

SUBSISTENCE PURCHASING PROCEDURES  
OF SELECTED FEDERAL AND STATE  
INSTITUTIONS IN MICHIGAN

Thesis for the Degree of M. S.  
MICHIGAN STATE COLLEGE  
Dotty Marie Ketcham  
1955

**This is to certify that the**

**thesis entitled**

Subsistence Purchasing Procedures  
of Selected Federal and State  
Institutions in Michigan

**presented by**

Betty Marie Ketchum

**has been accepted towards fulfillment  
of the requirements for**

Master of Science degree in Institution Administration

*Katherine Hart*

Major professor

Date August 14, 1955

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SUBSISTENCE PURCHASING PROCEDURES OF SELECTED  
FEDERAL AND STATE INSTITUTIONS IN MICHIGAN

By

BETTY MARIE KETCHAM

A THESIS

Submitted to the School of Graduate Studies of Michigan  
State College of Agriculture and Applied Science  
in partial fulfillment of the requirements  
for the degree of

MASTER OF SCIENCE

Department of Institution Administration

1955



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## ABSTRACT

The purpose of this study was to survey the subsistence purchasing procedures in four well organized institutions in order to provide practical purchasing information for the food service manager interested in centralized purchasing.

The institutions selected for this study included Ypsilanti State Hospital in Ypsilanti, Michigan; Veterans Administration Hospital near Battle Creek, Michigan; University of Michigan in Ann Arbor, Michigan; and Michigan State College in East Lansing, Michigan.

Subsistence expenditures represent the largest single cost of a food service organization, therefore, the various factors which control these expenditures were investigated. These factors included general information, physical facilities, allocation of space, organization of purchasing department, training of key personnel, purchasing procedures, receiving of supplies, storage of supplies, and issue of supplies.

Certain steps are essential to all purchasing procedures and follow a common pattern. The various institutions studied altered this pattern to meet their specific needs and problems.

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There was little basis for comparison of the physical facilities, however the location of the institution determined the buying procedures for fresh produce. The large, open, storage areas, easy transportation, and interior construction which required a minimum amount of maintenance allowed Michigan State College to operate a centralized purchasing program efficiently with a minimum number of employees.

The departmental organization of the institutions showed little similarity; on the other hand, key positions in these institutions were occupied by men who had given at least twenty years of service to the organization.

Requisitions were used by all the institutions in the survey to initiate the buying procedure. The quantity of the supplies ordered by the state and federal institutions was controlled by a standard ration pattern.

The majority of the purchases made at the state and federal hospital were by formal competitive bid. The two educational institutions relied upon the open market buying procedures.

Purchase orders were used by all institutions in the study and copies were forwarded to the units responsible for receiving the supplies. All institutions except the University of Michigan used a standard invoice-voucher form.

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Food Stores at Michigan State College was the only institution which did not use written specifications, but the regular vendors and brokers were aware of the high quality of merchandise required by Food Stores. All institutions used federal grades to inform the vendors of the quality of supplies acceptable to them.

Perpetual inventories were maintained by all institutions and verified by yearly, quarterly, or bi-monthly physical inventories. In addition, the institutions maintained various procedures to prevent daily discrepancies between the perpetual inventory and the actual physical inventory.

Subsistence supplies were weighed, measured or counted, and carefully inspected at all institutions to verify quantity and quality with the purchase order. The responsibility for receiving, storing, and issuing varied at all institutions.

## ACKNOWLEDGMENTS

The author wishes to express thanks to the Business Manager and the Assistant Business Manager at Ypsilanti State Hospital; the Food Buyer for the State of Michigan; the Chief of the Supply Division, Chief of Procurement, and Chief of the Dietetic Service at the Veterans Administration Hospital near Battle Creek, Michigan; the Business Manager and Food Buyer at the Food Service building, University of Michigan; and the Manager and Head of the Staples Department at Food Stores building, Michigan State College, for their cooperation in furnishing the data for this study.

The author also wishes to express her sincere appreciation to Professor Katherine Hart for her guidance and encouragement in the preparation of this material and to Dr. Pearl Aldrich for her constructive criticism and advice.

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## INTRODUCTION

Subsistence expenditures represent the largest single cost of a food service organization. In 1951 college and university food service units spent over \$150,000,000.00 for food products and hospitals over \$408,000,000.00. Purchasing control for the single unit food service organization is relatively simple, but multiple unit food service operations present a more complicated problem. With centralized purchasing, standardization is facilitated, lower prices are obtained, and the buying is in the hands of experts.

The legal restrictions imposed on government purchasing create a rigid framework within which the food buyer operates. Semi-commercial operations have a latitude almost unlimited by law for developing purchasing procedures. They may select any vendor who meets their demands, establish purchasing policies and procedures, modify specifications, change the methods of inspection, and otherwise direct purchasing activities in any manner that seems expedient. For government agencies, the rigidity of purchasing procedures is based on restrictions imposed by laws and regulations to insure economy in the expenditure of public funds and to protect the legitimate and reputable business man.

In addition to the efficient organization and operation of his department, the food buyer must have accurate information about the items he procures. The seller of today supplies pertinent information to the buyer who must know the quality of merchandise desired by his organization and how to interpret these qualities to the vendors. After surveying the various methods of procurement, he selects those procedures which will most economically serve his individual requirements.

Full value for dollar spent is determined by the selection of proper quality and quantity of merchandise, accurate descriptions, and careful inspection of delivered goods. The importance of proper inspection of food products is often overlooked, and poor quality and incorrect quantities are accepted as a result. Supplies should be received by a person who recognizes quality and is familiar with established requirements. Care must be exercised in storage to maintain the quality of merchandise until final delivery to the production units. In order to control stock and to obtain a daily food cost, withdrawals from the warehouse must be carefully regulated and perpetual inventories periodically checked by physical inventories.

This study was made to survey the subsistence purchasing procedures of the following federal and state institutions: Michigan



State College, University of Michigan, Ypsilanti State Hospital, and the Veterans Administration Hospital located near Battle Creek, Michigan. A summary of the procedures used by these well organized institutions should provide practical purchasing information for the food service manager interested in centralized purchasing.

## REVIEW OF LITERATURE

The basic principles of sound buying are well established and widely accepted. For efficient operation these principles must be adapted to the specific requirements of an organization. A review of departmental structures, purchasing procedures, and material management is essential to the interpretation of these variations.

### Physical Layout of Purchasing Facilities

The physical arrangement of the purchasing office depends upon the space available. Heinritz (23) stated that the purchasing office should be a part of the general office organization and should be located near the entrance of the building. The National Association of Purchasing Agents (49) suggested that in large departments the buyers concerned with related commodities be grouped to implement greater flexibility of work. In the opinion of Heinritz (23) the general office facilities that buyers use with frequency should be located adjacent to the buying section. The National Association of Purchasing Agents (49) stressed that the clerical and filing operations for the purchasing department should be kept as a unit in the general office unless the department was segregated because of size.

In addition to the mechanics of purchasing, space must be available for the receipt and storage of goods. Northrop (51) stated that the receiving area should consist of a receiving platform, adjacent space where goods could be examined and invoices checked, and an office for the receiving clerk. The receiving room should be distinct from the outside platform and be equipped with platform and beam scales. The truck zone of the receiving area should be accessible to all types of vehicles and located on a rear driveway or alley. Dana (12) emphasized that the larger establishments needed sufficient parking space to accommodate several delivery trucks at one time. According to Northrop (51), the receiving platform must be at least eight feet wide and long enough to permit the simultaneous unloading of several trucks. Dana (12) noted that cartons which were stacked on skids when they were received could be stored easily without additional handling. The author further stated that platform and hand trucks were essential in the efficient receiving and storing of produce.

In a discussion of freight transportation methods Heinritz (23) pointed out that a freight elevator should be large enough to handle the average platform truck. He suggested that the size of the elevator be increased if it was to be used by other departments and

served all floors of the building. Gravity conveyors could be profitably employed where large quantities of case goods were handled. Dahl (15) suggested that goods could be sent directly into the storage areas by use of conveyor systems.

Dana (12) discussed space allotment for storage on the basis of a three-day stock level for perishable food and a thirty-day stock level for staple goods. Dukas (16) studied the problem of allocating space to the specialized departments within different types of mass feeding units and found that no single ratio could be considered reliable in allocating floor space to a department. Northrup (51) noted that the number of departments served, the location of the institution, the purchasing policy, and the plans for expansion played an important role in determining the size of the areas assigned for storage.

In the opinion of Dana (12), the staple storeroom should be located near the receiving area and in a logical line of routing to the kitchen storage and preparation units. The author specified further requirements for optimum storage space as follows: number of exits held to a minimum; doors through which the produce enters must be double and should open into a wide corridor; doors and windows should be locked; windows should be guarded with heavy mesh screening; cross ventilation was essential; floor must be constructed to bear

additional weight of stacked cases and to withstand constant traffic of heavily loaded trucks. Separate storage areas should be assigned for the storage of root vegetables and other fresh produce which do not require refrigeration.

Northrop (52) stated that refrigerators might be located within the food service department or under the control of the storeroom. If sufficient refrigerator storage was provided within the work units, storage boxes could be kept locked and thus limit the frequency of opening. Space assigned for the storage of frozen foods should open into refrigerated areas whenever possible.

### Organization of Purchasing Department

Organization is an invisible framework through which the effort of various individuals is combined into effective teamwork. According to Jucius (28) the responsibility of the purchasing department to some higher authority depended upon the organized policy of top management. The National Association of Purchasing Agents (49) reported that in the majority of cases the purchasing department reported to an authority which was responsible for the general policies of the company. Spriegel (61) stated that the purchasing agent participated in the formulation of purchasing policies and assumed the





responsibility for communicating those policies to his subordinates. The chief functions of the department, according to Heinritz (23), were buying materials of the right quality, in the right quantity, at the right time, at the right price, and from the right source.

The four recognized types of organization are: line or military, functional, line and staff, and committee. Line or military organization, in the opinion of Spriegel (61), referred to that type of organization in which each person was responsible only to his immediate superior. This type of organization is the oldest and the simplest. Jucius (28) noted that the distinguishing feature of a functional type organization was that each person, except those at the top level, reported to several supervisors, each of whom was a specialist in his own area. Line and staff organization has evolved as the best all-around type of organizational structure. Jucius (28) claimed that in this type of organization each employee reported to one supervisor but also received specialized service and help from various experts. These experts acted as advisors and counselors and had no direct responsibility for operations. Spriegel (61) stated that committee organization was seldom used except when owners or directors desired more time in which to select the person to whom they wished to entrust leadership.

Heinritz (23) explained that the buying and clerical division of a purchasing department was adapted to a line organization in which authority and responsibility for action were delegated by the purchasing agent through one or more stages of subordinates. From the standpoint of organization of the enterprise as a whole, Spriegel (61) noted that the purchasing department was a staff department. This department performed the same function in relation to materials and supplies that the personnel department performed pertaining to personnel.

Heinritz (23) pointed out that various titles were used to indicate the head of the purchasing department. The traditional title of purchasing agent was used most generally. The author further emphasized:

There is a sound legal basis for retaining the traditional designation. In law, a duly authorized agent is empowered to act for his principle (in this case, for the company) with full authority in respect to the duties which are assigned to him or are customary in that capacity, and in such acts as are usual or necessary in the performance of these duties. His title as purchasing agent and his signature with that title on purchase orders and contracts issued within his authority make such commitments binding upon the company and enforceable in the courts. The use of this title serves notice upon suppliers, and gives them assurance, that the orders and contracts are official and binding upon the company, which would not necessarily be the case with orders signed by other employees or even officers of the corporation not having this particular authority assigned to them.

Heinritz (23) maintained that the clerical staff of the purchasing department was important because of the large volume of paper work necessary in the processing of requisitions and the maintenance of records and reference files. West and Wood (68) suggested that the charting of an organization to present graphically the interrelation of parts to each other and to the whole was a valuable means of checking validity and clarifying existing relationships for the personnel.

#### Experience and Training of Key Personnel

Lewis (31) stated that the position of purchasing executive required a type of personnel with training, experience, and personal qualities unlike those needed for other executive positions. Good procurement was seldom achieved by those whose primary interests, training, and responsibilities were in other areas.

Heinritz (23) listed the following qualifications for purchasing executives:

1. Knowledge of materials and products which enable the purchasing agent to select the proper item and quality for the intended use.
2. Knowledge of accounting procedures, costs, economics, production management, and business law.

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3. Knowledge of administration in order to formulate policies, and to establish efficient procedures coordinated with those of other departments; and direct the work of the department according to this plan.
4. Ability to be analytical, objective, fair, research-minded, and resourceful.

According to Civil Service Examination for Purchasing Officer (6), applicants for the position must have had a designated number of years of general and specialized experience. Studies successfully completed in an accredited college or university could be substituted for the required general experience at the rate of one year of college study for nine months of experience.

Heinritz (23) stated that specialized courses of study and training for purchasing were offered in many college and university extension programs. In addition, the author emphasizes that purchasing was a function that was largely learned "on the job" and progressive company training courses have made provisions for this essential step. He commented that the clerical activities of the purchasing department were exceedingly important and necessitated a high degree of accuracy, understanding, judgment, and promptness.

## Purchasing Procedures

Because the need for purchasing arises from the requirements of an operation, the first essential in a purchasing program is establishing a method of notifying the buyer of these requirements. Before a purchase order is issued, sources of supply must be selected and negotiations for the most advantageous purchase must be made.

### Requisitions

Heinritz (23) defined a requisition as the form which set the purchasing process in motion by notifying the purchasing agent of the requirements of the department and by giving him the authorization to buy. The requisition is generally a simple form prepared in duplicate so that the carbon copy could be retained as a record in the department initiating the request. The original was forwarded to the purchasing office. The author indicated that in some companies two forms of requisitions were used a stores requisition on the stores department for items that were normally carried in stock and a purchase requisition for items that were to be procured. Lewis (31) stated that the purchasing agent could not be expected to buy for the department that requested the supplies unless he knew exactly what was wanted. Heinritz (23) suggested that the minimum information

required on any purchase requisition should include the date, a description of the material, the quantity needed, delivery date, and the signature of the authorized agent.

#### Methods of procurement

In a discussion on sound purchasing policy, Heinritz (23) emphasized that competition be established by soliciting bids from two or more satisfactory sources of supply. The author further stated that the formal invitation of bids was not used when orders represented a very small expenditure or when the time element made it impracticable. Lewis (31) stressed that purchasing on competitive bids called for careful selection of dependable sources of supply.

The National Association of Purchasing Agents (49) and Heinritz (23) emphasized that a list of six or eight dependable sources of supply should be maintained. In the opinion of Lewis (31), an accurately worded request for quotation should be submitted to a sufficient number of suppliers to assure a truly competitive price. Heinritz (23) explained that although the request for quotations could be done by a letter, a special form was usually provided. These forms, according to Frooman (21), should list the item to be purchased, a description of the item, delivery date and point.



The last step in purchasing by competitive bid, according to Heinritz (23), was the comparison of bids. Lewis (31) pointed out that the lowest bid was customarily accepted. Heinritz (23) explained that the buyer for private industry was not obligated to buy from the lowest bidders. In government buying, the award was made to the lowest responsible bidder. If there were several identical bids at the low figure, the government buyer drew lots to make his decision.

Brodner and co-workers (7) stated that open market buying was used by at least 95 per cent of all commercial food operations. Frooman (21) emphasized that this method was used exclusively by at least 90 per cent of the commercial and institution food buyers and was also used within prescribed limits by all public agencies and institutions. Open market buying requires the requests of informal quotations from one or more convenient sources of supply, and the order is then placed on terms most advantageous to the buyer.

Present tendency, according to Heinritz (23), was distinctly in the direction of procuring a greater number of items on a contract basis. Lewis (31) emphasized the importance of buying ahead for commodities which were marketing during a particular season.

Proffitt (55) explained the contracts that were used in purchasing canned foods. A firm at opening price contract (FAOP)

indicated that the buyer signed an unpriced contract and agreed to take the supplies at the price named by the packer when the pack was in progress or completed. A subject approval of price contract (SAP) was forwarded by the packer as soon as he obtained a reasonably accurate estimate of the crop yield. These contracts gave the buyer an option to buy a specified quantity, subject to approval upon naming of price.

#### Purchase order

A purchase order, according to Heinritz (23), was the form that initiated the actual procurement of supplies. This form was normally completed by a clerk in the purchasing office who transcribed the data from the original requisition to the purchase order. Lewis (31) emphasized that the placing of an order usually does and always should involve the use of a purchase order. Legal complications may develop if the orders are not confirmed in writing.

