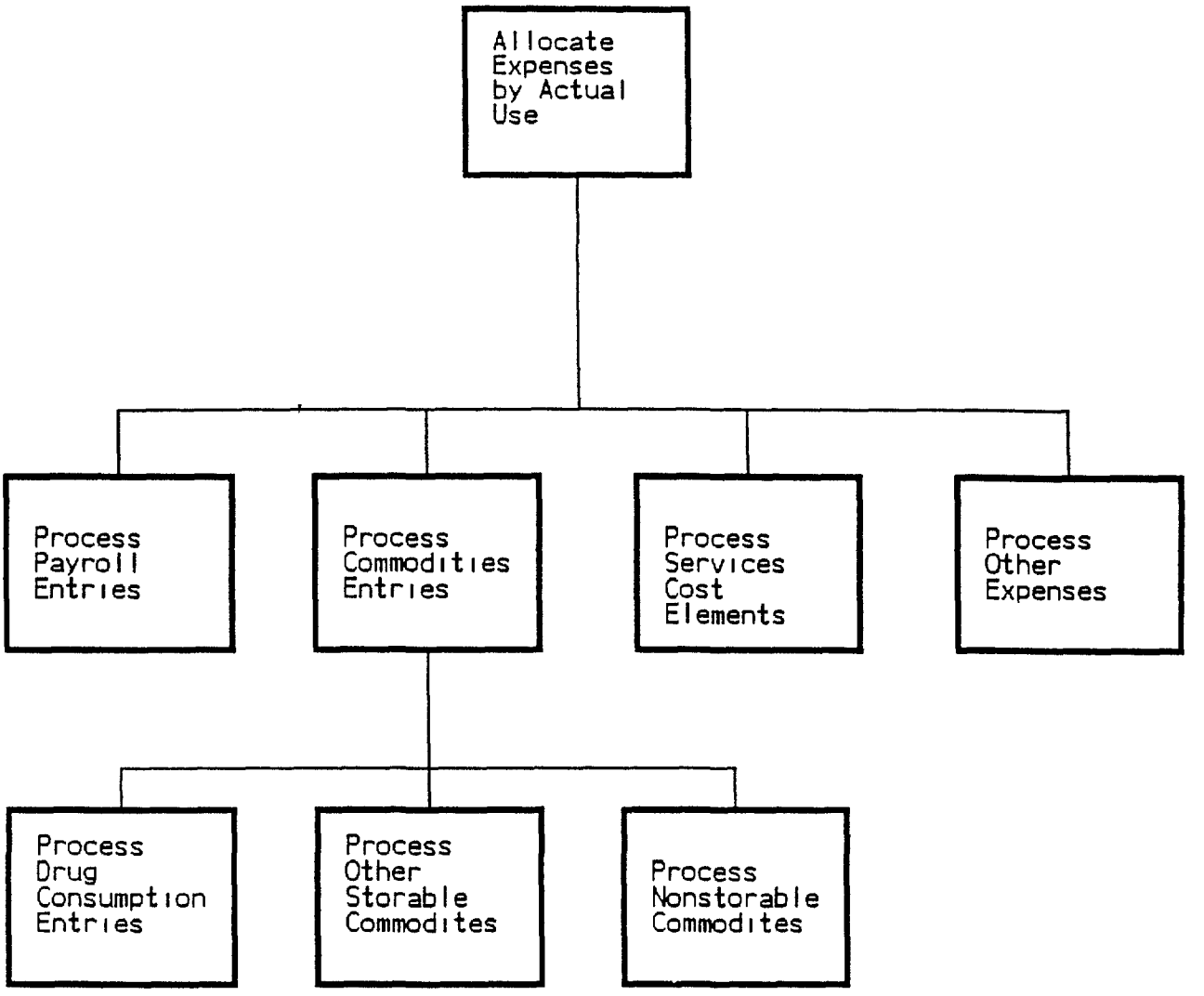
- Records the costs of services provided to non-HIO beneficiaries and subtracts them from the expenses allocated on different cost centers

- Provides monthly statistical data to correctly allocate production services expenses on the production costs centers

- Allocates indirect cost elements in four steps Step one allocates administrative expenses Step two allocates all nonmedical production services and some medical production services expenses Step three allocates the remaining medical production services expenses Step four allocates zone, branch and headquarters expenses

- Produces all reports available in the present system as well as additional reports to track cost per diagnosis and cost per treatment procedure

FD-3
ALLOCATE EXPENSES BY ACTUAL USE
(CLINIC)



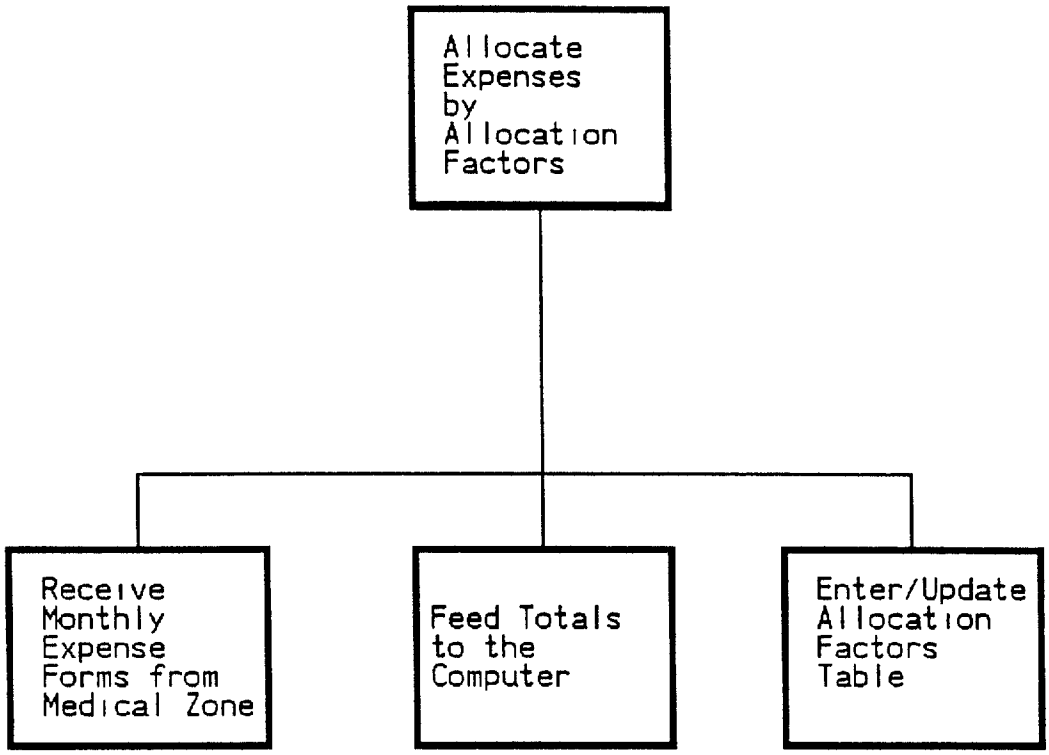
In allocating expenses by actual use at the clinic level the cost accounting system

- o Processes payroll entries
- o Processes drug consumption entries for both HIO-owned pharmacies and contracted pharmacies
- o Processes storable commodities entries (be ..es drugs)
- o Processes the entries of nonstorable commodities like fuel electricity and water where an element can be assigned to a specific cost center

- Processes services cost elements such as maintenance, rent and transportation where an expense can be assigned to a specific cost center

- Processes expenses charged on the Goods Sold, Current Transfers and Specific Current Transfers Accounts

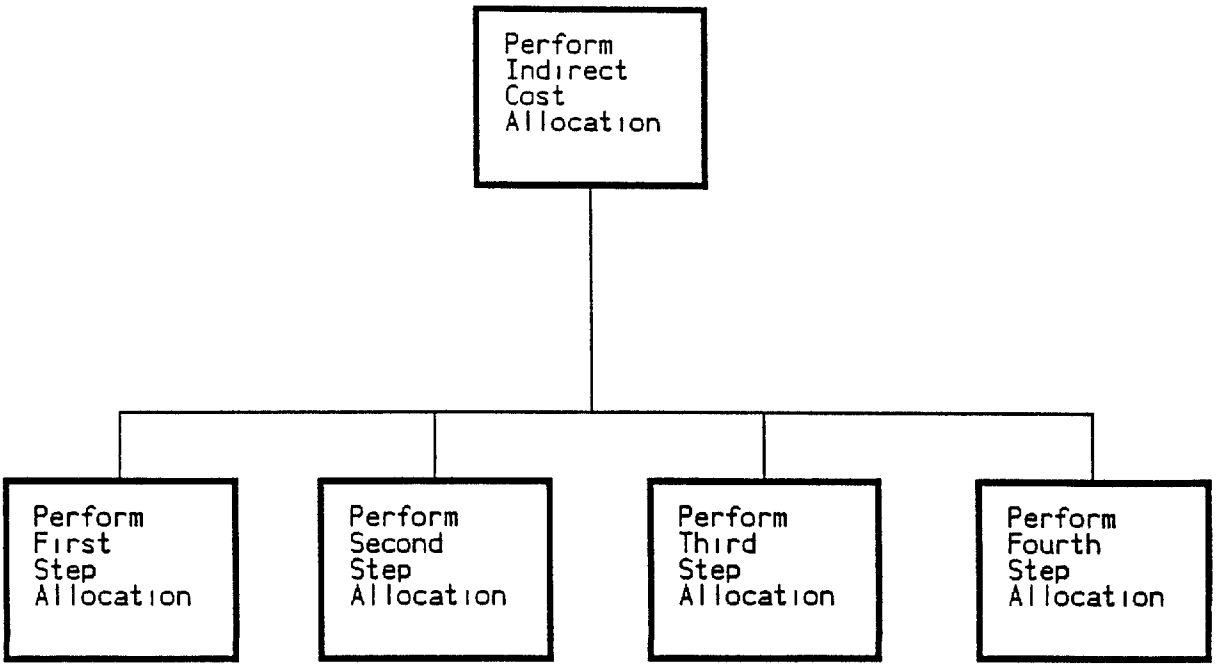
FD-4
ALLOCATE EXPENSES BY ALLOCATION FACTORS (CLINIC)