Lewis (31) and Heinritz (23) agreed that there were certain generally accepted essential requirements for a satisfactory purchase order form. These were: the serial number, date of issue, name and address of firm receiving the order, the quantity and description of the items ordered, the date of delivery, shipping instructions, prices, terms of payment, and conditions governing the order.

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Companies differed widely both in the number of copies of a purchase order issued and the method of handling. Lewis (31) described a typical distribution of copies as follows: The original to the vendor, sometimes accompanied by a duplicate copy to be returned by the vendor as an acceptance; one copy to the requisitioning and receiving department; another copy to the accounting department; and generally two copies were retained in the purchasing department.

### Material Management

The purchasing responsibility goes beyond the single act of making the purchase. A buyer must standardize his requirements and define the essential quality factors in such a manner that the purchase order will indicate exactly what is required. The supplies delivered must be inspected for quality and quantity before they are accepted. The control and complete accountability for the materials until they are issued is also an important responsibility of the purchasing department.

### Standardization

Kitchen (30) maintained that standardization was essentially an aid to orderly marketing and efficient buying and selling. The

need for standardization has developed with the commercialization of American agriculture. As the Middle West was settled, vast quantities of grain began moving long distances to the centers of consumption. Without standards there was no intelligent basis on which prices could be compared. To develop a common language for trading purposes, systems of grading grain were adopted by state governments, trade organizations, and boards of trade. Confusion resulted because there was no way to maintain uniformity without accepted authority to enforce rules or to compel the use of the same standards in all markets.

Some of the earlier methods of standardization attempted by the growers were discussed by Spangler (60). The variety of methods included marking containers with the grower's name, grading on the market by commission men, and grading at the country shipping point by representatives of the buyers. Trade marks and brands were developed by some of the larger shipping and producing organizations. This initial use of brand names did not prove to be successful.

The author outlined the development of Federal standardization for fresh fruits and vegetables from the first appropriation of funds for the study of marketing in 1907 to the status of Federal grades in 1946.

- 1907 Congress appropriated funds to the Department of Agriculture for the study of Federal standardization.
- 1912 Sulzer Bill or the United States Apple Grading Law was passed.
- 1913 Congress appropriated funds for conducting studies in the marketing of farm products. This was the authority for conducting investigations for the establishment of standards.
- 1915 United States Standard Barrel Act was passed.
- 1916 The Standard Container Act of 1916 made the use of certain containers compulsory.
- 1917 Food Products Act was passed which granted authority to the Department of Agriculture to investigate and certify to shippers the condition of produce when it was received at the central markets.
- 1918 Grades for potatoes became mandatory. Grades were also recommended for strawberries and bermuda onions.
- 1920 Grades were released for northern grown onions and for sweet potatoes.
- 1922 Congress granted authority to the Department of Agriculture to certify the quality and condition of fruits and vegetables at shipping points.

1946 United States standards for 114 products were completed at this time.

The United States Department of Agriculture (54) defined the three types of standards. A mandatory standard was an official standard, the use of which was compulsory in the conditions specified by law under which that standard was promulgated. A permissive standard was a standard which had been worked out and recommended officially for optional use. A tentative standard was defined as a standard offered by the United States Department of Agriculture for use under commercial conditions to test its practicability. A tentative standard may later become a permissive or a mandatory standard, according to the circumstances.

Viehamann (65) noted the following grades for farm produce.

1. Five United States grades have been established for butter:  
U. S. Grade AA (U. S. 93 score), U. S. Grade A (U. S. 92 score), U. S. Grade B (U. S. 90 score), and U. S. Grade C (U. S. 89 score).
2. United States grades have been developed for most of the fresh fruits and vegetables: U. S. No. 1 and U. S. No. 2.
3. United States grades have been developed for processed fruits and vegetables: U. S. Grade A U. S. Grade B, and

U. S. Grade C. Southerland and Linderer (59) explained government inspection and grading of processed fruits and vegetables.

4. The United States official grades established for beef are: Prime, Choice, Good, Commercial, Utility, Cutter, and Canner.
5. The United States official grades for veal, calf, lamb, and mutton are: Prime, Choice, Good, Commercial, Utility and Cull.
6. The United States standards for hog carcasses and cuts have been developed: U. S. No. 1, U. S. No. 2, U. S. No. 3, and Cull are used to indicate quality.
7. The United States grades for eviscerated chicken are listed as U. S. Grade A, U. S. Grade B, and U. S. Grade C.
8. The United States official grades for eggs: U. S. Grade AA, U. S. Grade A, U. S. Grade B, and U. S. Grade C.

A Check List of United States Department of Agriculture Standards for Farm Products (54) listed all the farm products for which standards have been established. Copies of these standards may be obtained from the Production and Marketing Administration.

Janssen (27) pointed out that the formulation of definitions and standards for food products has been an activity sponsored by



the Food and Drug Administration. This Administration was responsible for the enforcement of the Food, Drug and Cosmetic Act. Janssen further stated that three kinds of standards were established by the Food, Drug and Cosmetic Act: standards of identity, standards of quality, and standards of fill of containers. Definitions and Standards for Foods (20) contained the definitions and standards for foods promulgated under the Federal Food, Drug and Cosmetic Act.

Reindollar (56) explained that the Bureau of Animal Industry, under the Department of Agriculture, was responsible for the federal meat inspection service and the grading of meat. The federal grade stamp for meat denoted the quality and the federal inspection stamp certified that the animal was slaughtered under sanitary conditions and was free from disease and that the carcass was wholesome when the meat left the packing plant. Mohler (47) described the manner in which the federal meat inspection service operated. Bull (10) stated that about 60 per cent of the meat sold was federally inspected and that all meat which went into interstate commerce must have been inspected.

In an address at a meeting of a Marketing Research Workshop at Michigan State College, McCallister (41), Chief of the Technical Programs Division of the Marketing and Facilities Research Branch,

emphasized that the policies behind a successful standardization program should be based on recognized industry and consumer needs.

Using this plan, those responsible for developing standards established a number of principles:

One of these principles is that the standards should be based on the quality of the product actually produced and marketed. . . . Today's standards when they are established, deal with all of the marketable part of the crop, from the best to the poorest, not just the top quality. Also, it has been learned that standards for grades must provide for tolerances or allowances for the various defects that show up under conditions of commercial production and handling.

A second principle is that standards for grades must be designed so that they will be as useful to as many members of the industry and/or consumers as possible.

A third principle, that standards should reflect those commodity characteristics that the buyers all through the marketing process to the final consumer recognize and which influences the amount which they are willing to pay.

The fourth, and very important principle, is that the standards must be passed on factors that are practical to apply and still be uniformly applied and dependable.

In a discussion of federal grading and inspection, Spangler (60) explained that federal inspection at receiving points was conducted for the purpose of enabling the shipper, the receiver, and other financially interested parties to ascertain the condition of produce upon the arrival in the markets. Spangler further stated that inspection of government purchases was important for ascertaining whether or not dealers delivered the quality of produce defined in the contract specifications.

## Specifications

A specification, according to the National Association of Purchasing Agents (49), may be defined as a description of material to be purchased. This description should be sufficiently accurate and definite to insure receipt of the exact item wanted in a condition which will allow its economical use for the intended purpose. The United States government defined a specification as a statement of particulars in specific terms.

Bryan (8), Wenzel (66), Mitchell (46), Wood (72), and Miller (45) agreed that specifications must be selected or compiled by each buyer to fit the requirements of the particular situation. Brodner and co-workers (7) emphasized that a specification was a tool which must be selected with care and then used efficiently. They further stated that specifications provided suitable buying standards for a particular operation and that their use should result in uniformity and consistency in purchasing and receiving.

The National Association of Purchasing Agents (49) stated that a satisfactory specification should be practicable, simple, fair, flexible, and definite, but that it should not be more rigid than absolutely necessary. They further explained that on many occasions buying in accordance with specifications was not necessary and that

specifications could never wholly replace the factor of reliability and integrity of the vendor.

Frooman (21), referring to the procurement of canned fruit and vegetable products, stressed that it was easy to obtain facts which were needed for compiling specifications. The author emphasized the importance of obtaining information about production of the various food items and facts about available type, style, variety, grade, count, product size, can size, net contents, drained weights, quality tolerances, major producing areas, and canning seasons. Wenzel (67) discussed the method used to determine drained weights and other pertinent information concerning processed fruits and vegetables. Jacobs (25, 26), Wood (73, 74), Campbell (11), Dahl and co-worker (13), Todorff (64), and Logan (32, 35, 36, 37) furnished information which would assist the food buyer in the compilation of specifications. The American Hospital Association Manual of Specifications for Canned Fruits and Vegetables (1) presented general information on the preparation of specifications and detailed material for specific canned fruit and vegetable items.

Wood (73) compiled buying guides for fresh fruits and vegetables. The market situation, the method of packing, standards and grades, and suggestions for purchasing were included. Wenzel (67),

Logan (35, 36), Bemis and Seelig (4), and Schircliffe (58) discussed various factors in the marketing and purchasing of fresh fruits and vegetables. A Fruit and Vegetable Buying Guide (53), prepared by the Production and Marketing Administration, gave a comprehensive description of fresh fruits and vegetables. This guide included a table which showed the shipping season of fresh fruits and vegetables location. Information on specific products has been prepared by commercial organizations (3, 5, 19, 22, 24, 69).

In a discussion of meat buying guides, Wood (74) listed valuable information about types of meat, federal and packer grades, methods of merchandising, recommended standards and grades, and suggestions for purchasing. Bull (10), Logan (33, 34, 38, 39), Muellet (48), and Wenzel (67) also supplied material on the purchase of meat. Current information may be obtained from the National Livestock and Meat Board (44), National Poultry and Egg Board, and meat packers.

The United States Department of Agriculture, cooperating with the Army, Navy, and Veterans Administration, has prepared specifications on all foods purchased by these agencies which may serve as guides for the individual buyer in establishing his own purchasing specifications.

### Stock levels

The stock record card, as generally maintained by the stores department, is concerned not with the source and price of materials but with quantities. All receipts and disbursements are entered daily to give a current total figure of the quantity in stock. Heinritz (23) explained that visible type card files were particularly adapted for those records. The heading of each card required, in addition to the description of the item, the maximum and minimum stock quantities, ordering quantity, and the procurement cycle.

### Inventories

Lewis (31) maintained that the ideal requirements of an inventory system were simplicity, flexibility, accuracy, and timeliness. The basic requirements of an inventory control system as listed by Heinritz (23) included:

1. Standard classification of items
2. Adequate storage and supervision of goods
3. Adequate records to substantiate receipt of material and account for their disbursement
4. Accurate perpetual inventory record supported by periodical physical inventories

5. Established cost system

6. Analysis of inactive stores

Duncan (17) stated that the advantages of inventory control were almost unlimited. This control system promoted standardization, provided adequate protection and proper storage of supplies, prevented over and under buying, and eliminated order duplication.

In a study of food cost control, McKinley (42) showed that twenty-one out of twenty-seven college and university food service units used a perpetual inventory for all or part of their food supplies. The value of the perpetual inventory was also emphasized by Brodner and co-workers (7), Bryan (9), and Schensul (57). From a study conducted by the National Association of Purchasing Agents (49), it appeared that the use of perpetual inventory systems increased with the size of the organization. Heinritz (23) suggested the use of a perpetual inventory card which furnished the following information: name, description, unit, location in stores, maximum and minimum stock quantities, ordering point, receipts, disbursements, and balance on hand. He suggested the use of other cards on which additional information on purchases, prices, vendors, and specifications could be maintained. Winger (71) and Macha (43) stated that the perpetual inventory should be filed in the office of the person who purchased the

food. Lundberg and Kane (40) reported that in large food operations the perpetual inventory was often maintained in the storeroom and in the office of the manager. According to Lundberg and Kane (40) these cards should show identical balances at the end of the month. The preferred method of maintaining a perpetual inventory was the visible index card file, according to Duncan (17), Heinritz (23), and Winger (71).

Espersen (18) did not feel that the benefits derived from a perpetual inventory were worth the time and effort expended. He believed that efficient stock control could be maintained by an accurate physical inventory each month. West and Wood (68) stated that a perpetual inventory might not be justified in a small organization.

Lundberg and Kane (40), Brodner and co-workers (7), West and Wood (68), and Duncan (17) advocated the use of monthly physical inventories to check the card balances and emphasized that differences between the physical and the perpetual inventory should be investigated. Miller (45) suggested that the perpetual inventory be checked routinely by a physical count whenever a stock item reached the minimum count. Heinritz (23) advocated a fast turnover of inventory because less working capital was required. However, the rate of turnover must be balanced against the desirability of maintaining



adequate reserve stocks, of prudent forward coverage, and of economical quantity purchasing. Heinritz (23) listed several methods of pricing an inventory and each gave a somewhat different interpretation of inventory value. The cost or market method was the simplest and normally made use of the actual purchase cost. The other methods were average costs, first-in-first-out, last-in-last-out, and standard cost. Dahl (14) emphasized that food inventories should be valued at actual purchase cost.

### Receiving

The value of intelligent purchasing can be obliterated by careless receiving procedures. There must be a clearly defined receiving program with an accurate check on the quantity and quality of merchandise received. The National Association of Purchasing Agents (50) reported that the size of the organization determined somewhat the responsibility for the receipt of supplies. In the smaller purchasing organizations, 61 per cent were completely or partially responsible for the receiving function. However, this percentage dropped sharply as the size of the organization increased.

In the majority of the cases interviewed by the National Association of Purchasing Agents (49), the inspection for quality was



the responsibility of the receiving department. Heinritz (23) pointed out that the receiving department should be given prior notice about the expected arrival of goods through the use of a purchase order to aid in the identification of all materials received. Macha (43) listed the following steps to be used for checking quality: each item purchased by weight should be counted; items purchased in cases should be opened on a test basis to ascertain that the entire case contained merchandise as labeled; weights and counts determined by the receiving clerk should be compared with the shipping ticket or purchase order. Brodner and co-workers (7) and Whitefoot (70) stressed the importance of disregarding shipping tags or packing slips and obtaining the actual weight or count of an item.

Lewis (31) stated that the inspection for quality ranged from a routine check of the package label to a complete laboratory test or analysis. He further advised that merchandise purchased by brand name might require an occasional inspection, but a check on the results obtained by the using department might suffice. Merchandise purchased on the basis of grades or samples should be checked for compliance with the grade specified or the sample submitted. Products which were purchased on a specification basis required close checking. The Army Food and Messing Manual (2) furnished valuable information for checking the fitness of foods.

Lewis (31) added that if the goods passed inspection, they were released to the using department; if they failed to meet the specifications, several methods of rejection were open. Heinritz (23) listed the following methods of rejection: outright rejection, return for replacement, technical or engineering adjustment, and price adjustment. He advised that whenever adjustments were made, the vendor should be promptly notified why the delivery was unsatisfactory. The negotiations for adjustment were completed by the purchasing department.

### Storing

Storage facilities are important in the determination of purchasing policies. These facilities control the maximum quantities of the item that may be ordered. In order to save money through quantity buying, institutions and in-plant restaurants are making ample provision for warehousing a sizeable inventory. In the survey conducted by the National Association of Purchasing Agents (50), it was concluded that 60 per cent of the purchasing departments in the study considered storage capacity as a substantial factor in the determination of buying policy.

Heinritz (23) mentioned that the responsibilities for storage centered in a storekeeper and his staff. They were held accountable

for the orderly arrangement and care of materials, the maintenance of records, and the dispersing of supplies. Limiting access to the storage area only to authorized personnel seemed to be a standard recommendation.

Any system of stores control is predicated on orderly storage of materials and accounting for them while they are in storage. According to Dahl (15), there were two generally accepted methods of storage: alphabetically or by group classification. Heinritz (23) suggested that all quantities of a given item be kept together and each item be stored in a specified location. Sufficient room must be left between the aisles for the movement of hand and lift trucks. Goods should be stacked on skids and not directly on the floor.

Dahl (15) and Brodner and co-workers (7) advocated separate storage space for the various food groups which required refrigeration. Kir-Stimon (29) reported that many commission houses advised a holding temperature of 40° F for fresh fruits and vegetables. The author further stated that the temperature of the average meat cooler should be kept between 30° F and 34° F. In addition, he related that a combination of 34° F temperature and 85 per cent humidity with 50 to 60 cubic feet of air movement per minute gave a maximum of 2 per cent meat shrinkage per week.