Where a cost element covers different cost centers, the cost accounting system allows allocation by factors To allocate costs by factors we suggest that, at the end of each month

- The medical zone fills out a form, for every clinic, covering those cost elements not allocated to particular cost centers
- The totals of these forms are fed into the computer at the branch
- The totals are calculated with the allocation factors to achieve the cost share per cost center Allocation factors are provided by the 'Engineering Department fed into the computer by cost accounting data entry staff and can be updated as needed

FD-5
PERFORM INDIRECT COST ALLOCATION (CLINIC)



At the clinic level, the cost accounting system provides a four step system for allocating indirect costs

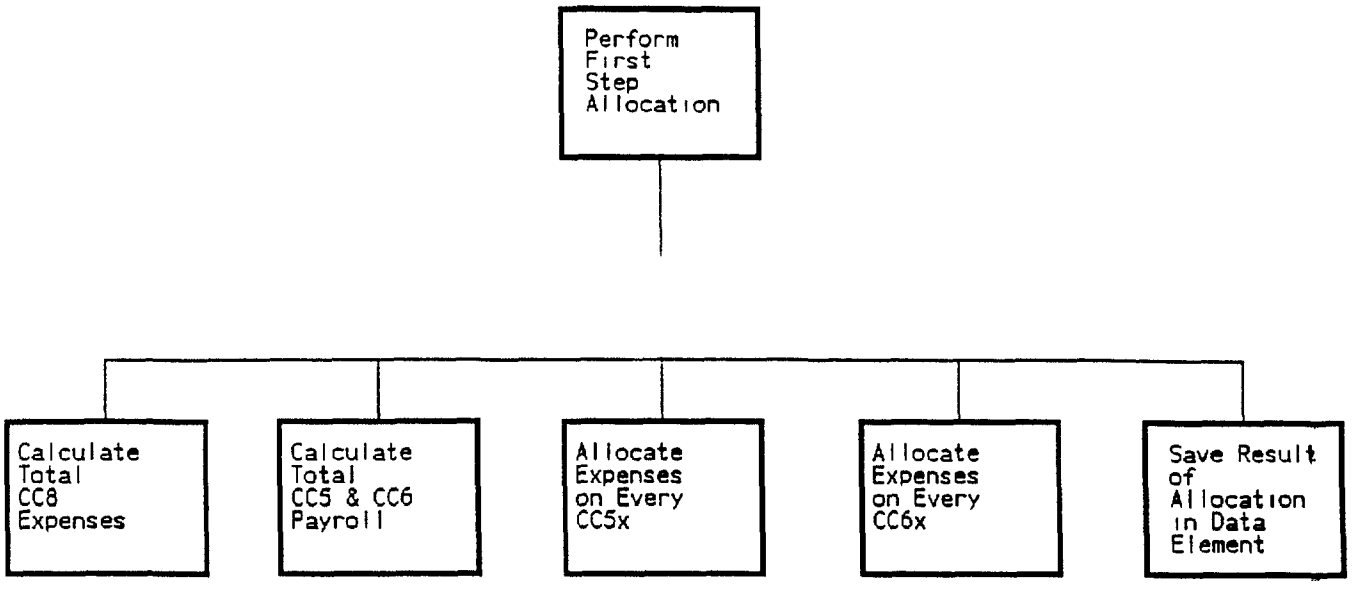
Step One The expenses of administrative cost centers are allocated to production cost centers and production services cost centers These expenses are allocated by factors based on the production and production services cost center payrolls

Step Two Nonmedical production services cost center expenses, including the allocated administrative expenses from step one, are allocated to some medical production services cost centers and to every production cost center

Step Three The expenses of medical production services are allocated to production costs centers

Step Four Using a series of allocation factors, HIO Headquarters expenses are allocated to branches branch expenses are allocated to medical zones and hospitals, medical zone expenses are allocated to related clinics and, within a clinic, expenses are allocated to every cost center

FD-6
PERFORM FIRST STEP ALLOCATION (CLINIC)



In the first step allocation

- The total expenses of the administrative cost centers (CC8) are calculated
- Payroll data of production (CC5) and production service (CC6) cost centers for the same cost accounting period are used to calculate allocation factors
- Expenses from CC8 are combined with the allocation factor from a particular production cost center to allocate that cost center's share
- Expenses from CC8 are combined with the allocation factor from a particular production service cost center to allocate that cost center's share
- The results of the allocation are saved in the data element

CC5	all production cost centers
CC6	all production services cost centers
CC5x	any production cost center
CC6x	any production service cost center
CC8	all administrative cost centers

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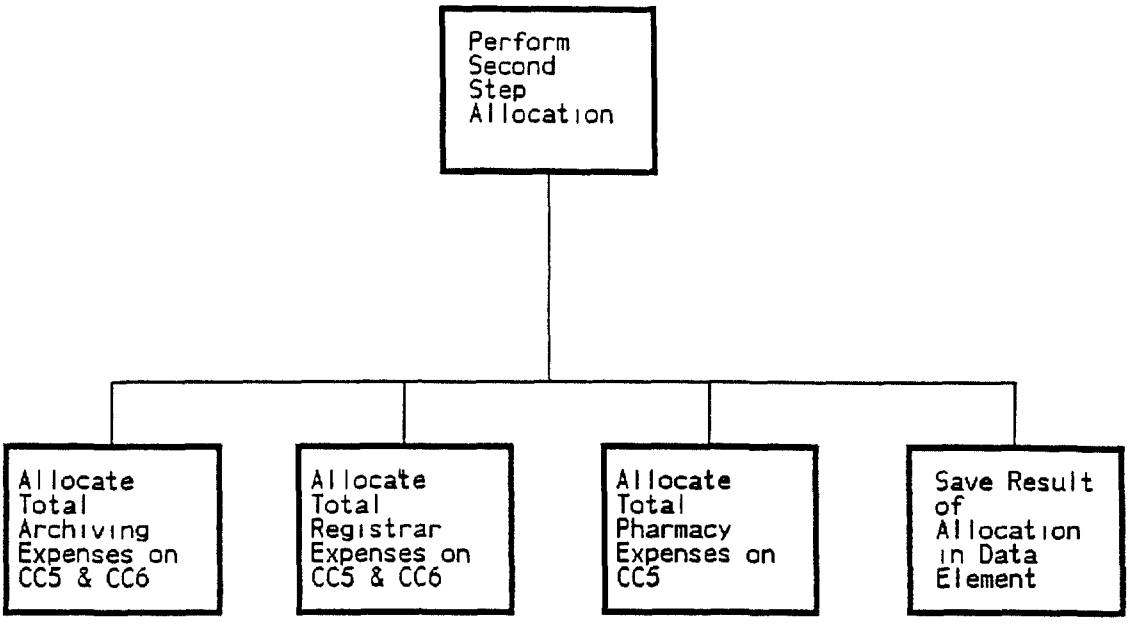
FD-7
PERFORM SECOND STEP ALLOCATION
(CLINIC)



The expenses of nonmedical production service and some medical production cost centers are allocated in the second step

Archiving expenses are allocated to cost centers based on a ratio of the number of visits made by a particular cost center versus the total number of visits made by all cost centers

Medical registrar expenses are allocated to cost centers based on a ratio of the number of visits made by a particular cost center versus the total number of visits made by all cost centers

Pharmacy expenses are allocated to production cost centers based on a ratio of the number of prescriptions dispensed per cost center versus the total number of prescriptions dispensed by all cost centers

Results of the allocation are saved in the data element

CC5	all production cost centers
CC6	all production services cost centers
CC5x	any production cost center
CC6x	any production service cost center
CC8	all administrative cost centers

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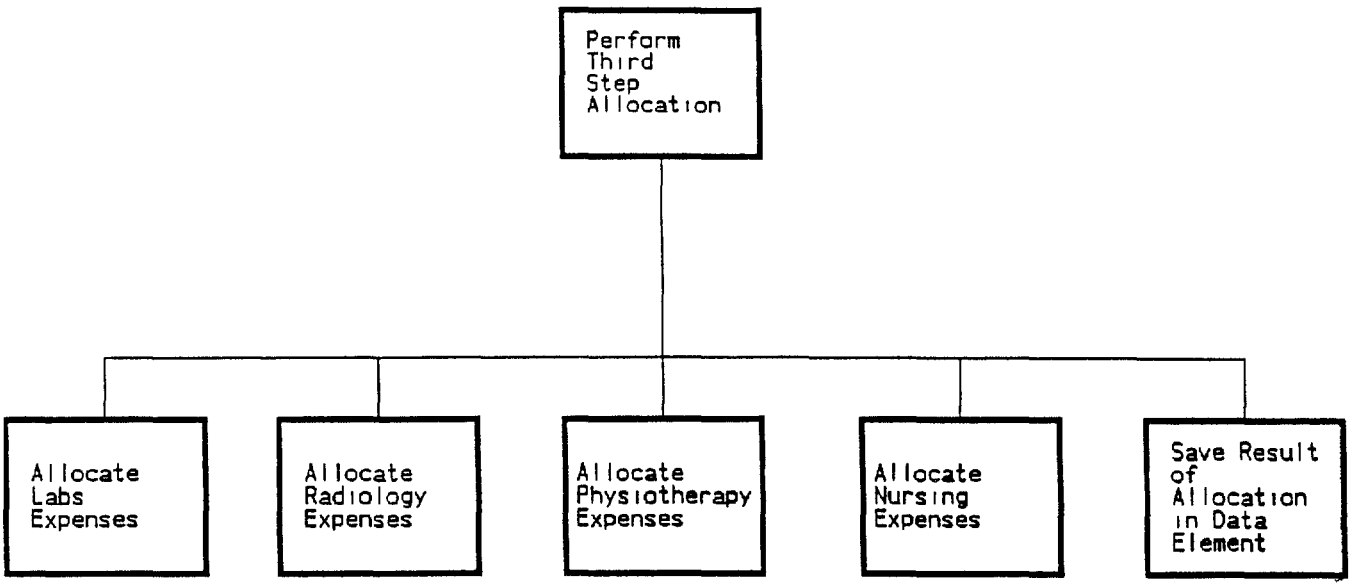
FD-8
PERFORM THIRD STEP ALLOCATION (CLINIC)



The expenses of the remaining medical production services are allocated in the third step To determine the allocation to a cost center the number of each type of service performed for that center is multiplied by a weighting factor Weighting factors, based on allocation criterion, vary depending on the relative cost of a service (e g a chest X-ray requires a larger size film than an X-ray of a hand, thus has a higher weighting factor) The product of this calculation is used in a ratio versus the product of the same calculation for services performed for all cost centers

- The allocation criterion for **lab expenses** is the lab test price based on the HIO charge master
- The allocation criterion for **radiology expenses** is based on the price of the raw X-ray film
- The allocation criterion for **physiotherapy expenses** is the physiotherapy session price based on the HIO charge master
- The allocation criterion for **nursing expenses** is based on the number of hours worked by nurses in each cost center
- **Results of the allocation** are saved in the data element

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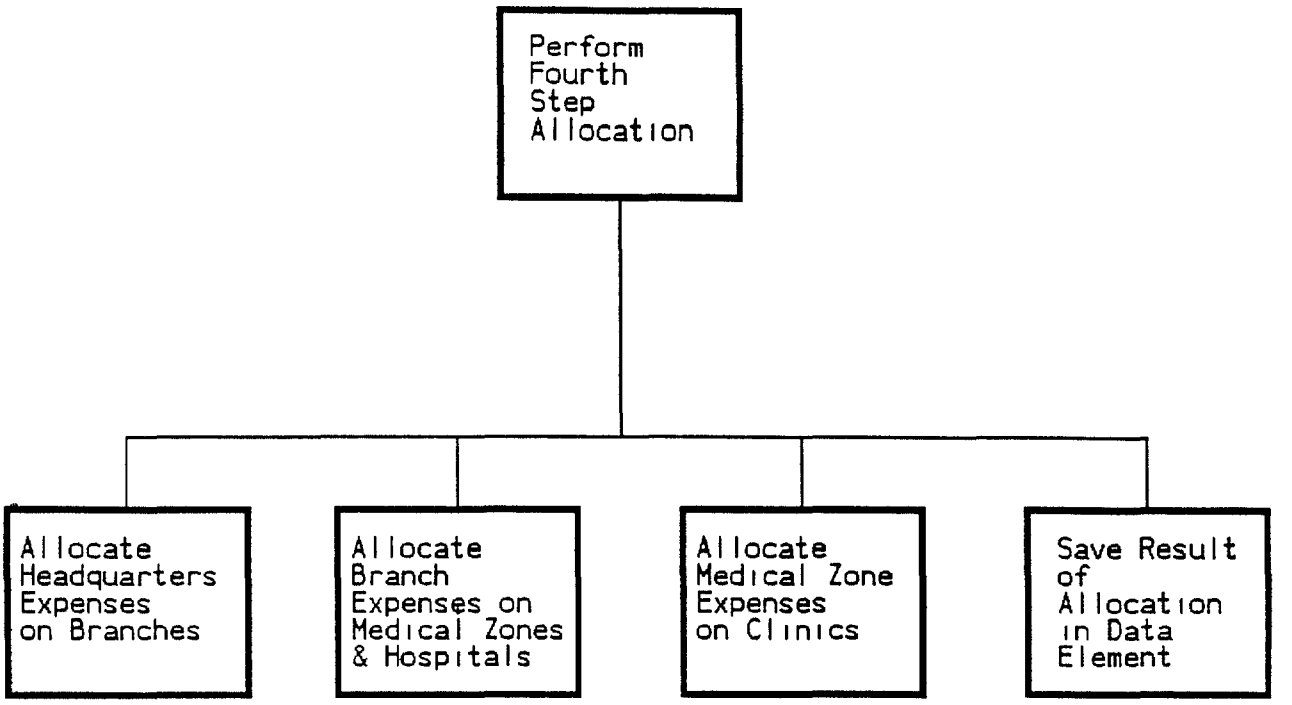
FD-9
PERFORM FOURTH STEP ALLOCATION
(CLINIC)



In the fourth allocation step

HIO Headquarters expenses are allocated to branches

Branch expenses including the allocated HIO expenses, are allocated to medical zones and hospitals

Medical zone expenses are allocated to clinics Within the clinic, expenses are allocated down to cost centers

Results are saved in the data element

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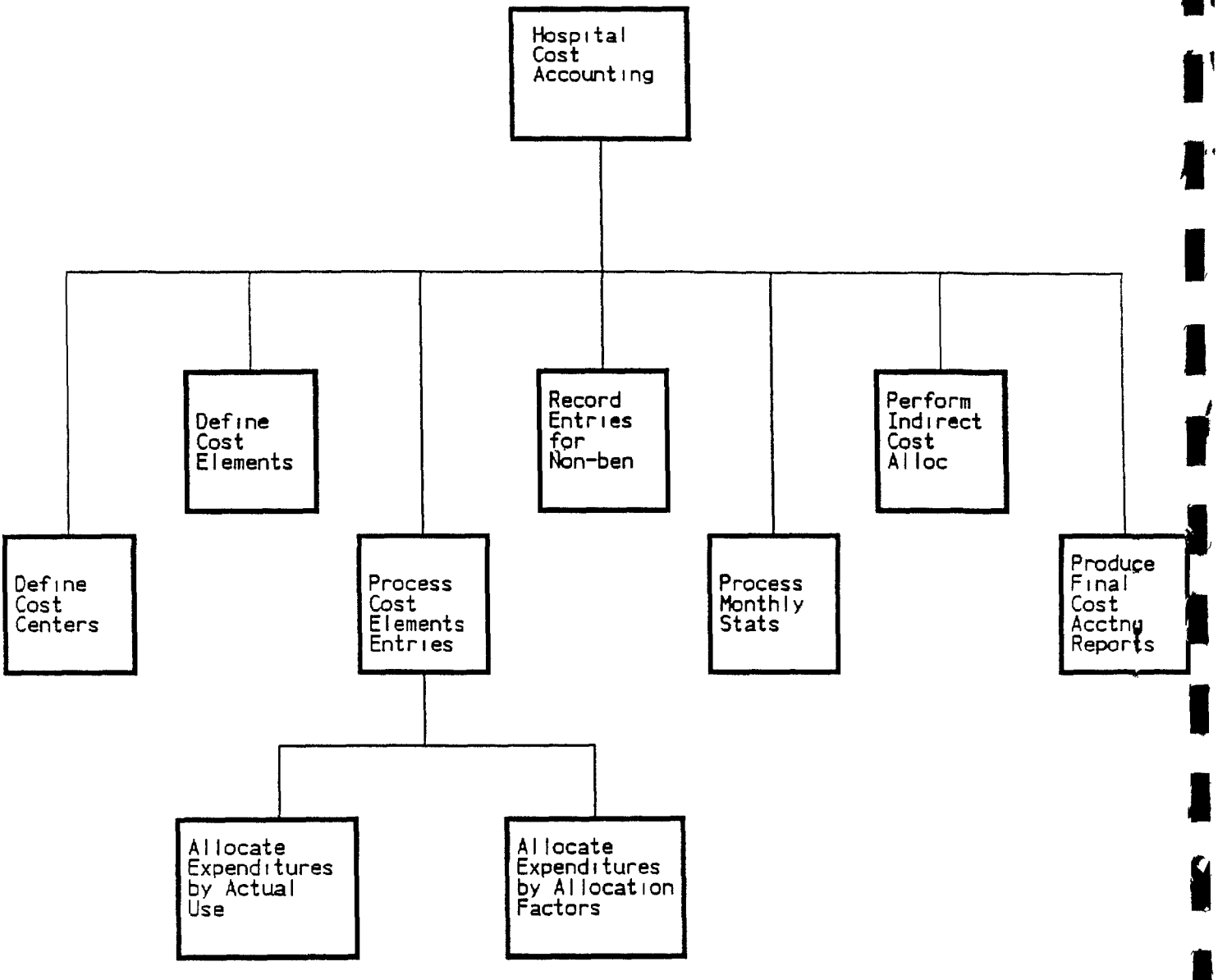
FD-10
HOSPITAL COST ACCOUNTING