Issuing

The disbursement of supplies is normally the responsibility of the storeroom personnel. Dahl (15) and West and Wood (68) emphasized that requisitions signed by authorized personnel should be presented for all supplies removed from the storeroom. Dahl (15) listed the following reasons for occurrence of shortages: allowing employees other than storekeeper to fill the requisitions; delivering goods on oral order; filling requisitions by guess rather than by actual count, weight or measure; filling orders partially and not recording the exact amount delivered or making credit memorandums for the missing goods; and omitting records of credit for swells, leaks, and breakage.

Supplies should be issued during a specified time each day, according to Brodner and co-workers (7). McKinley (42) and Brodner and co-workers (7) agreed that issuing meat from the refrigerators could be simplified by the use of a meat tag system. When the meat was received a tag was attached which indicated the date, the vendor, and the weight at the time of delivery. This method, according to Brodner and co-workers (7), had several advantages:

1. Meat could be issued without a second weighing.
2. Delivery date of meat easily checked.

3. Meat shrinkage during storage was allocated and, therefore, included in the daily food cost the day the meat was issued.

## METHOD OF PROCEDURE

### Institutions Selected for Survey

The institutions selected for this study included Ypsilanti State Hospital in Ypsilanti, Michigan; Veterans Administration Hospital near Battle Creek, Michigan; University of Michigan in Ann Arbor, Michigan; and Michigan State College in East Lansing, Michigan. All institutions used a form of centralized purchasing and were located within sixty-five miles of East Lansing.

### The Interview

The methods used in collecting the information for this survey were the questionnaire and the personal interview. The questionnaire was divided into eight sections: general information, physical facilities, allocation of space, organization of purchasing department, training of key personnel, purchasing procedures, receiving of supplies, storage of supplies, and issue of supplies. A copy of the questionnaire has been included in the Appendix. The interviewer used the questionnaire as a guide to assist her in conducting the interviews.



At Ypsilanti State Hospital the Business Manager and the Assistant Business Manager were interviewed. The State Food Buyer in the Purchasing Division at Lansing was also contacted. The Chief of the Dietetic Service, Chief of Supply Division, and Chief of Procurement Section were interviewed at the Veterans Administration Hospital near Battle Creek. At the University of Michigan the Manager of the Food Service building and the Food Buyer were interviewed. The Manager of the Food Stores building and the Head of the Staples Department were interviewed at Michigan State College.

The information received was compiled into a written report for each institution. The physical facilities and departmental organization, purchasing procedures, and material management were discussed. Figures were presented to show the relationship of purchasing procedures and material management in the four selected institutions.

## DISCUSSION

Purchasing has no single most important factor, but instead it is made up of a combination of procedures determined by the nature of the business. Purchasing programs reflect the attitudes and policies of management. To operate most efficiently the procedures must be adapted to the type of organization for which the purchasing is done.

The location of the institution in relation to sources of supply and transportation facilities is one of the determining factors in the selection of a vendor and the frequency of delivery. Available storage space at the institution is another controlling factor in the establishment of purchasing procedures. The food budget, type of menu, and composition and number of clientele served determines the quality and quantity of food purchased.

The purchasing responsibility goes beyond the single act of making the purchase. It involves planning and scheduling, policy decisions, research and selection for materials and sources of supply, issuing the order, inspection for quantity and quality of supplies before acceptance, and the control of supplies after they have been received.

Interviews with employees responsible for the procurement of subsistence supplies at four selected institutions furnished information for the study. The findings of each interview are reported separately.

### Ypsilanti State Hospital

Ypsilanti State Hospital located thirty-six miles from Detroit is the largest state-operated institution for the mentally ill in Michigan. The hospital is under the jurisdiction of the State Department of Mental Health. At the time of this survey, three food production units were serving 4,100 patients and 130 hospital personnel. The food service production level was constant because the patient census seldom varied more than ten.

A Recommended Dietary Standard for Mental Hospitals in Michigan had been distributed by the State Budget Division in 1949. Food commodities were divided into seven classifications: milk products; fruits, vegetables, and legumes; eggs; meat, fish, and poultry; flour and cereals; fats and oils; sugar and miscellaneous items. Serving portions which insured the adequate nutrition of the patients and allowed the hospital to operate within the food budget were established within these groups. A per capita food report was

submitted monthly to the State Budget Division which compared the actual food usage at the institution with the approved pattern.

A standard menu was served in all units. The hospital operated on a raw food cost of forty-eight cents per person per day. This cost included an actual expenditure of forty-two cents and an allocation of six cents from the state for surplus commodities. During the time of this study the following surplus commodities were available: butter, canned beef, salad oil, dried skim milk, dried eggs, and peanut butter.

An 800 acre farm, operated by the hospital, furnished the food production units with two-thirds of the daily milk supply and all of the pork carcass requirement. From May until October the farm supplied the following commodities in season: radishes, green onions, asparagus, lettuce, cucumbers, tomatoes, greens, green beans, peppers, cabbage, sweet corn, beets, carrots, rutabagas, turnips, parsnips, squash, strawberries, peaches, pears, grapes, and apples. Breads and desserts, including ice cream, were produced by the central bakery. The meat shop fabricated and portioned meat and meat products for the hospital kitchens.

### Physical facilities and departmental organization

Subsistence supplies for Ypsilanti State Hospital were procured through the State Purchasing Division and the office of the Business Manager at the hospital. The hospital warehouse included dry storage and refrigerator space not only for Ypsilanti but for other state institutions.

The storage warehouse was a one-level building constructed of concrete blocks and connected to three central kitchens by covered ramps. Supplies were delivered either by hand trucks or by motorized vehicles. The basement area was allocated to storage refrigerators: two for potatoes, three for farm produce, and one each for dried fruits and vegetables, frozen produce, cheese and fresh fruits, eggs and butter, and woolen blankets. The temperature of each refrigerator was individually controlled and adjusted to meet the specific storage need. The temperature of two refrigerators could be lowered to -7° F, and this space was utilized for storage of frozen meats.

The receiving area on the first floor included a loading platform for three semi-trailers and for three railroad freight cars. Overhead scales and platform scales facilitated accurate inspection and receiving of goods. The office of the Storekeeper was located

in the center of the first floor and was convenient to the receiving dock and the issuing area.

The remainder of the space on the first floor was utilized for the storage of staples, canned goods, and for two meat refrigerators. Approximately one-third of the storage area was reserved for subsistence items and the remainder for the storage of other supplies and equipment required for the hospital.

In 1949 the state legislature created the Department of Administration which assumed the purchasing authority formerly vested in the State Administrative Board and the Board of State Auditors. Within this department a Purchasing Division was established and became responsible for formulating and enforcing sound purchasing policies and procedures. In Figure 1 the organization of the State Purchasing Division is shown.

The State Food Buyer, one of seven buyers in the Procurement Section of the Purchasing Division, had been employed by the state for thirty-nine years and had served fifteen years as Food Buyer. He was responsible for purchasing or contracting of all subsistence supplies required by the food service departments in the state institutions. His duties and responsibilities were governed by state laws and by methods and procedures approved by the State Controller.

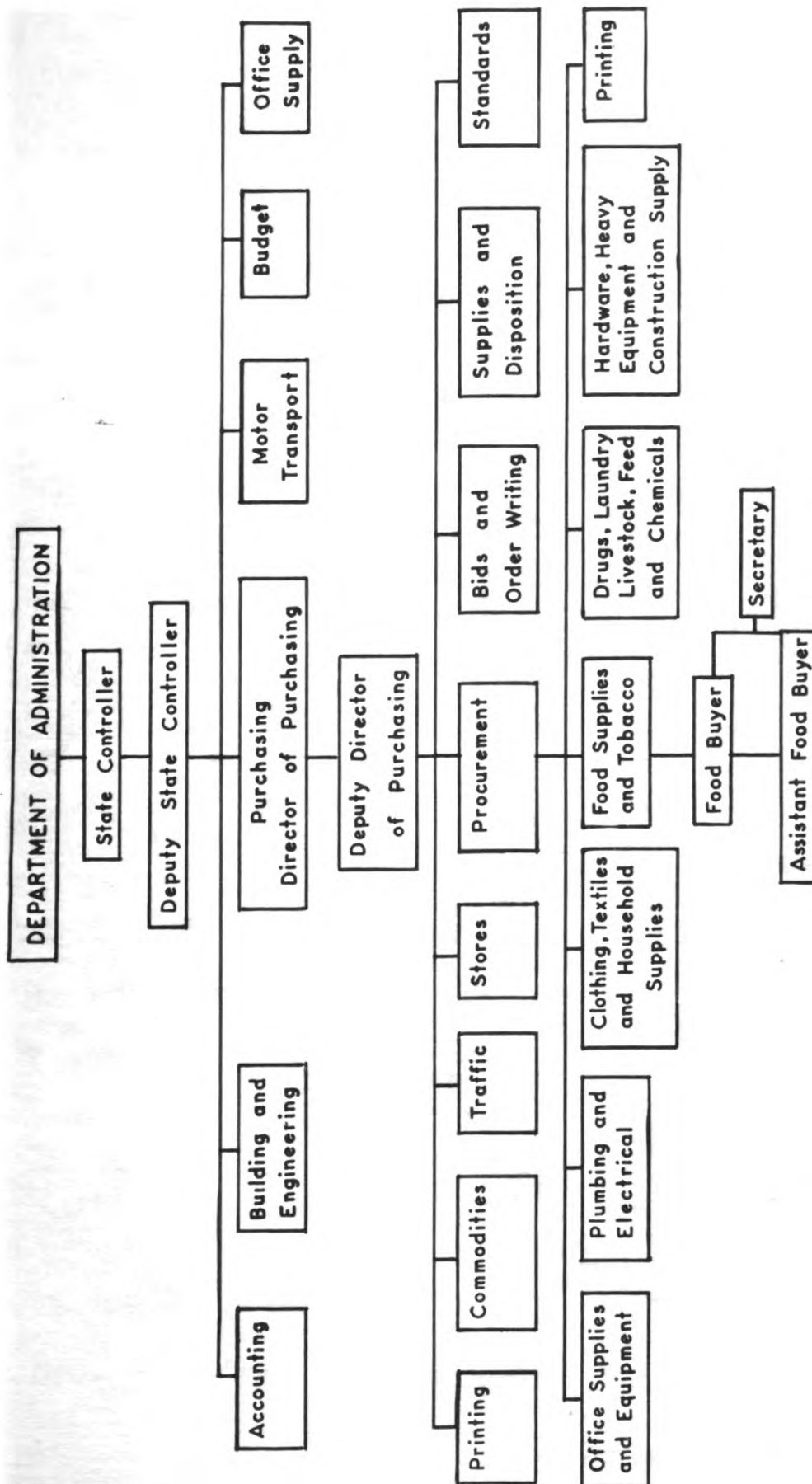


Figure 1. Organization of the State Purchasing Division, Lansing, Michigan

A food buyer trainee, assigned to assist the Food Buyer, was specifically responsible for purchasing macaroni, spaghetti, noodles, ice cream, fountain supplies, dried fruits and vegetables, bakery goods, and spices. The trainee had graduated from Michigan State College in the School of Business Administration and had worked one year for the Gibson Refrigerator Company. He had served in his present position for approximately one year.

The Hospital Business Manager was responsible for all services at the hospital other than medical and personnel. Authority had been delegated to the respective Business Managers in the state institutions to procure some subsistence items locally and to order against state contracts. The organization of the office of the Hospital Business Manager is shown in Figure 2. The Hospital Business Manager had served in this capacity since the hospital opened in 1931. He graduated from Michigan State College in Dairy Agriculture and was an instructor in the dairy department. He also served as State Farm Coordinator for the State Department of Agriculture.

The Assistant Hospital Business Manager was directly responsible for the operation of the kitchens and the warehouse; consequently, he procured the subsistence supplies needed by the hospital. In addition, he assisted the Business Manager in the performance of his



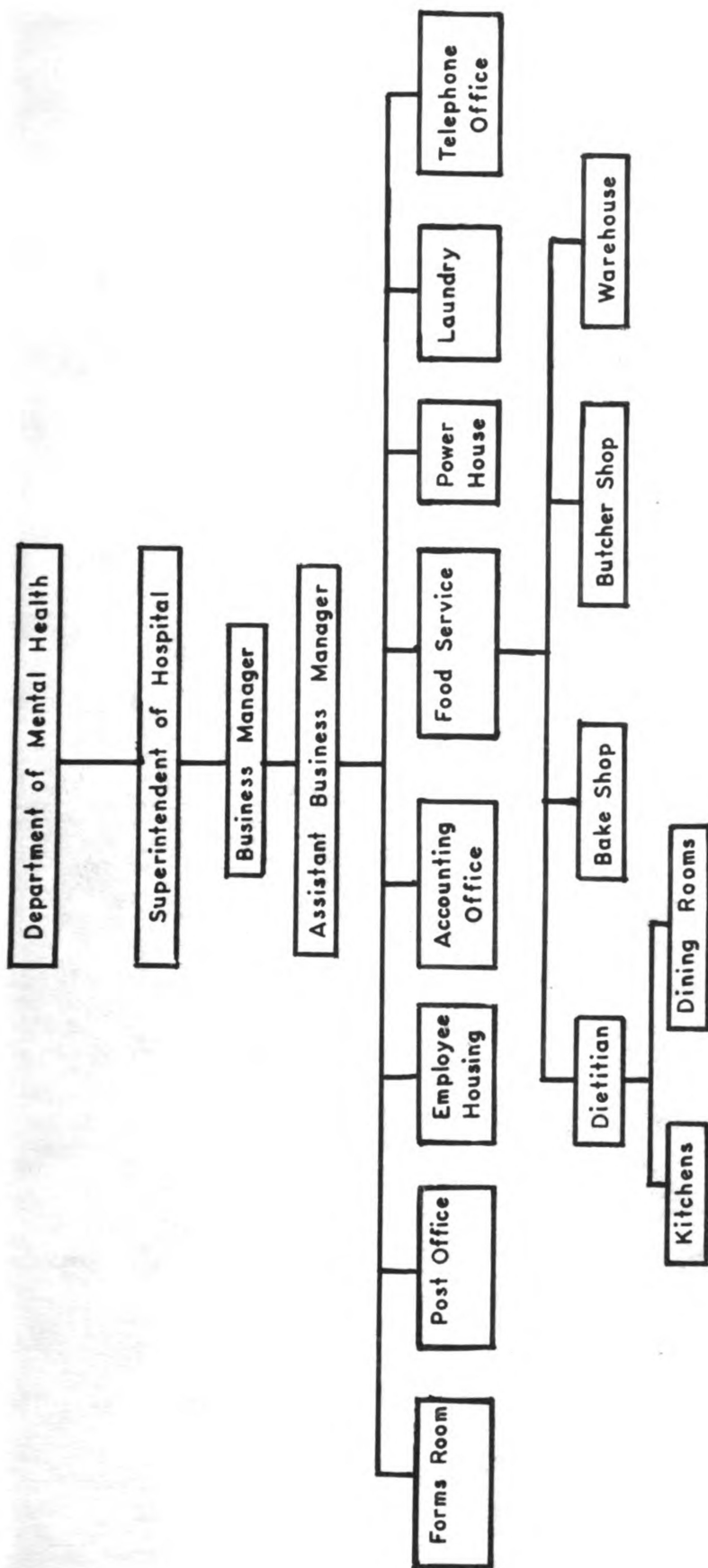


Figure 2. Organization of the Office of the Hospital Business Manager, Ypsilanti State Hospital

duties. The Assistant Hospital Business Manager had occupied this position for eight years. He graduated from Michigan State College in Hotel Administration and subsequently served four years as Sales Officer for the Army Quartermaster Corps.

The Hospital Storekeeper received, stored, and issued all supplies and equipment used at the hospital. An Assistant Storekeeper and four laborers assisted with the maintenance of the warehouse. The Storekeeper had occupied his present position for two years. Prior to that assignment, he served for twenty years in the warehouse, half of that time as Assistant Storekeeper.

### Purchasing procedures

The relationship of subsistence purchasing procedures and material management at Ypsilanti State Hospital and the State Department of Administration is presented in Figure 3. The Hospital Business Manager initiated the purchasing procedures. An inter-department purchase order was prepared to obtain supplies from the cannery at Jackson Prison and from storage centers located at other state institutions. The departmental purchase order and contract release form authorized vendors with state contracts to ship supplies to the hospital. This form was also used to obtain supplies on the local market

## State Purchasing Division

## Food Buyer

Consolidates Purchase Requisitions from the state institutions.

Prepares Request for Quotation and forwards to qualified vendors. Sealed bids required for purchases which exceed \$2,000.00 and unsealed bids required for purchases which total less than \$2,000.00.