At the hospital level, the cost accounting system

- o Defines the three main cost centers and their sublevels The three main cost centers are the Production Cost Center, the Production Services Cost Center, and the Administration and Finance Cost Center

- o Defines the four main cost elements and their subaccounts in compliance with the United Accounting System used by the Government Economic Organization The four main cost elements are Payroll, Commodities, Services & Other

- Processes cost element entries The entries will be on the lowest levels of subcost centers and subaccounts Cost elements are allocated either by actual use or allocation factors

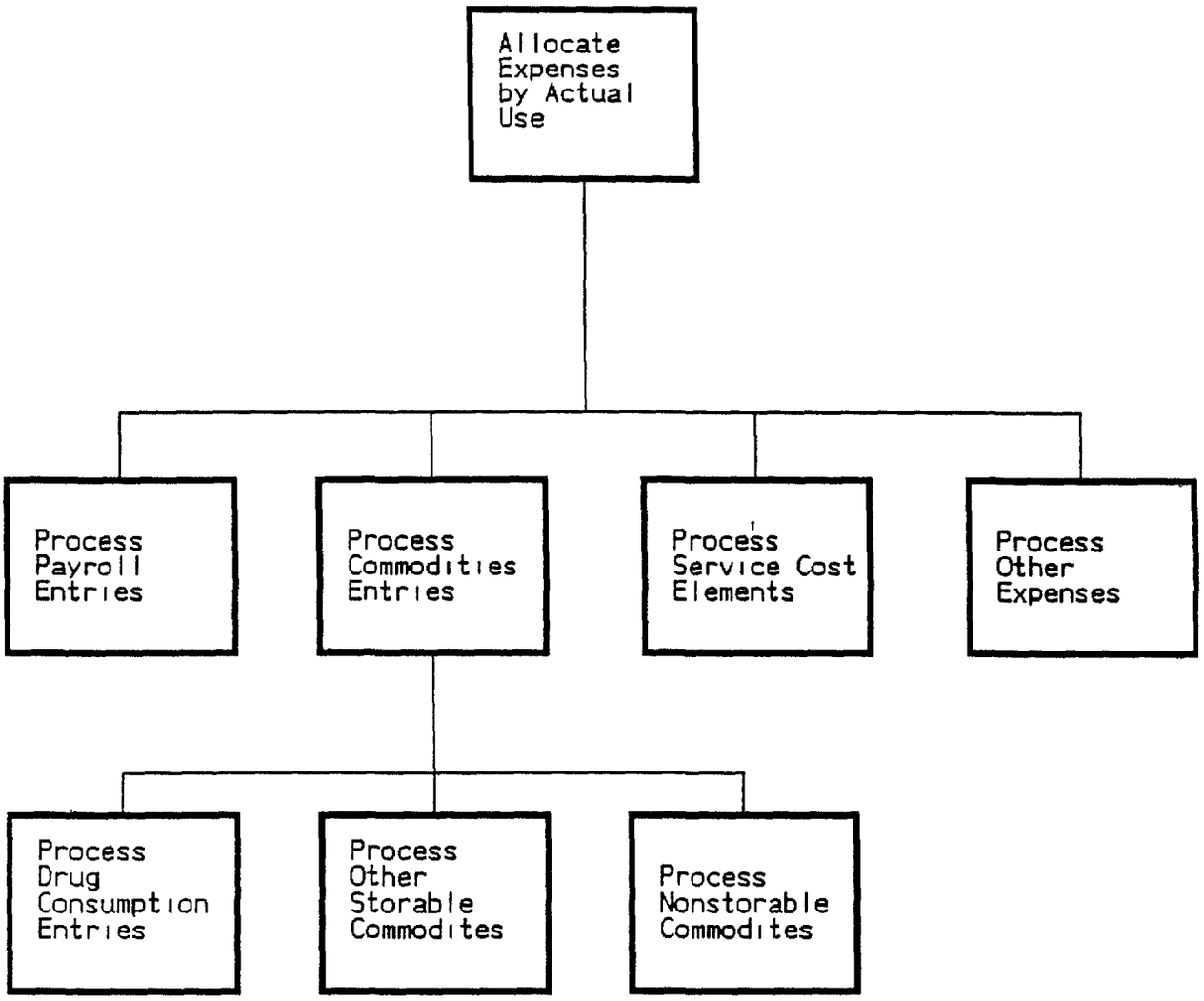
- Records the costs of services provided to non-HIO beneficiaries and subtracts them from the expenses allocated on different cost centers

- Provides monthly statistical data to correctly allocate production services expenses on the production costs centers

- Allocates indirect cost elements in four steps Step one allocates administrative expenses Step two allocates all nonmedical production services and some medical production services expenses Step three allocates the remaining medical production services expenses Step four allocates zone, branch and headquarters expenses

- Produces all reports available in the present system as well as additional reports to track cost per diagnosis and cost per treatment procedure

FD-11
ALLOCATE EXPENSES BY ACTUAL USE (HOSPITAL)



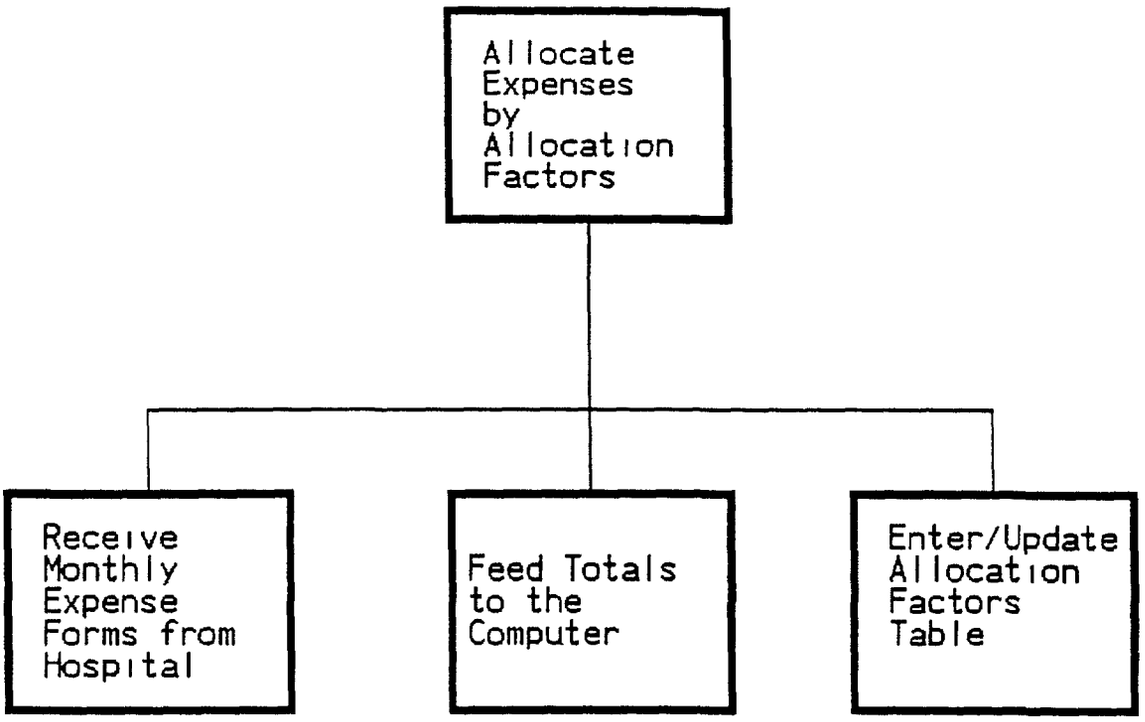
In processing expenses by actual use at the hospital level, the cost accounting system

- o Processes payroll entries
- o Processes drug consumption entries for both HIO-owned pharmacies and contracted pharmacies
- o Processes storable commodities entries (besides drugs)
- o Processes the entries of nonstorable commodities like fuel, electricity and water where an element can be assigned to a specific cost center

- Processes services cost elements such as maintenance, rent and transportation where an expense can be assigned to a specific cost center

- Processes expenses charged on the Goods Sold, Current Transfers and Specific Current Transfers Accounts