Opens, reads, and tabulates sealed bids at a public hearing at specified date and time. Cuts samples and inspects grading certificates for processed foods. Indicates award on tabulation sheet.

Opens unsealed bids and indicates the successful bidder on the tabulation sheets, which are available for public inspection.

Awards made to lowest qualified bidder. If lowest bid not accepted a written explanation is submitted to the State Administration Board.

## Order Writing Department

Prepares seven copies of Purchase Order and forwards original copy and blank Invoice-Voucher forms to vendor. Forwards additional copies to the Food Buyer, Accounting Division, and institution requesting the supplies.

## Accounting Division

Receives Purchase Order from purchase order writing room, Invoice-Voucher from vendor, and Delivery Report from institution. Compares the above reports and authorizes payment if correct; otherwise, State Food Buyer is notified of the discrepancy.

## Vendor

Completes Request for quotation according to printed instructions and returns bid by specified date and time.

## Vendor

Delivers supplies indicated on Purchase Order to hospital warehouse

Prepares six copies of Invoice-Voucher and forward five to the Accounting Division of the Department of Administration.

Figure 3. Relationship of Purchasing Procedures and Material Management, Ypsilanti State Hospital, Ypsilanti, Michigan.

Office of the Business Manager

Prepares Purchase Orders for local, inter-departmental, and contract purchases. Prepares Purchase Requisitions for other subsistence supplies. Quantities determined by previous usage, quantity on hand, and amount required to meet ration pattern. Quality established by Food Commodity Standards for Department of Mental Health.

Forwards copies of Purchase Order to hospital warehouse and Purchasing Division in Lansing. Forwards Purchase Requisition to State Food Buyer.

↓  
Hospital Warehouse

Receives, weighs, measures, or counts all supplies. Inspects carefully to verify quality of merchandise indicated on Purchase Order. Checks processed foods against government grading certificates supplied by State Food Buyer.

Prepares Receiving Report and forwards to hospital accounting office if Purchase Order and Receiving Report agree; otherwise, Assistant Business Manager is notified. He correct irregularity and forwards a Complaint to the Vendor Report to the State Food Buyer.

Posts quantities received on warehouse inventory cards.

Stores supplies until Institution Stores Requisition is submitted by Dietitian. These requisitions are approved by Assistant Business Manager.

Issues staple supplies weekly; meats, fresh produce, and dairy products daily. Deducts quantity ordered from the inventory cards and indicates this balance on the Institution Stores Requisition.

Forwards one copy of Institution Stores Requisition with the delivery; retains one copy and forwards one copy to the accounting office.

↓  
Hospital Accounting Office

Prepares a Delivery Report from the information stated on Receiving Report and posts quantity received on perpetual inventory cards. Forwards Delivery Report to Account Division, Department of Administration.

Deducts quantity requisitioned by hospital kitchen from the inventory cards and compares balance on the cards with those indicated on the Institution Stores Requisition.

valued in excess of twenty dollars. For example, fresh fruits and vegetables were procured at the Detroit Terminal Market by an Ypsilanti wholesale produce vendor. He purchased at the market price and charged the hospital twenty-five cents per container for delivery charges. An imprest cash purchase order, a combination purchase order and invoice, was used for local purchases of less than twenty dollars. The institution paid the bill from imprest cash and was reimbursed monthly by the Lansing Purchasing Division

A purchase requisition was submitted to the Food Buyer in Lansing for all other subsistence items needed by the hospital. Supplies were requisitioned for an interval of one, three, six, or twelve months. Food commodities had been divided into twelve groups, and one group was ordered each month by all state institutions. This apread the buying activity uniformly throughout the entire year. Sugar, potatoes, and flour were the only commodities ordered when needed. Quantities listed on the purchase requisitions were determined by previous usage, the quantity on hand, and the amount required to meet the standard dietary allowance for mental hospitals.

The Food Buyer consolidated the purchase requisitions from the institutions and submitted a request for quotations to approved vendors. The descriptions of the required commodities were taken

from the standard specifications which had been established for mental hospitals. Specific instructions for bidders were printed on the back of the request for quotation forms. (See Appendix Figure 14.)

All purchases made by the food buyer were on the basis of competitive bids. Sealed bids were required for all purchases estimated to exceed \$2,000.00. Submission of quotations was required according to a specified date and hour. At the indicated time, they were opened, read, and tabulated at a public hearing. Bids for purchases valued at less than \$2,000.00 were returned by a specified date, but a public opening was not held and results were not made public until after the awards had been designated by the food buyer. All bids were listed on a tabulation sheet according to product, vendor, and price. The successful bidders were encircled in red and these tabulation sheets were available for public inspection. Awards were made to the lowest responsible bidder. If the low bid was not accepted, a written explanation was submitted to the State Administrative Board. Preference was given to those commodities produced or manufactured within the state if quality, price, availability, and usability were equal.

The order writing department prepared purchase orders from the tabulation sheet and the quotation form of the successful bidder.

The order writing department retained one copy of the purchase order and forwarded a copy to the Food Buyer, vendor, and Accounting Division. Three copies were submitted to the institution that requested the commodity.

A blank invoice-voucher form accompanied the purchase order which was sent to the vendor. The vendor prepared the form, retained one copy, and forwarded five to the Accounting Division of the Department of Administration. The invoice was compared with the delivery report submitted from the hospital and a copy of the purchase order. If all were correct, payment was authorized.

### Material management

Food commodity standards for the mental hospitals in Michigan had been established by a Food Committee which consisted of the Business Managers from three state mental institutions, the Food Buyer, representatives from the Department of Mental Health, and the specification department. A copy of these commodity standards had been distributed to all state mental institutions. Each item was assigned a number which corresponded to a specification card completed for each food commodity. These cards contained detailed descriptions of the standard food item and were on file in the office

of the Business Manager at each state mental institution, the Department of Mental Health, the specification office, and the office of the Food Buyer.

The following grades were used to indicate the quality of items acceptable for the mental institutions in Michigan: U. S. Grade 1 for fresh fruits and vegetables; U. S. Choice, Fancy, and Extra Standard for canned fruits and vegetables, with the exception of pineapple and blackberries; U. S. Grade Good for veal carcass; U. S. Grade Good for mutton carcass; U. S. Grade 1 for beef liver; U. S. No. 2 for smoked hams; U. S. No. 2 for bacon; Michigan Grade 1 for frankfurters and sausage; U. S. Grade A and B for eggs; and U. S. score 90 and 92 or higher for butter.

Government grading certificates and samples were required for all canned fruits and vegetables. A copy of the grading certificates was sent to each institution which would receive a shipment of the commodity. All meat was government inspected and graded. A copy of the purchase order was sent to the government meat inspector in charge of the area in which the vendor was located. Eggs were inspected by the United States Department of Agriculture and the Michigan State Department of Agriculture. Cheese and butter were also state inspected.



A perpetual inventory was maintained for all subsistence items by the hospital accounting office and the Hospital Storekeeper. The inventory in the warehouse was based on the bin card system. A card for each commodity was located at the storage point and listed the amount received, the amount on hand, and the amount issued. Information for posting on the perpetual inventory cards in the warehouse was obtained from the receiving report and the institution stores requisition. The Hospital Storekeeper indicated the amount on hand and the new balance on the stores requisition form as the orders were filled. Employees in the accounting office compared the balance on the perpetual inventory cards in the accounting office with the balance stated on the institution stores requisition.

A physical inventory was taken once a year, and individual items were spot checked whenever a discrepancy occurred between the two perpetual inventories. Supplies purchased from the revolving fund and stored in the hospital warehouse were inventoried at the end of each month, and a written report was forwarded to the Food Buyer in Lansing.

Hospital equipment and supplies, including subsistence items, were received by the Hospital Storekeeper and his assistant. A copy of each purchase order was forwarded to the warehouse by the State

Food Buyer and the Business Manager. This form facilitated the preparation of the receiving report.

When subsistence items were received, the Hospital Storekeeper prepared a receiving report. All subsistence items were weighed, measured, or counted. Weights from shipping tags and packing slips were disregarded, and the vendor was paid for the exact quantity of the item delivered. Supplies were carefully checked for evidence of the government grading, the inspection stamp on meats, and compliance with the description on the purchase order. The receiving report described the item delivered, indicated the quantity delivered, the unit of delivery, the method of delivery, the vendor, the number of the purchase order, and the new balance on hand.

If the purchase order and the receiving report agreed, the receiving report was submitted directly to the hospital accounting office. The Assistant Business Manager was notified if a discrepancy occurred. Any irregularity was corrected at the station level if possible, and a complaint-to-the-vendor form was initiated and forwarded to the State Food Buyer.

The quantities listed on the receiving report were posted on the perpetual inventory cards in the warehouse and in the

accounting office. The warehouse indicated the new balance for each item on the receiving report before forwarding it to the accounting office. A delivery report was prepared from the receiving report and was submitted to the Accounting Division in Lansing. If this office observed a discrepancy in the delivery report, the purchase order, or the invoice-voucher, the problem was referred to the State Food Buyer; otherwise, the voucher was authorized for payment.

Ypsilanti hospital was one of eight state institutions which had been selected as a regional warehouse to serve other institutions in the area. All items stored in the warehouse were under the surveillance of the Hospital Storekeeper. Items purchased from the revolving fund and stored in the warehouse were the property of the State Food Buyer until released to the respective state institutions.

The available floor space at the time of delivery determined the storage arrangement. Large quantities of subsistence items were stored on dunnage racks and small items and broken cases were stored on shelves. The storage areas in the three central kitchens were adequate to store supply of staples for one week.

Subsistence supplies were issued by the warehouse upon the receipts of an institution stores requisition, filled out by the Dietitian

and approved by the Business Manager. A separate requisition was used for each food commodity. The kitchens submitted a weekly order for staples which was delivered at one time. Requisitions for meats, fresh produce, and dairy products were submitted once a week for daily deliveries of these commodities. The old balance, the quantity ordered, and the new balance were noted on the requisition, when the warehouse filled the orders from the institution stores requisition. As each order was filled, the quantity ordered was deducted from the warehouse inventory cards. A copy of the institutions stores requisition was sent with the order to the requisitioning unit. One copy was retained in the warehouse and one was forwarded to the accounting office for posting on the perpetual inventory cards.

#### Veterans Administration Hospital

The Veterans Administration Hospital, located near Battle Creek, Michigan, is one of the largest of the 170 hospitals under the direction of the Department of Medicine and Surgery of the Veterans Administration. The hospital had two food production units and fifteen food service units. These units served approximately 2,000 male patient rations and 270 employee rations per day. This total census was relatively stable with a variation of less than 1-1/2 per cent during the fiscal year of 1953.

In 1948 a study was conducted by the Department of Medicine and Surgery in an attempt to eliminate the discrepancy in food costs and nutritional values among the Veterans Administration hospitals. As a result of this study a standard ration pattern was developed.

The standard ration pattern established a specific number of ounces per ration of nine basic raw food classifications: green and yellow vegetables; citrus fruits and tomatoes; potatoes, other vegetables and fruits; milk and milk products; meat, poultry, fish, and eggs; bread, flour, and cereals; butter and fortified margarine; fats, other than butter and margarine; and miscellaneous foods. Menus planned in conformance with the standard ration pattern met all requirements of the National Research Council Recommended Dietary Allowances for physically active males. Supplementary allowances were made to compensate for nutritional needs created by pathological states, certain environmental conditions, and previous periods of depletion. Veterans Administration officials credit this system with reducing the Veterans Administration hospital food bill in the United States by \$1,800,000.00 per year.

Food production for the Veterans Administration Hospital near Battle Creek was found to be well organized. Operational control was facilitated in a central kitchen. The food items served in

all units were identical and followed the standard menu pattern. Standardized recipes were issued to the individual hospitals by the central office of the dietetic service. These recipes were supplemented by recipes standardized in the individual units. The hospital bakery produced breads, rolls, pies, cakes, puddings, and ice cream.

A farm of 40 acres was operated by the hospital as an occupational therapy measure for the patients. This farm supplied the dietetic service with approximately 200,000 pounds of fruits and vegetables and 120,000 pounds of pork each year. Additional supplies were purchased from local markets and vendors in Detroit and Chicago.

#### Physical facilities and departmental organization

The physical facilities of the purchasing department included storage and refrigeration space at the hospital and storage space at the supply depot. Supplies for the Veterans Administration hospitals were obtained through the central office and the individual stations. Three supply depots have been established to receive, store, and issue the standard items of subsistence, maintenance, and equipment that were procured by the central office. The supply depot in Hines, Illinois, served the Veterans Administration installations in the twenty-four Midwestern states.



This depot covered 10 acres of ground. Supplies were received and delivered by railroad and truck. Three railroad spurs served the depot and a large loading platform was available for trucks. The need for refrigerated space at the depot was small. Only a limited inventory of dried fruits was stored in the refrigerators because the supply depot in Wilmington, California, stored dried fruits for all depots. The supply depot stocked approximately 250 staple subsistence items which included canned fruits, vegetables, meat and fish, vegetable and fruit juices, condiments, dried fruits, sugar, dried peas and beans, flour, evaporated milk, dry skim milk solids, rice, noodles, macaroni and spaghetti.

When the subsistence supplies from the depot were received at the hospital they were stored in the subsistence warehouse and were under the surveillance of the hospital supply division until issued to the dietetic service. This division also maintained a root cellar for the storage of potatoes, squash, cabbage, rutabagas, and apples. All fresh and frozen fruits and vegetables were stored in the five cubic foot sharp freezers in the dietetic department. Refrigerator space for perishable supplies as well as warehouse storage for staple supplies was minimal.

The organization of the purchasing department was determined at the federal level. The supply department under the



Department of Medicine and Surgery in Washington, D. C., originated the basic purchasing policies and procedures administered by the field stations. Veterans Administration manuals and central office directives governed the purchasing activities at the station level. In Figure 4 the organization of the Veterans Administration Department of Medicine and Surgery is shown.

The Chief of Supply Division at the station level was responsible for the formulation and execution of the station policies and procedures in conformance with the central office manuals and directives. The organization of the supply division at the station level is illustrated in Figure 5. The delegation of authority and the coordination of activities within the department were performed by the chief of this division, who has been in charge of the supply division for the last seven years. Between 1943 and 1947 he served as Chief of the Supply Division in four other Veterans Administration installations. He has been employed by the Veterans Administration for twenty-nine years.

The Assistant Chief of Supply Division assisted the chief in the performance of his duties and accepted the responsibility for the department in the absence of the Chief of Supply Division. He has been in this position for the last ten years. For a ten year period

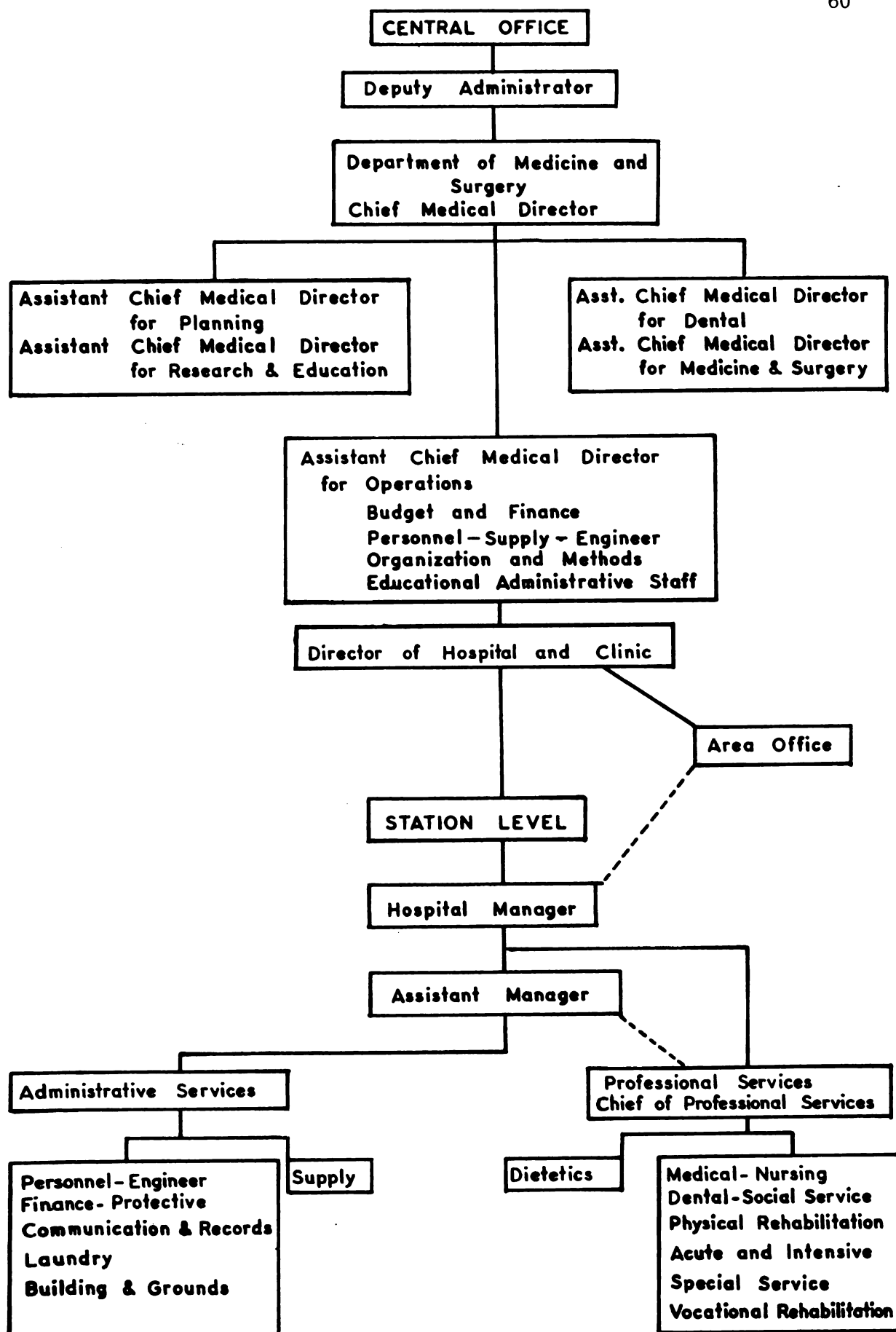


Figure 4. Organization of the Veterans Administration Department of Medicine and Surgery

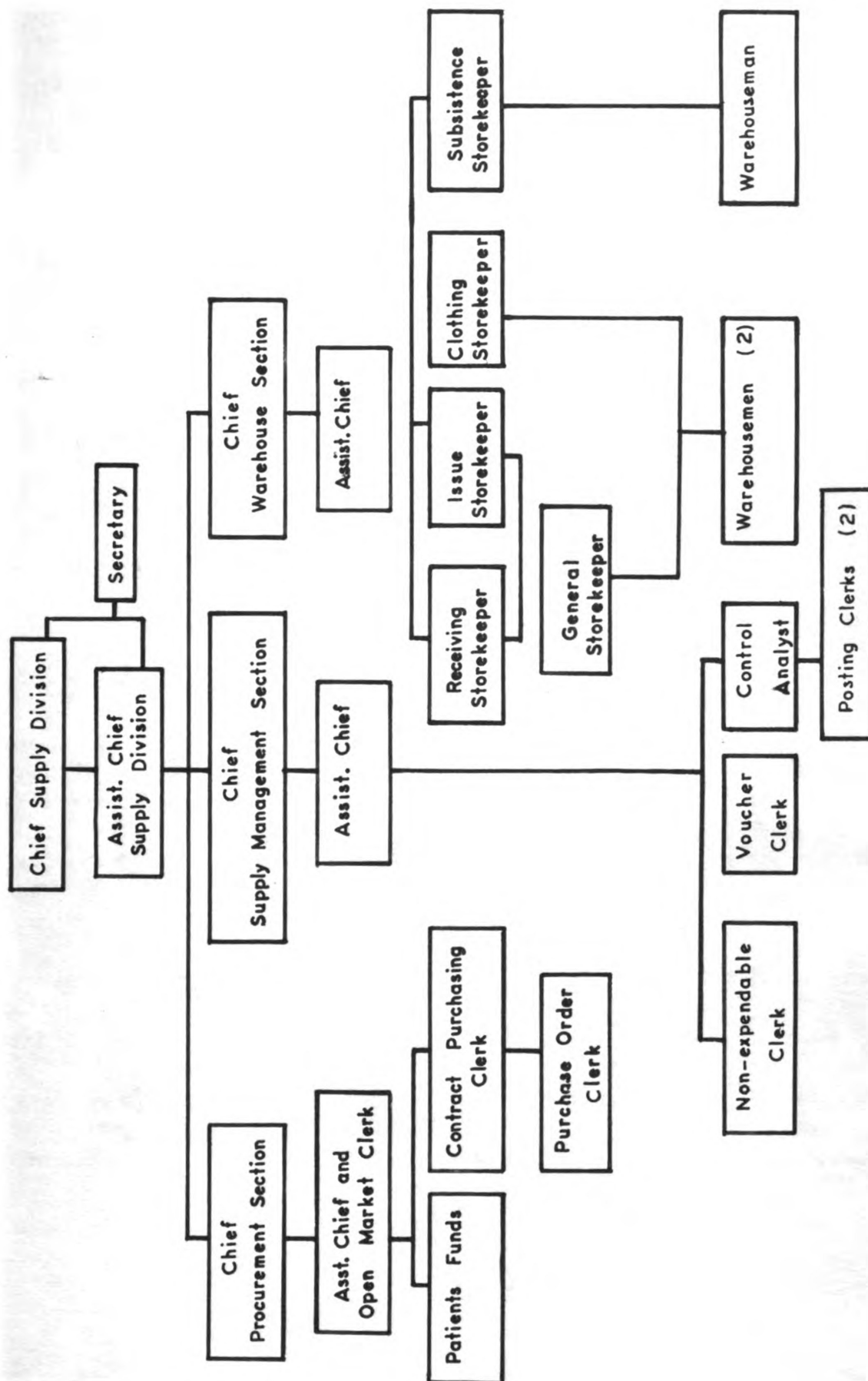


Figure 5. Organization of the Supply Division, Veterans Administration Hospital, Battle Creek, Michigan

before this he worked in several other Veterans Administration hospitals in which he advanced from Warehouse Storekeeper to Assistant Chief of the Supply Division.

In line directly below the Chief and the Assistant Chief of Supply Division were three positions of equal rank: Chief of Procurement, Chief of Supply Management, and Chief of Warehouse Section. The men in these positions were responsible for the activities within their departments. Each directed his business and executed the station policies and procedures that applied to his particular section.

The Chief of Procurement was responsible for obtaining on the open market or by contract the necessary supplies, equipment, and services. The activities involved in the procurement of these supplies were under the supervision of the chief of this section, who had occupied this position since 1944. Prior to qualifying for a civil service position, he was foreman in charge of purchasing for a garment factory. As a civil service employee he worked as a ward attendant, clothing room clerk, and transportation clerk until his promotion to his present position as Chief of Procurement Section.

The Chief of Supply Management was responsible for the procurement of those supplies stored in the Veterans Administration depot.



The upkeep of inventories and the control of the stock levels on all standard items were assigned to this section. The Chief of Supply Management has occupied this position for the last three years. Prior to this assignment he was Chief of the Warehouse Section for three years. He also served in several other positions in procurement and supply management sections before his promotion to Chief of Warehouse Section.

The Chief of the Warehouse Section was responsible for receiving, storing, and issuing all supplies and equipment used at the hospital. He had held his present position three years and had been promoted through two civil service grades.

The formal training requirements for key personnel at the station level were minimal. Training and experience were generally obtained on the job.

### Purchasing procedures

The sequence of purchasing procedures which were involved in the supply division and the dietetic service at the Veterans Administration Hospital, near Battle Creek, Michigan, is illustrated in Figure 6. The purchasing process in this organization was initiated on a standard requisition form. All requisitions for subsistence items for use

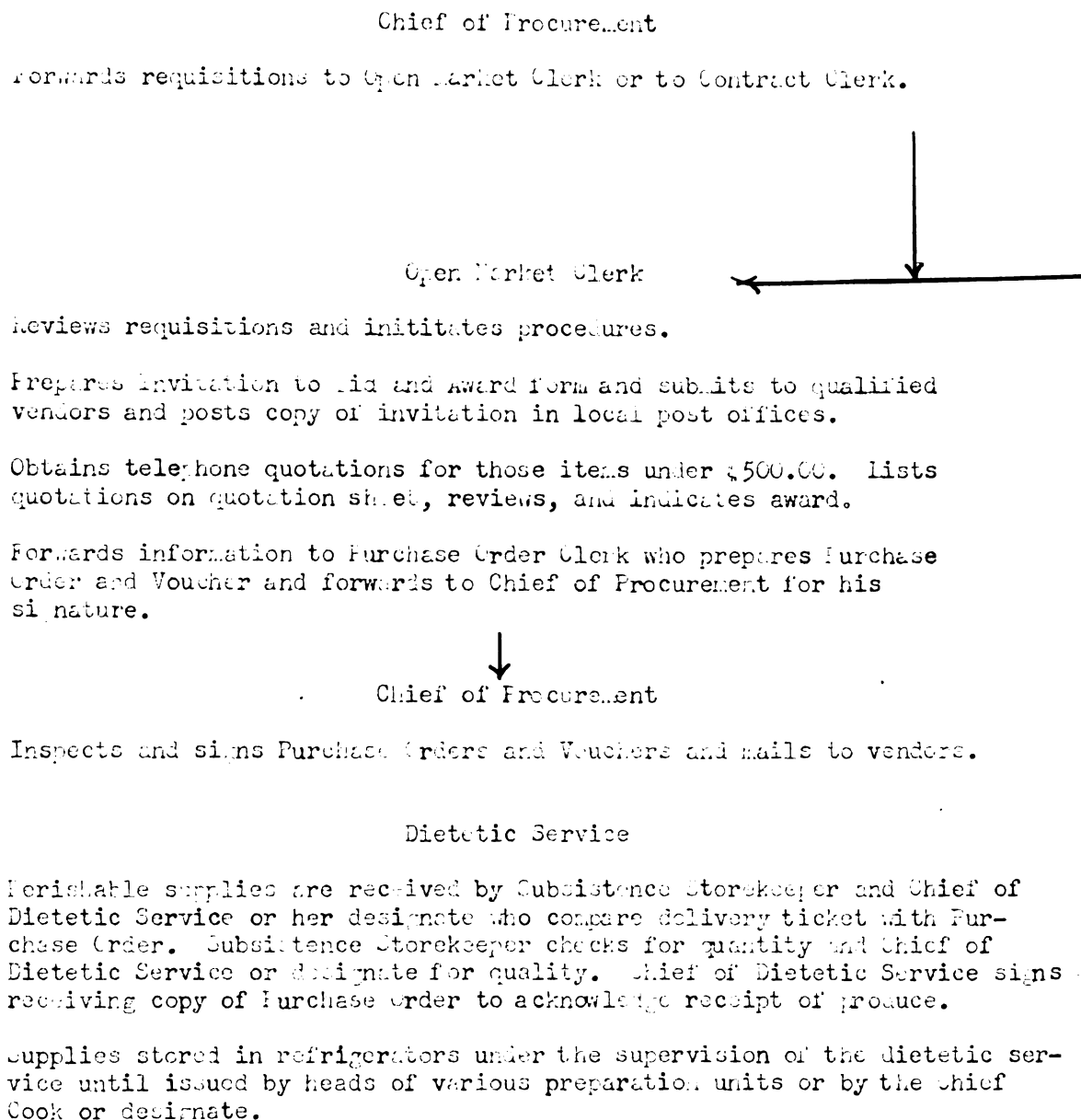


Figure 6. Relationship of Purchasing Procedures and Material Management, Veterans Administration Hospital, Battle Creek, Michigan.



## Chief of Procurement

Forwards requisitions to Open Market Clerk or to Contract Clerk.

## Open Market Clerk

Reviews requisitions and initiates procedures.

Prepares Invitation to Bid and Award form and submits to qualified vendors and posts copy of invitation in local post offices.

Obtains telephone quotations for those items under \$500.00. Lists quotations on quotation sheet, reviews, and indicates award.

Forwards information to Purchase Order Clerk who prepares Purchase Order and Voucher and forwards to Chief of Procurement for his signature.

## Chief of Procurement

Inspects and signs Purchase Orders and Vouchers and mails to vendors.

## Dietetic Service

Perishable supplies are received by Subsistence Storekeeper and Chief of Dietetic Service or her designate who compare delivery ticket with Purchase Order. Subsistence Storekeeper checks for quantity and Chief of Dietetic Service or designate for quality. Chief of Dietetic Service signs receiving copy of Purchase Order to acknowledge receipt of produce.

Supplies stored in refrigerators under the supervision of the dietetic service until issued by heads of various preparation units or by the Chief Cook or designate.

Figure 6. Relationship of Purchasing Procedures and Material Management, Veterans Administration Hospital, Battle Creek, Michigan.

## Chief of Dietetic Service

Chief of Dietetic Service prepares requisitions on scheduled basis for all subsistence items. Quantity is controlled by the standard ration pattern and quality by standard specifications.

Forwards requisition to immediate supervisor, Chief of Professional Services, who indicates his approval and forwards requisition to Chief of Supply Division.

## Chief of Supply Division

Reviews requisitions.

Forwards requisitions for items purchased on open market and by contract to procurement section.

Forwards requisitions for items requisitioned from depot to supply management section. All requisitions for items carried on perpetual inventory cards, but purchased by Open Market Clerk are also forwarded to this section.

## Contract Clerk

Reviews requisitions and prepares Purchase Orders for vendors to whom central office has previously awarded a contract.

## Vendor

Lists bids on Invitation to Bid and Award form and returns to Chief of Supply Division by established time and date.

## Chief of Supply Division

Inspects Invitation to Bid and Award form and lists quotations on quotation sheet.

Reviews and indicates award on quotation sheet and forwards information to Open Market Purchasing Clerk for his information and action.

## Vendor

Fills orders and delivers supplies to dietetic service or subsistence warehouse.

Figure 6. (continued)

## Chief of Supply Management

Checks Veterans Administration depot requisition, submitted by Chief of Dietetic Service, against stock level recorded on Stock Record Cards.

Lists quantity ordered on Stock Record Cards as amount due in and forwards requisition to supply depot.

Indicates stock levels on requisitions for those items carried on perpetual inventory cards and forwards requisitions to the procurement section.

Receives Purchase Orders for those items not obtained from the depot and posts on perpetual inventory cards.

## Subsistence Warehouse

Staple supplies are received and accepted by the Subsistence Storekeeper. Supplies checked against delivery ticket for count, pack, and weight. Delivery ticket compared with Purchase Order, discrepancies noted, and then forwarded to supply division for processing.

Supplies stored in subsistence warehouse under surveillance of supply division until issued to the dietetic service.

Supplies issued to dietetic service upon receipt of daily subsistence issue book. After supplies have been issued the Chief Cook signs the book to acknowledge receipt of daily supplies.

Subsistence Storekeeper and Posting Clerk in supply office take bi-monthly physical inventory.



in the dietetic department originated in the office of the Chief of the Dietetic Service. The amounts of supplies requisitioned for the menu were controlled by the standard ration pattern and supply procedures. A definite pattern was followed for the requisitioning of subsistence items.

Milk and cream were ordered daily on the basis of an amount established by the monthly requisition. Fresh and frozen fruits and vegetables were requisitioned on a weekly basis. Meat, fish, poultry, eggs, cheese, butter, ice cream mix, and ready-to-eat cereal were requisitioned on a monthly basis. Supplies from the supply depot were requisitioned every two months. Uncooked cereals, crackers, flour, coffee, shortening, salad oil, and margarine were requisitioned on a quarterly basis. Yeast was requisitioned semi-annually and malt yearly.

The Chief of the Dietetic Service furnished to the supply office a description of the item requested, the quantity needed, and the delivery date. The Veterans Administration had established standard specifications for packing house and dairy products and for fresh and frozen fruits and vegetables. The use of these standards was mandatory. Government standards were used for fish and shell fish. Descriptions from General Services Administration contracts specified

ready-to-eat cereals and dehydrated onions. Descriptions for other items ordered from General Services Administration were taken from General Services Administration stock catalogue.

The supply office was responsible for the preparation and submission of requests for bids and awarding of all contracts for purchases after the initial requisition had been submitted by the Chief of the Dietetic Service. Specific description of each item was included in the invitation to bid so that the bidder would have a complete knowledge of the nature of the item requested.

A pamphlet of standard specifications for fresh and frozen fruits and vegetables and one for packing house and dairy products was supplied to each bidder. When the invitation to bid was prepared for these items, the number listed for each article corresponded to the item number in the pamphlet which gave detailed specifications. This eliminated the need for lengthy descriptions on each invitation to bid. For items other than these, the complete specification was written on the invitation to bid. Quantities were listed in the trade package or multiples of it. The invitations to bid and the contracts covered a definite amount to be furnished during a specific period whenever this procedure was feasible.