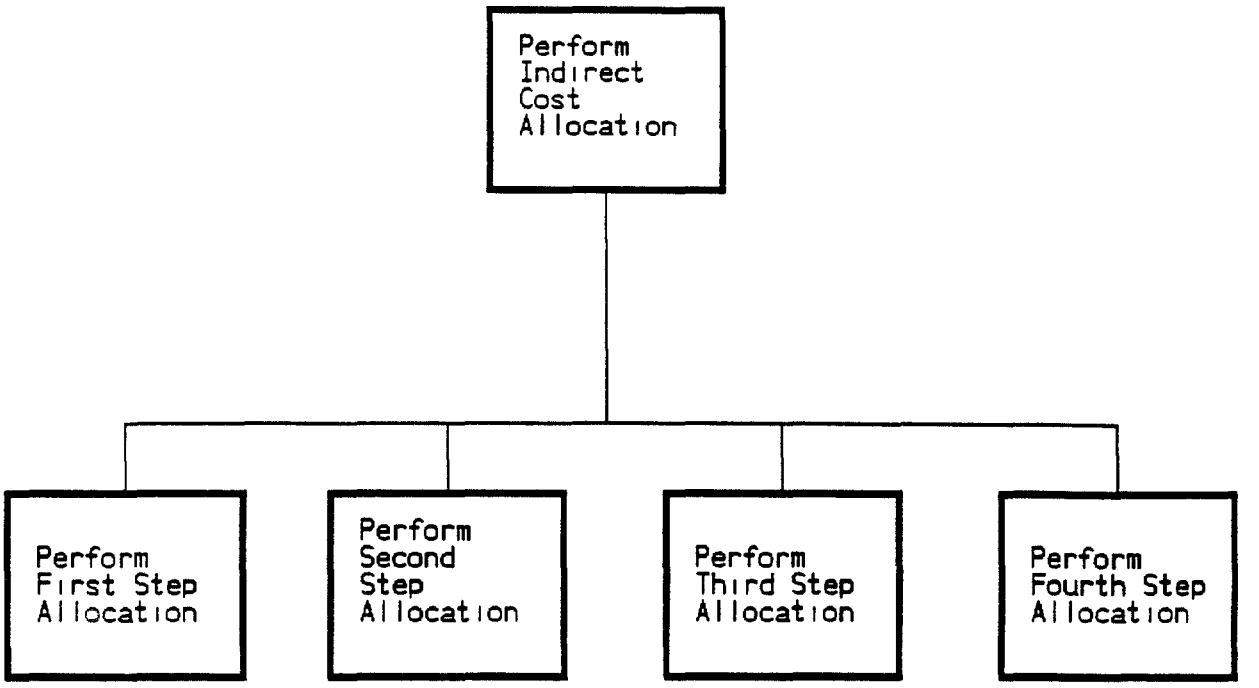
FD-12
ALLOCATE EXPENSES BY ALLOCATION FACTORS (HOSPITAL)



Where a cost element covers different cost centers, the cost accounting system allows allocation by factors To allocate costs by factors, we suggest that, at the end of each month

- The hospital fill out a form covering those cost elements not allocated to particular cost centers
- The totals of these forms are fed into the computer
- The totals are calculated with the allocation factors to achieve the cost share per cost center Allocation factors are provided by the Engineering Department, fed into the computer by cost accounting data entry staff, and can be updated as needed

FD-13
PERFORM INDIRECT COST ALLOCATION (HOSPITAL)



At the hospital level the cost accounting system provides a four step system for allocating indirect costs

Step One The expenses of administrative costs centers are allocated to production cost centers and production service cost centers These expenses are allocated by factors based on the production and production services cost center payrolls

Step Two The expenses of nonmedical production services cost center including the allocated administrative expenses from step one, are allocated to some medical production services cost centers and to every production cost center

Step Three The expenses of medical production services are allocated to production costs centers

Step Four Using a series of allocation factors, HIO Headquarters expenses are allocated to branches Branch expenses are allocated to hospitals

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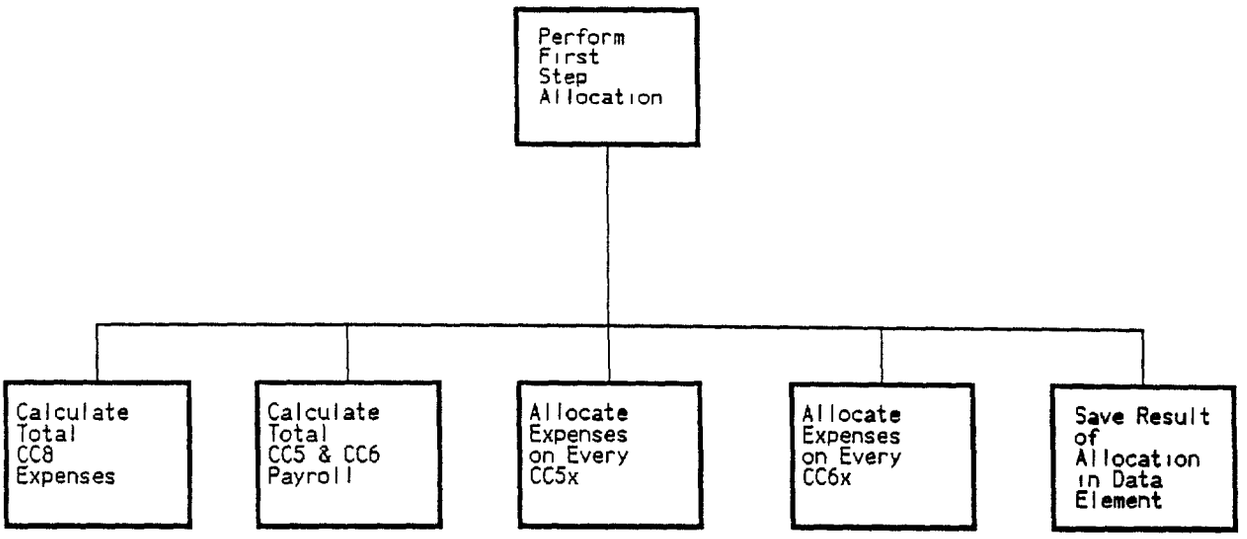
FD-14
PERFORM FIRST STEP ALLOCATION (HOSPITAL)



In the first step allocation

- The total expenses of the administrative cost centers (CC8) are calculated
- Payroll data of production (CC5) and production service (CC6) cost centers for the same accounting period are used to calculate allocation factors
- Expenses from CC8 are combined with the allocation factor from a particular production cost center to allocate that center's share
- Expenses from CC8 are combined with the allocation factor from a particular production service cost center to allocate that center's share
- The results of the allocation are saved in the data element

CC5	all production cost centers
CC6	all production services cost centers
CC5x	any production cost center
CC6x	any production service cost center
CC8	all administrative cost centers