Copies of the invitation to bid were submitted to local dealers and to those within a reasonable delivery distance. The widest

practical competition was obtained. Not less than three dealers were invited to submit bids on any item. A list of interested and qualified bidders was maintained in the supply office and was revised each quarter. If a vendor failed to return a bid invitation three consecutive times, his firm could be dropped from the list. Advertisements for bids were posted in the post offices at Battle Creek, Kalamazoo, and Jackson, Michigan.

General provisions have been established by the government for the submission and awarding of bids. These provisions were attached to each invitation to bid that was sent to each interested bidder. (See Appendix Figure 15.)

The time and date at which the bids were opened was listed on the invitation to bid. The supply officer was responsible for opening bids and recommending awards. The chief dietitian, or her designate, could attend the awarding of the bids meeting. As the sealed bids were opened, the firms and their quotations were listed on a quotation sheet. A written explanation was made if awards were made to any except the lowest bidder. If tie bids occurred, a disinterested person was selected to draw a tie slip. This information was recorded on the back of the quotation sheet. Awards were made to the lowest qualified bidder. This was indicated by a large red "A" written on the quotation sheet beside the bidder's quotation.

Food items that did not exceed \$500.00 in value on any one order were purchased without a formal agreement or bid. Telephone quotations were usually obtained for these items. This method of procurement enabled the chief dietitian to purchase special or seasonal items. When scheduled shipments of supplies failed to arrive, this method was also used to obtain the items needed. Special orders of fruits and vegetables were purchased in this manner when anticipated farm products failed to mature as expected.

The hospital also purchased against contracts let by the central office. Uncooked cereals, coconut, hydrogenated shortening, salad oil, margarine, coffee, and flour were purchased in this manner. These items were on drop shipment and were delivered directly to the station from the contractor by periodic shipments of specified quantity. All items purchased by drop shipment could be increased or decreased in amount by 25 per cent of the original quantity ordered. Other items were also purchased contracts made by the General Services Administration and the central office. These supplies, which included ready-to-eat cereals, dehydrated onions, malt, and yeast, were ordered on an indefinite quantity basis and the contractor shipped the items upon receipt of the purchase order.

After the awards had been made a purchase order was completed by the supply office and sent to the bidder to whom the contract

was awarded. One copy of the purchase order was retained in the supply office. Other copies were distributed to the subsistence warehouse, finance office, and the office of the Chief of the Dietetic Service. The vendor received four copies of the purchase order; he kept one for his file and returned three to the supply office. The three copies returned to the supply office became the bill or voucher from the vendor.

#### Material management

Federal specifications have been developed with definite descriptions of quality for each product and grade. These grades were used by the Veterans Administration in establishing standard specifications for subsistence items. The following grades were used to indicate the quality of items acceptable to the Veterans Administration: U. S. No. 1 grade for fresh fruits and vegetables; U. S. Grade A for frozen fruits and vegetables; U. S. Choice for canned fruits and vegetables; U. S. Choice for beef, veal, and lamb; U. S. No. 1 grade for pork products; U. S. Grade A for poultry and eggs; and U. S. score 92 for butter.

Standard specifications have been established for the Veterans Administration by the Federal Specifications Board (62, 63). All

installations were required to use these specifications which have been compiled for packing house and dairy products and for fresh and frozen fruits and vegetables. Each item was described in detail in compliance with federal specifications. When unlisted items were requested, federal specifications were consulted.

The stock level at the Veterans Administration Hospital was the maximum quantity of an item on hand and on order to meet the consumption requirements of the hospital for 124 days. Stock levels for the items stored in the subsistence warehouse were determined by the supply office in cooperation with the office of the Chief of the Dietetic Service. Adjustments were made for seasonal requirements. Stock levels for canned fruits and vegetables were reduced during the growing season. Pumpkin and mincemeat were ordered during the fall and winter months. Estimates of the subsistence requirements of the hospital were made as accurately as possible. These estimates were based on the number of times the subsistence item would be served per month and the size of the serving.

Supplies stored in the subsistence warehouse were requisitioned bi-monthly in amounts sufficient to maintain the stock level. The Chief of the Dietetic Service was responsible for the constant use of the subsistence supplies in the warehouse. The estimated number of

servings and the quantities to be used were considered when the menu was written. This procedure insured a consistent use of the items. Under normal conditions the number of items and the quantity of the items ordered were approximately the same on each requisition except for the seasonal variations.

A perpetual inventory of subsistence items stored in the subsistence warehouse was maintained in the supply office. Issue entries on the inventory cards were made at the end of two weeks from the totals in the daily subsistence issue book for the period. These issues were subtracted from the totals carried on the inventory cards. The office of the Chief of the Dietetic Service maintained a perpetual inventory on all subsistence items with daily entries.

The subsistence storekeeper and the posting clerk in the supply office were responsible for taking the bi-monthly physical inventory of the subsistence warehouse. A copy of the daily subsistence issue book was used to record the inventory. The storage of supplies in the warehouse followed the entries in the subsistence issue book with few exceptions. This physical inventory was checked against the perpetual inventory cards in the supply office and the necessary adjustments were made to the cards and the inventory book. The subsistence storekeeper took the corrected inventory book to the cost

accounting clerk in the office of the Chief of the Dietetic Service and the necessary adjustments were made on the perpetual inventory cards.

Daily physical inventories of the meat refrigerators and sharp freezers were made in the dietetic department by the chief cook or his designate. The physical inventories were checked against the perpetual inventory cards and the necessary corrections made.

Subsistence supplies were received by the subsistence warehouse storekeeper and his assistant, who were supervised by the hospital supply office. Hospital supplies from the supply depot were delivered by truck convoy. Because subsistence, maintenance supplies, and equipment were delivered in the same truck and the packing slip was sealed in one of the trucks an unloading problem often arose at the hospital. Each item was checked against the packing slip as it was unloaded and the quantity received was recorded in the appropriate column on the packing list. If the dietitian questioned the quality of a staple item, the objections were stated in a memorandum to the supply officer. He forwarded the information to the appropriate office.

All perishable supplies were checked in by the storekeeper and the Chief of the Dietetic Service or her designate. The subsistence storekeeper was responsible for checking the quantity of the



items. The Chief of the Dietetic Service, or her designate, was responsible for checking the quality of the items against the Veterans Administration specifications. If perishable supplies did not meet the requirements, a rejection and delinquency report was initiated.

It was mandatory that all packing house products, eggs, and cheese, except cottage cheese, bear the special Veterans Administration stamp. This stamp signified that the products had been examined by a representative of the United States Department of Agriculture before shipment and had been found to meet the detailed requirements of the specifications.

All packing house products, eggs, and cheese were weighed or counted as received and that amount was recorded on the purchase order. Weights from shipping tags and packing slips were disregarded. The weight or count on the items was checked as the produce was taken into the refrigerators. Beam scales and platform scales were available in the meat cutting unit to facilitate the weighing of the various items.

Fresh and frozen produce was checked for weight or count. Frozen vegetables and fruit packages were opened to check for quality and for evidence of thawing and refreezing. Peeling and cooking tests were run on potatoes; cooking tests were occasionally run on frozen foods.

Storage of staple subsistence items was under the surveillance of the supply office until issued to the dietetic service. Subsistence items in the warehouse were stored in alphabetical order with two exceptions. Special diet foods were stored in one section; extracts, nuts, seasonings, concentrates, and foods in small packages or broken lots were stored in a locked wire cage. Items other than those stocked in the subsistence warehouse were stored in the refrigerators of the dietetic service.

Subsistence was issued by two methods, the daily subsistence issue book and the dietetic issue slip. The subsistence issue book was used to order and to issue items stored in the subsistence warehouse. The chief cook prepared a daily order which listed the items and the quantities needed. The cost accounting clerk in the office of the Chief of the Dietetic Service placed the order in the subsistence issue book. This book was sent to the subsistence warehouse and the subsistence storekeeper filled the order. He recorded the quantity delivered directly under the amount ordered. After the entire order had been delivered to the hospital kitchen, the subsistence warehouse storekeeper and the chief cook checked the supplies with the issue book. If all items were received in the correct quantity, the chief cook signed the issue book to acknowledge the receipt

of the subsistence items. The subsistence issue book was returned to the office of the Chief of the Dietetic Service and the items issued were posted on the perpetual inventory cards.

Dietetic issue slips were used to order the perishable supplies stored in the dietetic department: meat, eggs, fish, poultry, dairy products, and fresh and frozen fruits and vegetables. A dietetic issue slip was prepared for the meat cutting unit and the vegetable preparation unit. The issue slip showed the quantity needed and the preparation required. The issuing units completed the slips by recording the actual weight, measure, or count of the item issued. Another issue slip was prepared for dairy products, frozen produce, and eggs. These slips were collected from the issuing units by the chief cook and delivered to the cost accounting clerk in the office of the Chief of the Dietetic Service. The actual amounts issued on these slips were posted on the perpetual inventory cards.

### University of Michigan

The University of Michigan, located in Ann Arbor, Michigan, is governed by the State Board of Regents. At the time of this study the three large residence halls for men housed approximately 3,600 students. Three larger residence halls for women housed 1,500

students; 600 women were housed in three smaller units and three cooperative houses. The University Food Service building supplied the food for these residence halls, the 1,100 bed University Hospital, the Michigan League, and the Student Health Center. The Michigan League, the social center for women, operated a cafeteria for women students, a service dining room, and banquet facilities for staff and campus organizations.

Expansion of the University of Michigan during the decade of 1930 to 1940 made the need for central purchasing apparent. The original purchasing organization, located in the University of Michigan Hospital was enlarged to service the additional residence halls of the University. Further increase in the number of residence halls after World War II made it evident that purchasing facilities located in the hospital could not keep pace with the growth of the University. In 1947 a central purchasing building was constructed to serve the numerous University food service units and the University Hospital. This building was financed by funds provided by a bond issue for refinancing existing residence halls and constructing additional housing facilities.

The Manager of the Food Service building was responsible for receiving, storing, and issuing all food used on the campus with

the exception of that used by the Law Club and the Men's Union. Additional services offered to the campus units by the Food Service building were the fabrication of meat, the preparation of bread and rolls, and the freezing of ice cream. The Food Buyer, who was responsible to the University Purchasing Agent, procured all food which was received by the Food Service building.

A small kitchen provided space for the Food Buyer to test products and for the Michigan Memorial Phoenix Project to investigate the radio-active preservation of food.

#### Physical facilities and departmental organization

In addition to the campus units, supplies were provided for the 1,100 bed state-operated University Hospital. Food service units in the hospital included the hospital snack bar, the staff and student dining rooms, and the hospital kitchen. Quantities of food were purchased for therapeutic diets and for extensive animal research projects.

The Food Service building, completed in April of 1948, was constructed of reinforced concrete and brick. The building consisted of two floors and a basement, and a section of the building was designed for future expansion.

Approximately 50 per cent of the space on the second floor was assigned to storage for staple groceries, canned foods, sugar, and flour. Constant temperature and humidity were maintained in the flour room by air conditioning units. The balance of the space on this floor was assigned to freezer storage.

All food except fresh fruits and vegetables, crackers, and cookies were received on the first floor. The truck area was enclosed and could accommodate three tractor-trailers simultaneously. The freight car siding had space for several cars, but only one car could be unloaded at a time. Originally a conveyor belt connected the truck platform and freight car dock with the three floors. This mechanical method of transportation was discontinued and merchandise was then unloaded and stacked directly on pallets (wooden platforms) which could be picked up, transported, and stacked with motorized lift trucks. Some food supplies were loaded directly on the pallets at the Detroit Terminal Market. Mechanized overhead tracks led into the building from the receiving dock and the freight car entrance. Meat could be moved on these tracks directly into the refrigerators near the receiving area.

The administrative offices were convenient to the main entrance and receiving area. They were occupied by the Manager, Food Buyer,

general office staff, and Chief Dietitian of the Residence Halls. Additional space was allocated for offices in the various production units : bakery, meat department, receiving department, and shipping department. The office space and the receiving area comprised approximately one-third of the first floor; the remaining space was allotted to the bakery, meat department, and ice cream room. One-half of the meat cutting area was occupied by six refrigerators; the other half was occupied by equipment and work space necessary to fabricate meat. Two refrigerators were located in the ice cream unit, one for the storage of ice cream mix and the other for a hardening room.

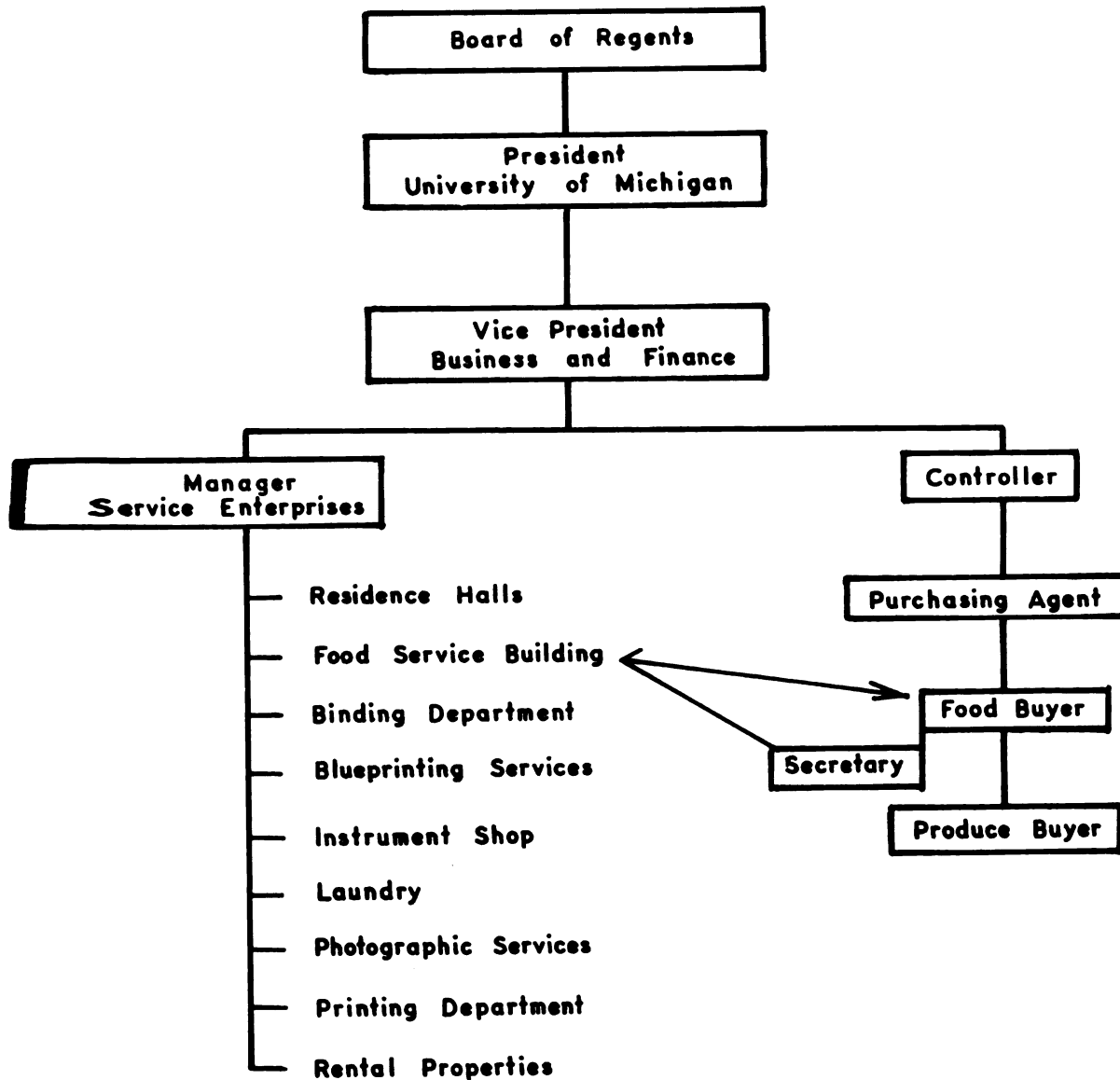
The basement provided dry storage for staples, refrigerated storage for fresh fruits and vegetables, and facilities for the shipping department. Two heavy-duty freight elevators, one at each end of the building, facilitated the movement of merchandise from the floors to the shipping department. Four mechanical lift trucks were used extensively for the transportation of food supplies throughout the building. A pneumatic tube installation and an intercommunication system accelerated business transactions.

The Manager of Service Enterprises was responsible for service functions of the University and for welding departmental units

into an effective and smoother operating organization. The Manager was assisted in the performance of his duties by the managers of the following departments: residence halls, food service, binding, blue printing services, instrument shop, laundry, photographic services, printing department, and rental properties. The organization of Service Enterprises is illustrated in Figure 7.

The Manager of the Food Service building was responsible for its operation and maintenance. He was assisted in his job by the supervisors of the meat department; bakery and ice cream department; shipping, receiving, and warehousing department; business office; and plant operation and maintenance. In Figure 8 the organization of the Food Service building is shown. His major responsibility was liaison between the Food Service building and the operating units. The Manager of the Food Service building graduated from the Department of Business Administration of the University of Michigan in 1921 and had been employed by the University for thirty-three years. He had occupied his present position as manager of the Food Service building for the past two years. Prior to that time he had served as Business Manager for the Food Service building, Business Manager for the University of Michigan Hospital, and Chief Accountant for the University.





**Figure 7.** Organization of Service Enterprises, University of Michigan

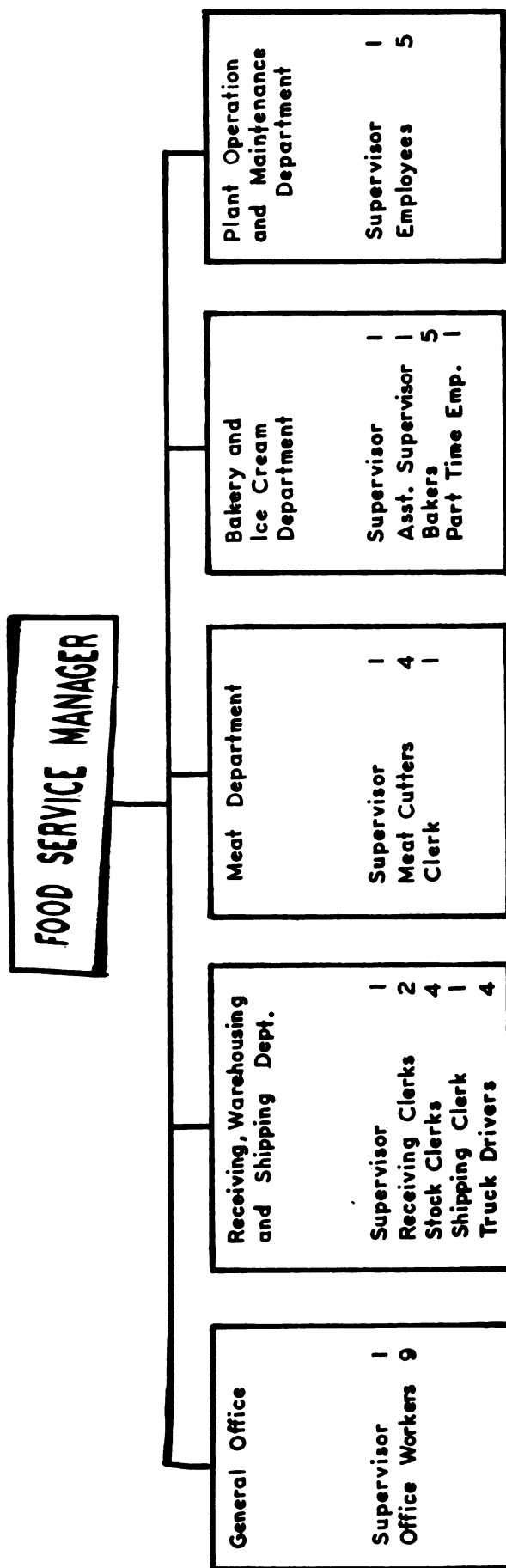


Figure 8. Organization of the Food Service Building, University of Michigan



The Food Buyer, who was directly responsible to the Purchasing Agent of the University (see Figure 7), worked closely with the Manager of the Food Service building. The Food Buyer was responsible for the procurement of food supplies, valued at \$1,000,000.00 each year. The purchasing procedures were established by the University Purchasing Department. Food procurement policies were determined by the Food Buyer, subject to the approval of the University Purchasing Agent. The Food Buyer was responsible for setting up specifications for the supplies he procured. He provided all units with what they needed, when they needed it, at the lowest possible price consistent with good quality. The objective at all times was providing high grade products. The Food Buyer for the University of Michigan graduated from the Department of Hotel Administration at Michigan State College in 1949. He had been employed as Food Buyer for the last two years. Prior to that time, he had served as Food Steward at two state institutions for a combined total of three years.

The Produce Buyer was responsible for the purchasing of all fresh fruits and vegetables issued by Food Service. He procured supplies from carload receivers at the Detroit Terminal Market and was responsible for buying, loading, and delivery of produce to the

Food Service building. He also served as the truck driver and hired help at the terminal to assist with the loading. The Produce Buyer served twenty years at the Union Produce Terminal in Detroit as a buyer and seller. He had been employed by Food Service for one year.

The office supervisor was responsible for the accounting and business procedures of the Food Service building. Requisitions were processed, inventories maintained, charges posted to customer accounts, vendor invoices were cleared and released to the University Business Office for payment. The office supervisor had been employed by the University of Michigan for twenty-four years. He had served for three years in his current position as office supervisor. Prior to that time, he had worked twenty-one years as Business Office Supervisor at the University of Michigan Hospital.

### Purchasing procedures

In Figure 9 the relationship of subsistence purchasing procedures and material management at Food Service, University of Michigan, is shown. The Food Service supplied the managers of the hospital food service units and residence halls with printed requisition forms to facilitate the ordering of meats, fresh produce, frozen



### Shipping Department

Fills fresh fruit and vegetable requisitions and indicates quantities issued and the lot number stamped on the produce. Forwards requisitions to general office to be priced, extended, and posted on inventory cards.

Fills staple and frozen fruit and vegetable requisitions. Notifies general office if lot numbers listed on requisitions do not agree with lot number stamped on items issued.

Consolidates orders from meat department and bakery. A priced and extended copy of the requisition, furnished by the general office, accompanies each delivery, except for bakery and milk products.

Delivers supplies according to established schedule.

### Receiving Department

Two receiving clerks are responsible for receipt of all subsistence supplies.

Meat and meat products are inspected, weighed, and compared with grade and weight recorded on delivery ticket and Purchase Order. Staples checked to see that quantity delivered corresponds with amount on delivery ticket and Purchase Order. Processed fruits and vegetables checked for quantity. Government grading certificates required for shipments of canned and frozen fruits and vegetables.

Food supplies stamped with the lot number assigned to that day and receipt of merchandise reported to general office.

Figure 9. Relationship of Purchasing Procedures and Material Management, Food Service Building, University of Michigan.



Managers of the hospital and University food service units submit requisitions for meats, fresh produce, frozen foods, baked goods, ice cream, dairy products, and staples to the general office.

87

MANAGER FOOD SERVICE BUILDING

PURCHASING AGENT

Clerks in general office:

Food Buyer

Forward meat requisitions to meat department where summaries are prepared and requirements forwarded to the Food Buyer. After orders have been filled the meat department returns requisitions to the general office to be priced, extended, and posted on inventory cards.

Submits weekly Request for Quotation for meat products to selected vendors. Quantities purchased are based on summary submitted by meat department. Consolidates quotations, reviews, and indicates award.

Forward baked goods and ice cream requisitions to bakery office where a summary and production schedule is prepared. Requisitions returned to general office to be priced, extended, and posted on inventory cards.

Contacts wholesaler or jobber for processed foods when fill-in orders are needed or quantity purchased is too small to buy direct. Procures supplies to fill daily requisitions. Contact representative of processing companies and purchases yearly supplies by future delivery purchase, subject-approval-price-purchase, and competitive bid.

Forward milk and cream requisitions to local dairy. After delivery is verified requisitions are priced, extended, and posted on inventory cards.

Submits yearly Requests for Quotations for eggs, milk, and related fresh dairy products. Submits Request for Quotations every two years for coffee, cookies, crackers, potato chips, salad dressing, and soup bases. Reviews quotations and indicates award.

Prepare summary from staple and frozen food requisitions for items not in stock and forwards summary to Food Buyer. Notifies Food Buyer as staple items and processed foods approach minimum stock levels. Price, extend, and post requisitions on inventory cards. List lot numbers, from which the issues are to be made, on requisition.

Procures cereals direct from manufacturer for price stated in contract made by State Food Buyer in Lansing. Submits orders as needed against these contracts.

Prepare summary of fresh fruit and vegetable requisitions, deduct current inventory and forward summary to Produce Buyer.

Prepares and forwards Purchase Agreement to University Purchasing Office.

Take physical inventory on rotating basis so all items are counted every four months.

Forward all requisitions to shipping department.

Produce Buyer

Purchases fresh produce direct from carload receivers and producers. Transactions on a credit basis. Quantities purchased are stated on summary provided by general office. Notifies general office of market fluctuations. Submits vendor's invoice to general office.

Operates tractor-trailer to transport fresh produce and emergency supplies from Detroit to the Food Service building.

PURCHASING AGENT

Prepares Purchase Order from Purchase Agreement submitted by Food Buyer.

Forwards copies of Purchase Order to the selected vendors, Food Service general office, and receiving department.

Vendor

Fills orders and delivers supplies.

Assign Vendor's Invoice a voucher number, if Receiving Report agrees with Vendor's Invoice. Forwards to University purchasing office for payment.

Figure 9. (continued)



foods, baked goods, ice cream, dairy products, and staples. These requisitions were submitted to the general office on a scheduled basis two or three days before the items were needed.

Clerks in the general office summarized the requisitions for fresh fruits and vegetables, deducted the current inventory, and submitted a summary to the Produce Buyer. Requisitioned items which were purchased on the open market were summarized by clerks in the general office and in the meat department. As inventories of staple items and processed foods approached minimum stock levels, the general office notified the Food Buyer. Notification from the general office authorized the Food Buyer to purchase meats, processed foods, dairy products, and staples and the Produce Buyer to purchase fresh fruits and vegetables. If either buyer became aware of a market fluctuation, he advised the general office.

The Produce Buyer purchased fresh fruits and vegetables from carload receivers at the Union Terminal and from producers at the Farmer's Market in Detroit. All transactions were on a credit basis. The Food Service has established a storage and supply center at one of the commission houses near the terminal. This center served as a delivery base for subsistence and supply items required by the Food Service in case of emergency. The merchandise was delivered to Ann Arbor by the Produce Buyer.

Meats were purchased once a week on a competitive bid basis from packers. Telephone quotations were acceptable if confirmed in writing. Awards were made on the basis of quality, dependability of delivery, and price.

Processed fruits and vegetables were purchased and stored from one packing season to the next. Purchases were made by dealing directly with the representative of the processing companies. Pineapple and other items, which were procured from the same packer each year, were purchased at a firm price and shipped in one delivery when the products were packed. The remainder of the items were procured by a subject-to-approval-of-price (S.A.P.) purchase. For these items the Food Buyer placed tentative orders with one or more companies. After these companies submitted their prices, the Food Buyer accepted the most advantageous offer with the understanding that the produce would be delivered in one shipment as soon as it was packed.

Competitive bids for eggs and for milk and related fresh dairy products were requested once a year. All negotiations for these items were based on a fixed differential over the New York Mid-Western egg market, Detroit Class 1 milk market, and the Chicago butter market. A flour supply for six months was purchased in the fall

on a competitive bid basis. When that supply was exhausted, flour was purchased in carload lots as needed.

Contracts for coffee, cookies, crackers, potato chips, salad dressings, and soup bases were awarded for a period of two years. The preference of the food service unit managers determined the selection of vendors for these items. Sugar was procured through one sugar broker who furnished the Food Buyer with timely information concerning market fluctuations and current availability of supply. Two high-ratio shortenings, Primex and Sweetex, were ordered by brand name. Other hydrogenated fats and lard were ordered on a competitive bid basis and the awards were made on a basis of one year.

After selecting a vendor, the Food Buyer forwarded the purchased agreement to the University purchasing office, which then issued a purchase order. Three copies of the purchase order remained in the University purchasing office. Other copies were distributed to the vendor, Food Service accounting office, and the receiving office at Food Service.

#### Material management

Written specifications for meat and meat products have been prepared by the Food Buyer. These specifications were supplied to

purveyors who submitted quotations. Amendments to the specifications were prepared and filed each year. A card index was maintained on processed fruits and vegetables preparatory to establishing written specifications for those items. The Food Service has developed sources of supply from purveyors who have served the University honestly and efficiently in the past.

Requests for quotations on meats were based on specifications. Government grading was mandatory for beef, veal, and lamb. Pork must be Michigan Grade No. 1, and U. S. inspected pork received first consideration. The specifications described the cut, specified the weight range, and indicated the grade which was acceptable. The numbers on the specifications corresponded with the number on the sheets on which the Food Buyer recorded the bids. Invitations for quotations for processed fruits and vegetables were submitted to the brokers or directly to the packers. Samples and government grading certificates were required for all items. Invitations for quotations for canned fruits and vegetables specified grade, style, size of container, and count. The grade, variety, style, and weight of container were indicated for frozen fruit and vegetable products. Three packers on the West Coast furnished the majority of the processed fruits and vegetables. Tomato products were purchased from Indiana and apples and cherries were obtained in Michigan.

The following federal grades were used to indicate the quality of items acceptable to Food Service: U. S. Grade A and U. S. Grade B for frozen fruits and vegetables; U. S. Grade Fancy, Choice, and Extra Standard for canned fruits and vegetables; U. S. Good and Commercial for beef; U. S. Choice, Good, and Utility for veal; U. S. Choice and Good for lamb; Michigan Grade No. 1 for pork and pork products; U. S. Grade A for poultry; and Fancy, Heavy Weight, and Mixed Colors for eggs.

Minimum stock levels have been established and were listed on inventory cards. Through the use of these minimum levels, orders were placed advantageously to obtain satisfactory prices and to replenish stock. The rate of consumption on processed fruits and vegetables determined the yearly purchase of these products.

A perpetual inventory was maintained in the Food Service business office for all subsistence supplies. Entry was made on the inventory record for date, quantity ordered, and order number when an order for merchandise was placed. When the merchandise was received, a second entry recorded the date, order number, name of vendor, number of receiving report, and the quantity received. At time of payment to the vendor, a third entry added the voucher number, unit price, per cent of discount, total amount paid, and the freight

charge. A fourth entry recorded the lot number and the unit price. A second inventory record card indicated to whom the items were issued, recorded the quantity received from the vendor, and noted the quantity on hand.

A lot number was designated for each day of the year and all merchandise received on a given day was stamped with that particular mark. The lot number was affixed to each carton, sack, barrel, or other type of container. Each commodity on the inventory record was likewise subdivided into lot numbers. When the inventory record indicated that a given lot number was depleted, all the stock marked with that number should be issued. If there was a discrepancy between the inventory record and the physical inventory, an immediate check was made.

Physical inventories were taken throughout the year on a rotating basis so that each item was actually counted every four months. If discrepancies were found, the inventory cards were adjusted to agree with the stock supply. The method for pricing the inventory was the actual price as merchandise was issued on the first-in-first-out policy. Lot numbers performed an important function under this procedure, making it easy to determine which items had been in stock for the longest period of time.

Supplies were delivered to the Food Service by vendors, transportation companies, railroad facilities, and Food Service trucks. Two employees were assigned to receive all supplies. When goods were delivered in carload lots or when several large truck shipments arrived simultaneously, it was necessary to obtain additional help from other departments. However, the receiving clerks were responsible for checking in the supplies.

Staples were checked to determine whether the quantity delivered corresponded with the amounts stated on the delivery ticket. Government grading certificates were required for shipments of canned and frozen fruits and vegetables. Fresh fruits and vegetables were checked for quality and quantity as they were purchased at the markets in Detroit. All meat and meat products were inspected, weighed, and compared with the grade and weight recorded on the delivery ticket. The platform scales for miscellaneous items and the overhead scales for weighing meat were located adjacent to the receiving area to facilitate the checking of supplies.

Receiving clerks checked the merchandise very carefully against the delivery ticket and a copy of the purchase order. The receiving department reported the receipt of merchandise to the general office where a receiving report was written. Variations between

amounts received and the amounts stated on the purchase order were also reported to the office. A complaint report, when completed, served as the basis for negotiations by the Food Buyer with the vendor to correct the discrepancy. The receiving report was checked against the vendor's invoice; and, if the two agreed, the vendor's invoice was assigned a voucher number and was transmitted to the University business office for payment.

Staple supplies were stored on all floors of the building. In the larger storage areas, supplies were stored according to available floor space. Smaller storage areas had been assigned for the storage of flour, sugar, cookies, crackers, and small-sized cans.