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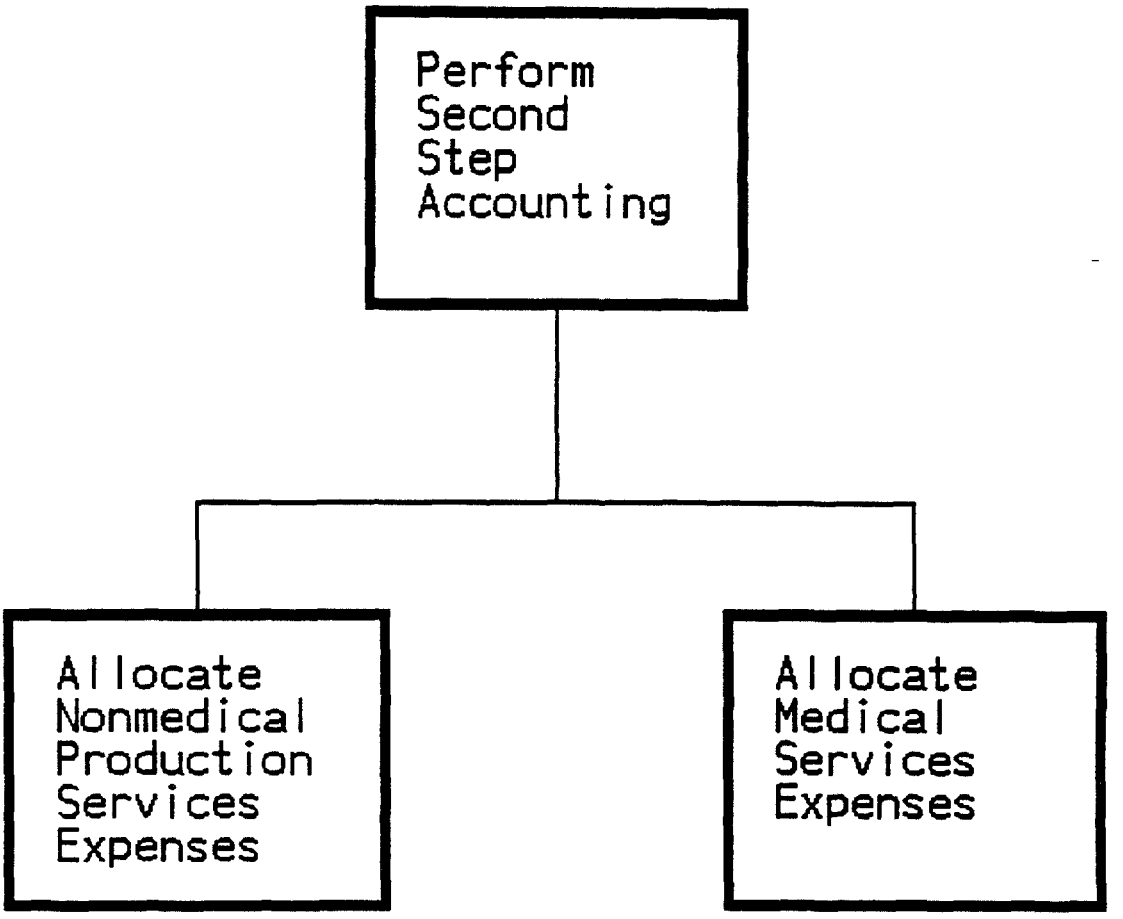
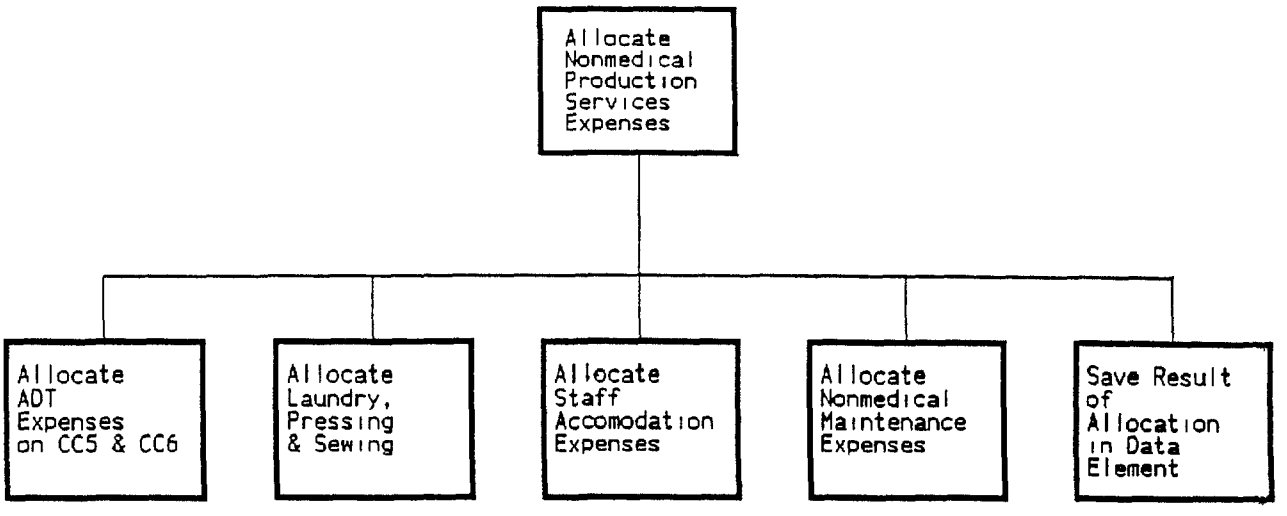
FD-15
PERFORM SECOND STEP ALLOCATION
(HOSPITAL)



In the second step the expenses of nonmedical production service cost centers are allocated to some medical services costs centers and to every production cost center

FD-16
ALLOCATE NONMEDICAL PRODUCT SERVICE EXPENSES (HOSPITAL)



Admission/Discharge/Transfer Office expenses are allocated to cost centers based on a ratio of the number of visits made by a particular cost center versus the total number of visits made by all cost centers

Laundry, Pressing and Sewing expenses are allocated based on the number of pieces processed for each cost center

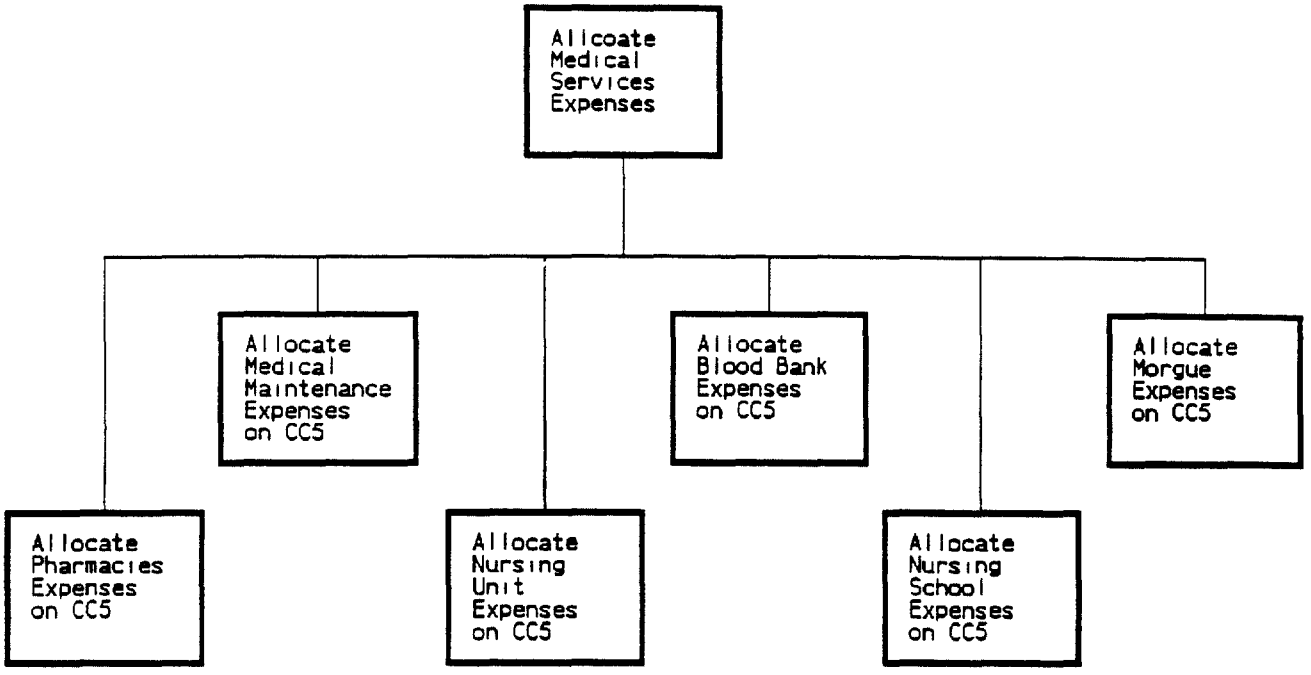
Staff Accommodation expenses are allocated to cost centers based on the ratio of the bed occupancy of a particular cost center versus the total bed occupancy

Patients' Affairs Section expenses are allocated to cost centers based on the ratio of the bed occupancy of a particular cost center versus the total bed occupancy

Nonmedical Maintenance expenses are allocated based on the number of job orders processed for each cost center

Results of the allocation are saved in the data element

FD-17
ALLOCATE MEDICAL SERVICES EXPENSES (HOSPITAL)



Pharmacy expenses are allocated based on the number of prescriptions dispensed for each cost center

Medical Equipment Maintenance expenses are allocated based on the number of job orders processed each cost center

Nursing Unit expenses are allocated to cost centers based on the ratio of the bed occupancy of a particular cost center versus the total bed occupancy

Blood Bank expenses are allocated based on the number of liters dispensed for different cost centers

Nursing School expenses are allocated to cost centers based on a ratio of the number of on-the-job training (OJT) person-hours in a particular cost center versus the total number of OJT person-hours for all cost centers

Morgue expenses are allocated to cost centers based on the number of deaths in a particular cost center versus the total number of deaths

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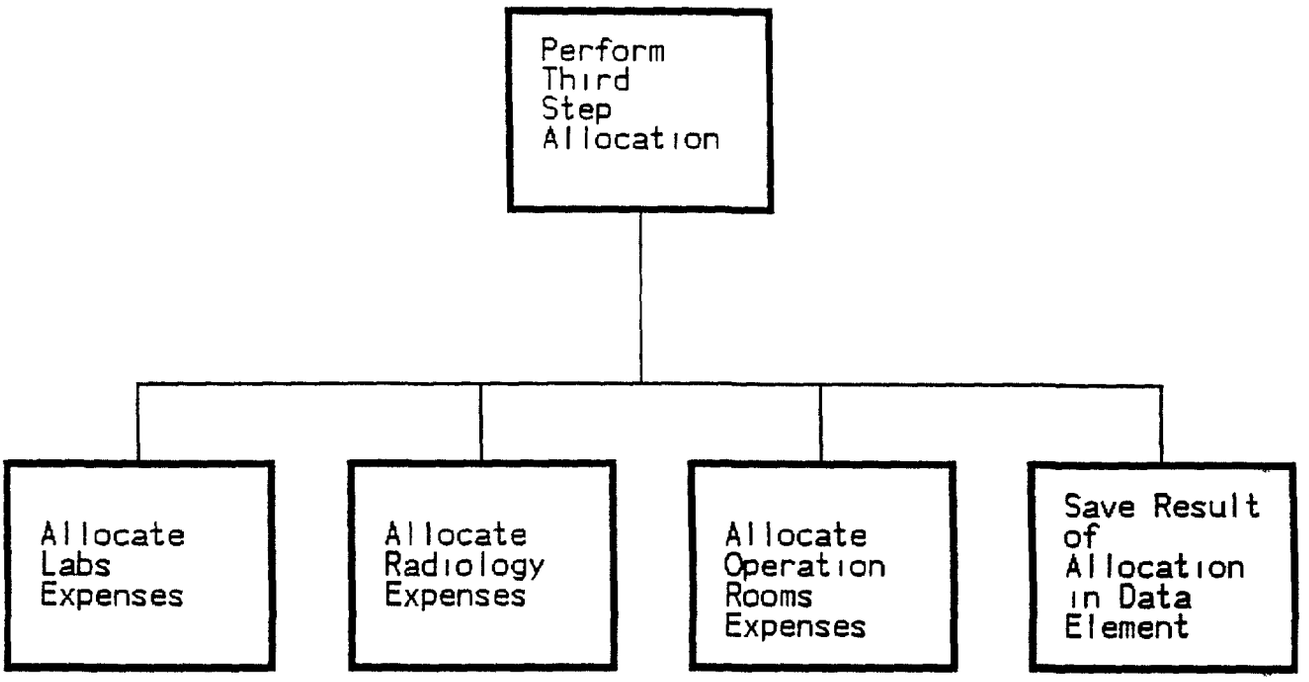
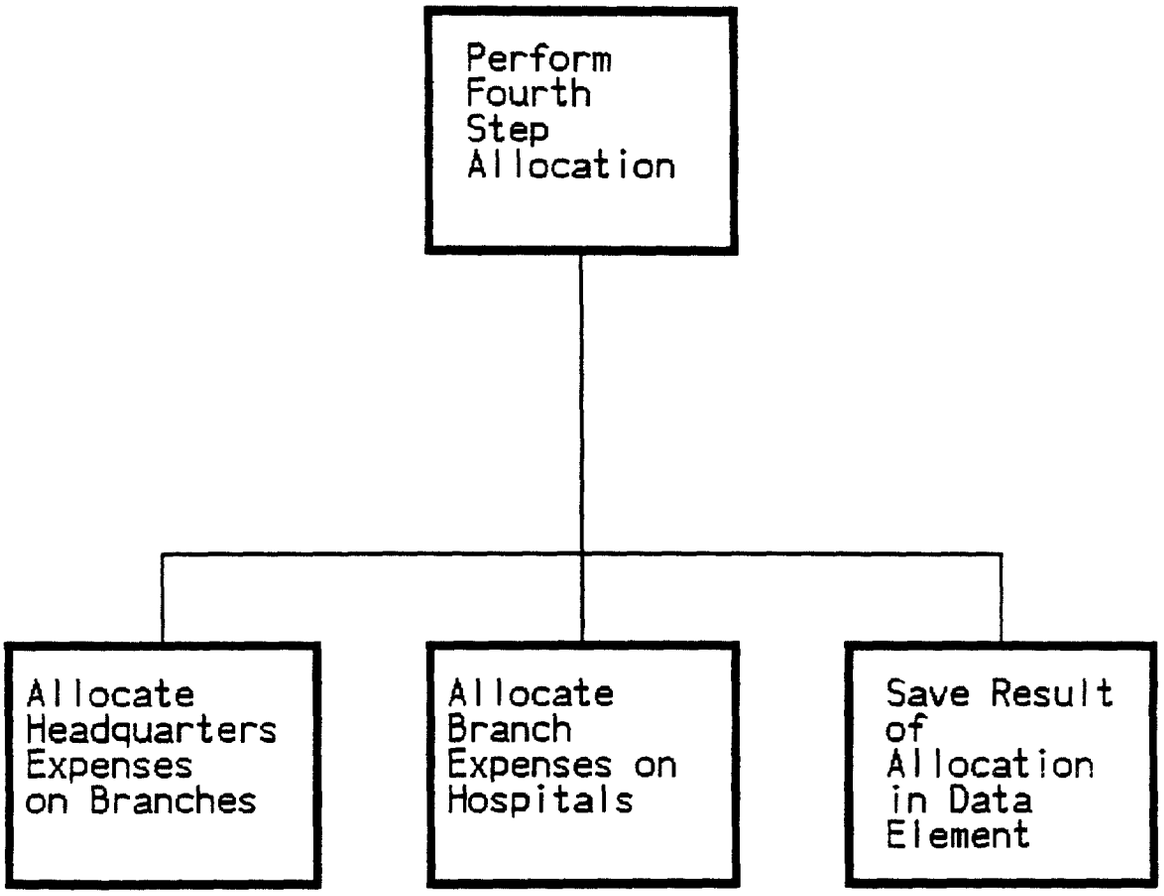
FD-18
PERFORM THIRD STEP ALLOCATION (HOSPITAL)



The expenses of medical production services are allocated in the third step To determine the allocation to a cost center, the number of each type of service performed for that center is multiplied by a weighting factor Weighting factors, based on allocation criterion, vary depending upon the relative cost of a service (e g a chest X-ray requires a larger size film than an X-ray of a hand, thus has a higher weighting factor) The product of this calculation is used in a ratio versus the product of the same calculation for services performed for all cost centers

- The allocation criterion for **lab expenses** is the lab test price based on the HIO charge master
- The allocation criterion for **radiology expenses** is based on the price of the raw X-ray film
- The allocation criterion for **operation rooms expenses** is based on the average length of time needed for a particular type of operation
- **Results of the allocation** are saved in the data element

FD-19
PERFORM FOURTH STEP ALLOCATION (HOSPITAL)



In the fourth allocation step

HIO Headquarters expenses are allocated to branches

Branch expenses, including the allocated HIO expense, are allocated to hospitals

Results are saved in the data element

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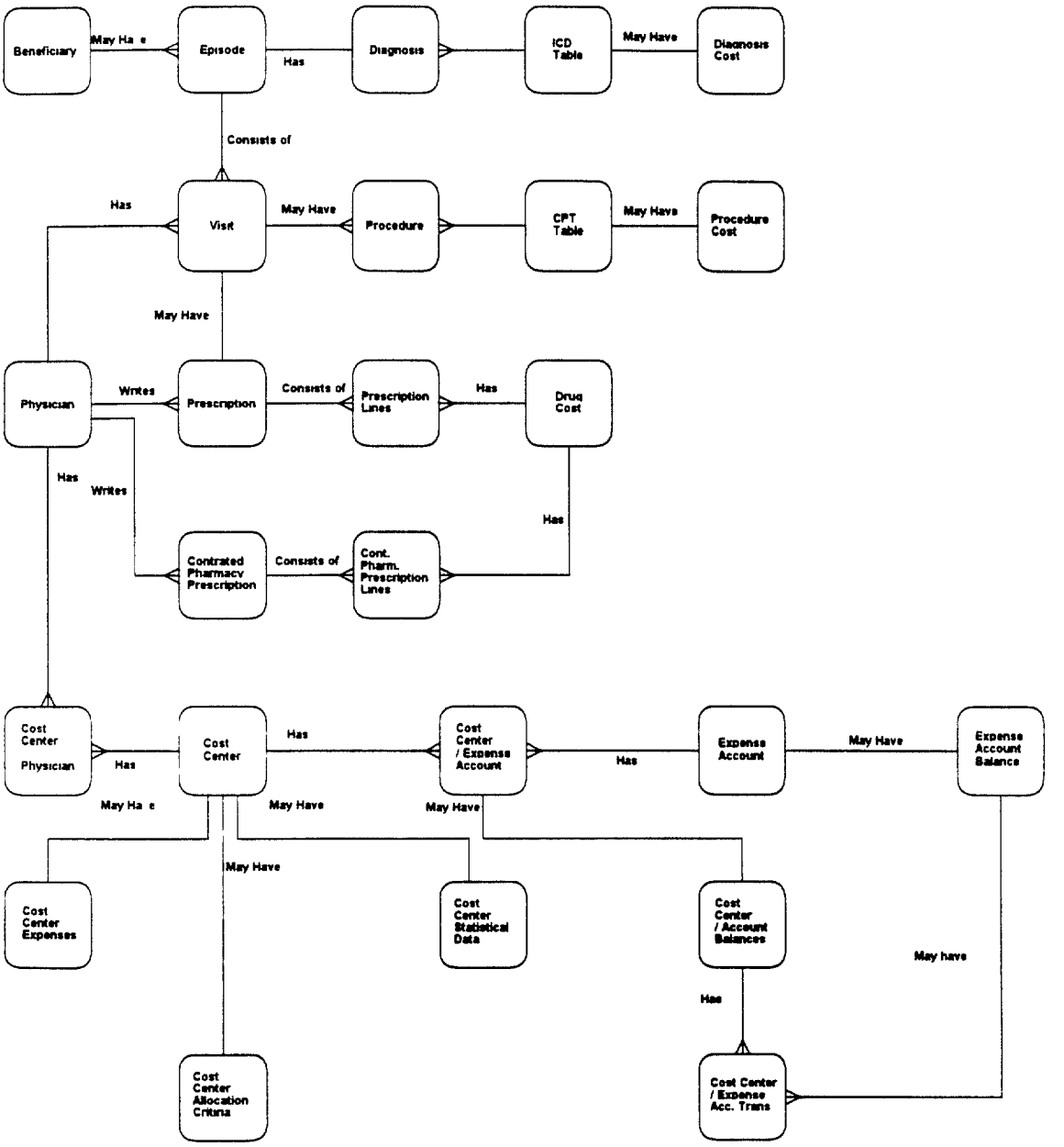
APPENDIX D

LOGICAL DATA STRUCTURES

LDS-1



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APPENDIX E

REFERENCES

The Cost Accounting Handbook developed for HIO, NWDB has been used as a main reference in writing this document Beyond the handbook, the following site visits and meeting took place during the analysis phase

SITE VISIT OF JULY 13, 1993

Place Cairo Branch Medical Services Department
Subject Cost Accounting

Attendee	Position
Dr Ali El Seringawi	Manager, Medical Services Department
Mr Youssef Nessim	Medical Services Department
Mr Ibrahim Nessim	Medical Services Department
Mr Said El Ganzori	Manager, Financial Accounting Department
Mr Adel	Cost Accounting Section

SITE VISIT OF AUGUST 8, 1993

Place NWDB Data Processing Department
Subject Cost Accounting System of NWDB

Attendee	Position
Dr Iman Ezzat	Medical Services Department

SITE VISIT OF AUGUST 9, 1993

Place Lauran Clinic
Subject Cost Accounting Processing at the Clinic Level

Attendee	Position
Mrs Samya	Clerk, Pharmacy Cost Accounting
Mrs Afaf	Clinic Statistician

SITE VISIT OF AUGUST 9, 1993

Place Gamal Abdel Nasser Hospital
Subject Cost Accounting Processing at the Hospital Level

Attendee	Position
Mr Hanna	Manager, Cost Accounting Department, Gamal Abdel Nasser Hospital

SITE VISIT OF AUGUST 10, 1993

Place NWDB Cost Accounting Department
Subject Cost Accounting Processing

Attendee	Position
Mr Ismail Youssef	Manager, Cost Accounting Department

SITE VISIT OF AUGUST 16, 1993

Place NWDB Cost Accounting Department
Subject Cost Accounting Processing

Attendee	Position
Mr Abdul Rahman	Manager, Financial Affairs and Administration

SITE VISIT OF AUGUST 22, 1993

Place HIO Headquarters Cost Accounting Department
Subject Cost Accounting Processing

Attendee	Position
Mr Ghouneimy Abdel Wahab	Manager, Cost Accounting Department

MEETING OF DECEMBER 15, 1993

Place 53 Berout Street
Subject Proposed Cost Accounting System Presentation

Attendee	Position
Dr Ali El Seringawi	Manager, Medical Services Department
Mr Adel	Cost Accounting Section Cairo Branch

MEETING OF DECEMBER 29-30, 1993

Place NWDB Cost Accounting Department and Gamal Abdel Nasser Hospital
Subject Proposed Cost Accounting System Presentation

Attendee	Position
Ms Baheva El Zayat	Director, Computer Center
Mr Ismail Youssef	Manager, Cost Accounting Department, NWDB
Mr Hanna	Manager, Cost Accounting Department, Gamal Abdel Nasser Hospital

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APPENDIX F

CLINIC COST CENTERS CHART

CLINIC COST CENTERS CHART

LEVEL 1	2	3	4	5	COST CENTER NAME
5					Production Cost Centers
	51				Surgery Departments
		511			General Surgery
		512			Special Surgery
			5124		ENT Surgery
			5125		Optical Surgery
				51251	Optics
			5126		Urology
			5127		Dental Surgery
		513			Specific Surgeries
			5131		Brain Surgery
			5132		Plastic Surgery
			5133		Cardio-Surgery
			5134		Cardiovascular Surgery
	52				Internal Medicine Departments
		521			General Internal Medicine
		522			Special Internal Medicine
			5221		Chest Diseases
			5222		Psychiatry
			5223		Dermatology
		523			Specific Internal Medicine
			5231		Paralysis
			5232		Work Injury & Diseases
			5233		Kidney Dialysis
			5234		Cardio-Unit
	53				Gynecology And Obstetrics
		531			Gynecology
		532			Obstetrics
	57				Practitioner
		571			Specialized Practitioner
		572			General Practitioner
			5721		General Practitioner HIO Clinic
			5742		Gen Practitioner Comp Clinic
			5743		Gen Practitioner Private Clinic

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CLINIC COST CENTERS CHART (cont)

LEVEL 1	2	3	4	5	COST CENTER NAME
	58				Work Injury & Diseases
		581			Work Injury
		582			Work Diseases
		583			Periodic Medical Examination
6					Production Services
	61				Medical Production Services
		612			Laboratories
		613			Radiology
		614			Pharmacies
		615			Nursing Office
		616			Prosthesis
			6161		Medical Glasses & Contact Lenses
			6162		Hearing Aids
			6163		Denture
			6164		Artificial Ends
		617			Treatment Outside HIO Facilities
			6171		Local Facilities
			6172		International Facilities
	62				Nonmedical Production Service
			621		Archiving
8					Administration & Finance
	81				Unit Management
		811			Unit Manager Deputy & Secretary
		812			Legal Affairs
		813			Public Relations
		814			Statistics
		815			Cost Accounting Section
	82				Administration
		821			Personnel Dept
		822			Secretary And Archive
		823			Support Staff
	83				Financial Affairs
		834			Nonmedical Stores
			8341		Consumable Store
			8342		Nonconsumable Store
			8343		Returns Store
		835			Nonmedical Stores

APPENDIX G

HOSPITAL COST CENTERS CHART

HOSPITAL COST CENTERS CHART

LEVEL 1	2	3	4	5	COST CENTER NAME
5					Production Cost Centers
	51				Surgery Departments
		511			General Surgery
			5111		Section A
			5112		Section B
		512			Special Surgery
			5121		Bone Surgery Section A
	52				General Medicine Departments
		521			General Medicine
			5211		Section A
				52111	Subsection A/1
				52112	Subsection A/2
			5212		Section B
	53				Gynecology And Obstetrician
		531			Gynecology
		532			Obstetrician
			5321		Section A
			5322		Section B
	54				Intensive Care
	55				Cobalt
6					Production Services
	61				Medical Production Services
		611			Operations
			6111		Operations Room #1
			6112		Operations Room #2
		612			Laboratories
			6121		Lab A
			6122		Lab B

HOSPITAL COST CENTERS CHART (cont.)

LEVEL 1	2	3	4	5	COST CENTER NAME
		613			Radiology
			6131		Diagnostic Radiology
			6132		Curative Radiology
		614			Pharmacies Preparations & Stores
			6141		Pharmacy #1
			6142		Pharmacy #2
			6145		Medical Store
		615			Emergency & Minor Surgeries
			6151		Emergency
			6152		Minor Surgeries
		616			Special Medical Services
			6161		Laser
			6162		Professional
			6163		Physiotherapy
			6164		
		617			Nursing Office
		618			Staff Accommodation
			6181		Doctors Accomm (Male)
			6182		Doctors Accomm (Female)
			6183		Nurses Accomm
			6184		Students Accomm
		619			Blood Bank
	62				Nonmedical Production Service
		621			Catering, Kitchen & Food Store
			6211		Catering Office
			6212		Kitchen
			6213		Food Store
		622			Laundry Pressing & Sewing
			6221		Laundry
			6222		Pressing
			6223		Sewing
		623			Nonmedical Maintenance
			6231		Carpenter Workshop
			6232		Electrical
			6233		Plumbing

HOSPITAL COST CENTERS CHART (cont.)

LEVEL 1	2	3	4	5	COST CENTER NAME
8					Administration & Finance C C
	81				Unit Management
		811			Unit Manager, Deputy & Secretary
		812			Legal Affairs
		813			Public Relations
		814			Statistics
		815			Cost Accounting Section
	82				Administration
		821			Personnel Department
		822			Secretary And Archive
		823			Support Staff
	83				Financial Affairs
		831			Financial Mgr , Accounting & Cashier
		832			Budgets
		833			Procurement
		834			Nonmedical Stores
			8341		Consumable Store
			8342		Nonconsumable Store
			8343		Returns Store

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APPENDIX H

GENERAL LEDGER EXPENSE ACCOUNTS

GENERAL LEDGER EXPENSE ACCOUNTS

ACCOUNT NUMBER	ACCOUNT NAME
3	Expenses
31	Salaries
311	Cash Salaries
312	In-kind Salaries
32	Commodities
321	Materials
322	Fuel, Oil and Power
323	Spare Parts
324	Packaging Materials
325	Waste
326	Stationary
327	Water and Electricity
33	Services
331	Maintenance
332	Subcontractors
333	Research
334	Publicity, Advertisement and Reception
335	Transportation
336	Equipment Rental
337	Services by other Organizations
338	Miscellaneous Services
34	Cost of Goods Sold
341	Local
342	Imported
35	Current Transfer Expenses
351	Taxes
352	Depreciation
353	Actual Rent
354	Difference in Calculated Rent
355	Local Bank Interest
356	Foreign Bank Interest
357	Difference in Calculated Interest
36	Specific Current Transfers
361	Donations
362	Charity
363	Penalties
364	Capital Loss
465	Previous Years Loss
466	Bad Debts
467	Provisions
468	Real Estate Taxes

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