Twenty-seven refrigerators, with temperatures ranging from 70° F to -24° F, were used for the hardening of ice cream, and for the storage of frozen foods, fruit juices, dairy products, dried fruits, fresh fruits, and fresh vegetables.

Although the original freezer storage space had been increased four times, it was still inadequate. Therefore, carload lots of frozen foods were stored in Detroit. In the near future a large refrigerator, which had been used for the storage of carcass meats, will be converted into freezer storage.

Supplies were ordered by the respective heads of the food service units on standard order forms furnished by the Food Service



building. These orders were picked up by the Food Service truck driver and were submitted to the general office. The completed forms were distributed to the butcher shop and the bake shop in Food Service to be summarized. The orders were then filled according to schedule. The general office tabulated the orders for staples and for fresh and frozen fruits and vegetables. These orders were priced and totals were extended before being sent to the shipping department to be completed. Orders for the butcher shop and the bakery were returned to the general office for pricing and extending of totals before delivery to the ordering unit.

The shipping department was responsible for filling the orders for staples and for fresh and frozen fruits and vegetables. This department also supervised the delivery schedule and consolidated orders from other departments to insure economical delivery. Supplies for each unit were assembled on a platform truck or wooden pallets which could be transported to the ordering units. Pallets and trucks were picked up later. Staple supplies were issued weekly and all other items on a daily or as-needed basis. Milk was delivered to the individual units by the vendor.

A priced and extended copy of the order accompanied each delivery with the exception of orders for bakery products, milk, and



cream. Pricing and extension for orders of fresh fruits and vegetables were based on the purchase price of the preceding day.

### Michigan State College

Michigan State College, located in East Lansing, Michigan, is governed by the State Board of Agriculture. During the fall term of 1953, the student enrollment was 14,500. Approximately one-half of the students lived in residence halls and co-operative houses which were under the direction of the Department of Dormitories and Food Services. The seven residence halls for women housed 3,200 students and the four residence halls for men housed 4,500 students. Food service units located in the Union Building and Kellogg Center served food to conference guests, faculty, and students who resided in the Lansing and East Lansing area.

Prior to 1948 the purchasing of subsistence supplies was decentralized. With the completion of the Food Stores building in that year, which was financed on a self-liquidating basis, a system of centralized purchasing was initiated. The manager of Food Stores was responsible for purchasing, receiving, storing, and issuing all food used on the campus with the exception of those items supplied by the college dairy and the college farm.

Experimental farming plots operated by the college furnished the Food Stores with limited amounts of lettuce, green beans, potatoes, carrots, cabbage, and apples during the growing season. A food service laboratory, which served the Department of Institution Administration and the Experiment Station as well as the Department of Dormitories and Food Services, worked with the Food Stores in testing new food items which could offer variety to the menu. Comparison of quality and portion costs of food items purchased by the Food Stores was also a function of the laboratory.

#### Physical facilities and department organization

The Food Stores at Michigan State College provided the subsistence supplies for all food service units. This three-storied brick building, completed in 1948, was centrally located within a one-mile radius of the campus food service departments. The interior construction of ceramic tile walls and quarry tile floors required a minimum amount of maintenance.

The entire third floor of the building was utilized for the storage of staple supplies, and the capacity of this floor was recently increased by removal of partitions. A major portion of the storage space on the second floor was allocated for staple supplies. The

second floor also included the office of the Manager, a conference room, and one large freezer room for the storage of carload lots of frozen foods. An increase in the demand for frozen fruits and vegetables necessitated the expansion of the freezer storage space. This demand was met in 1952 by the conversion of a section of the second floor storage area for staple supplies into a large freezer room. At present the Food Stores can stock twenty carloads of frozen foods.

All supplies were received on the first floor. A railroad spur track with unloading facilities for two railroad cars was located on the west side of the building; on the opposite side a large loading platform accommodated five trucks. The meat fabrication department and three walk-in refrigerators with a capacity of five carloads of fresh meat comprised one-half of the first floor. The balance of the area on this floor was divided between freezer storage and offices. The freezer storage space was divided into four units. One of these units was designated as a working freezer for storage of supplies which would be used during a two-week period of operation. To expedite receiving and issuing of supplies, offices for the staple, produce, meat, and accounting departments were located adjacent to the receiving area.



A large section of the basement was allocated to six walk-in refrigerators located in units of three at each end of the hall. These refrigerators furnished storage space for five carloads of fresh fruits and vegetables, eggs, cheese, and concession supplies. To provide for the operation of the refrigeration system and the maintenance of the building, a compressor room and a work shop were also located in the basement.

To facilitate the movement of supplies through the building, several mechanical conveyors were used: freight elevator, overhead track, and conveyor belt. A hand-operated hydraulic lift transported wooden racks on which the majority of the supplies were stored. The freight elevator, located in the middle of the building, served all three floors and the basement. Carcass meats could be moved from the receiving docks to the meat fabrication units or the meat refrigerators on an overhead track. Conveyor belts connected the truck-loading platform with the two refrigerated units in the basement.

The adequate storage space and mechanical methods of transportation in the Food Stores enabled Michigan State College to purchase frozen and canned foods on a yearly basis without taxing the storage capacity of the building or imposing a hardship upon the employees.

The Manager of the Department of Dormitories and Food Services was accountable for the operation of all units on the campus which housed and fed students and guests. He was responsible for coordinating these departmental units into an effective and smooth operating organization. The departmental Managers for the Union and Kellogg Center, for Men's Residence Halls, Women's Residence Halls, and Food Stores assisted the Manager in the performance of his duties. The organization of the Department of Dormitories and Food Services is shown in Figure 10.

The Manager of the Food Stores was accountable to the College Purchasing Agent for purchasing procedures and to the Manager of the Department of Dormitories and Food Services for management. In Figure 11 the organization of Food Stores is illustrated.

The Food Stores Manager was responsible for the entire operation of the building and for determining the items to be purchased and the method of procurement. The subsistence purchasing budget for a year amounted to approximately \$1,500,000.00; in addition the manager spent \$500,000.00 for cleaning supplies, dishes, utensils, and concession items. The Food Stores Manager conducted weekly meetings with the Managers of the food service units. These meetings promoted harmonious relationship and close cooperation between the



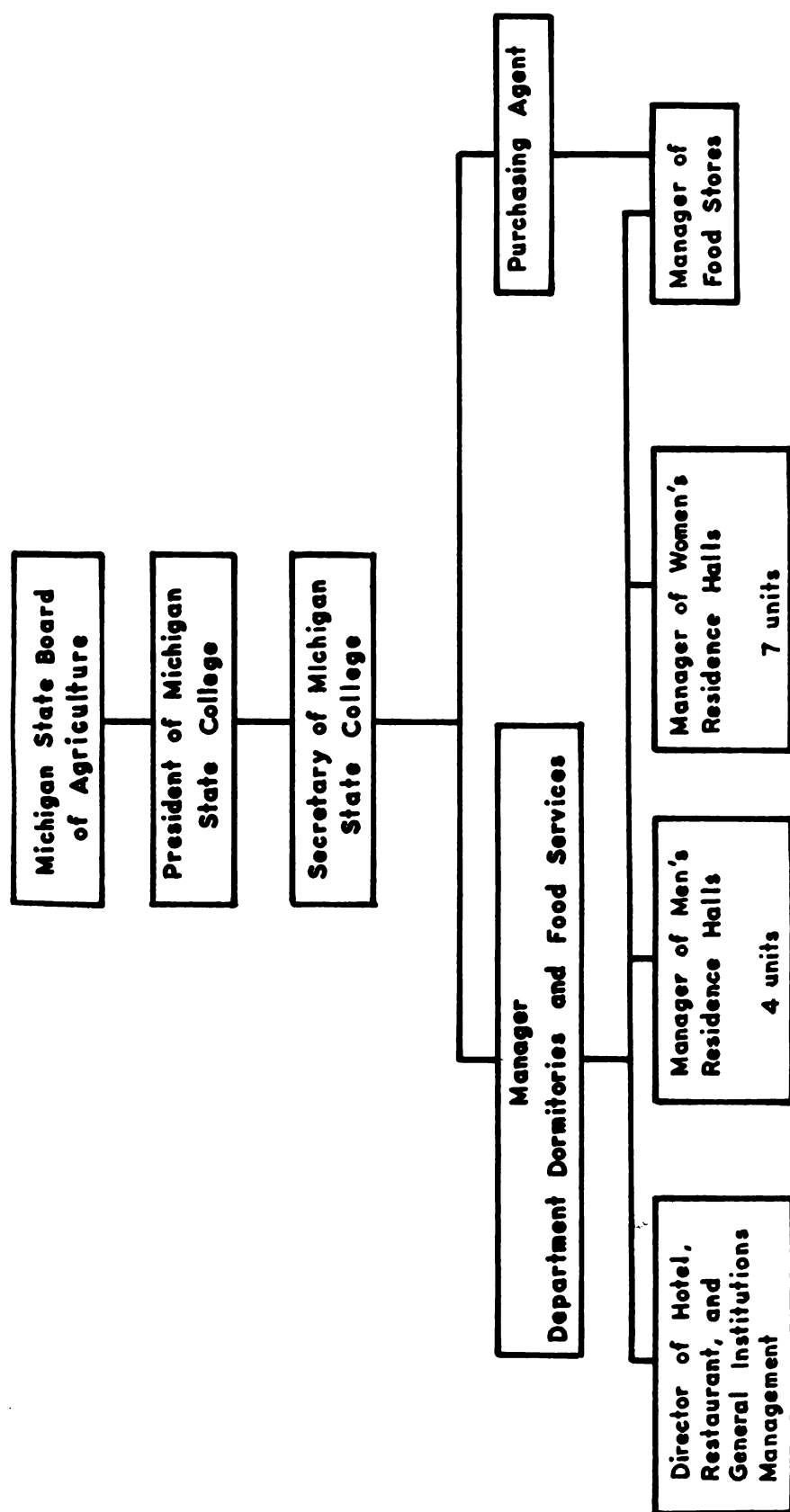


Figure 10. Organization of the Department of Dormitories and Food Services, Michigan State College

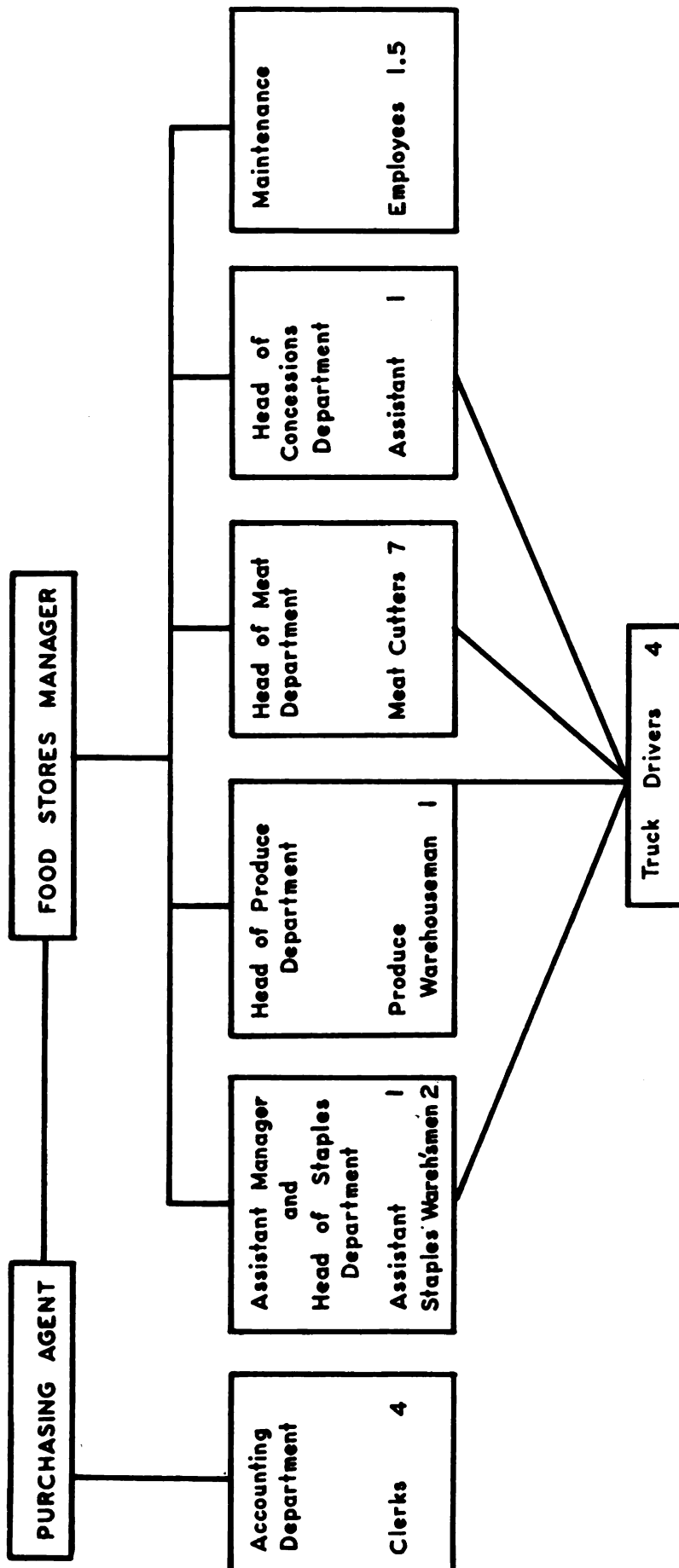


Figure 11. Organization of the Food Stores Building, Michigan State College

Food Stores and the food service units. The Food Stores Manager had occupied his present position for nine months. He graduated from Michigan State College and majored in agricultural education. After a tour of military duty from 1942-1945, he served one year as a Michigan Agricultural Extension Agent. From 1946 to 1953 the Manager of Food Stores carried these campus assignments: instructor in the School of Agriculture and Manager of the Short Course Dormitory, manager of two different residence halls for men, Housing Director, and Counselor for Men.

The Head of the Staples Department also served as the Assistant Manager of the Food Stores. In addition to the responsibility for purchasing, receiving, storing, and issuing all staple items, he checked all invoices received by Food Stores and compared them with the purchase orders. His assistant was responsible for the maintenance of inventory cards and other records essential to the operation of the unit. Two staple warehouse men received, stored, and issued all staple supplies. The Head of the Staples Department had been employed in this position since 1948. Prior to his induction into the Army, he had served as a Store Manager for the Atlantic and Pacific Tea Company, had operated a grocery business of his own for six years, and had spent a year as Storeroom Clerk in one of the campus food service units.



The Head of the Meat Department purchased the meat and was responsible for the maintenance of the records. Reliable employees were assigned to receive, store, and issue meat supplies. All necessary meat items were fabricated by employees under his supervision. The Head of the Meat Department accepted this position in 1948. Upon his return from military service, he was employed for approximately one year as a meat cutter and storeroom man in one of the college food service units. For two years prior to his induction into the Army, he had worked for a local meat distributor. He had also served as a storeroom clerk at the Union and had worked for an independent grocer for a number of years.

The Head of the Produce Department purchased the fresh fruits, vegetables, eggs, and cheese and was responsible for the maintenance of the records used by his unit. An assistant was assigned to receive, store, and issue supplies. The Head of the Produce Department had purchased produce for the college for the past twelve years. Prior to that time he had worked for an independent grocer.

#### Purchasing procedure

In Figure 12 the relationship of subsistence purchasing procedures and the material management of Michigan State College Food

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Head of Staples Department

Yearly Purchases

Reviews records of previous year and estimates quantity required to meet demands of the next school year. Checks perpetual inventory to determine items to be ordered.

Submits Request for quotations to approximately fifteen fresh and frozen fruit and vegetable brokers and packers.

Reviews quotations, inspects samples, and indicates award.

Prepares a Purchase Order Work Sheet for each award which lists the name of the vendor, time of delivery, quantity, description of item, unit, and price. Submits Purchase Order work sheet to office of Manager.

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Daily Purchases

Consolidates requisitions from food service units and checks perpetual inventory to determine items to be ordered.

Contacts salesman for current prices on standard products and arranges for delivery or obtains quotations, reviews, and indicates award.

Prepares Purchase Order Work Sheet which lists the name of vendor, time of delivery, quantity, description of item, unit, and price. Submits Purchase Order Work Sheet to office of Manager.

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Supplies received by designated employee who checks physical count and weight against delivery ticket. If in agreement, signs and forwards to Head of Staples Department. He checks delivery ticket against Purchase Order for price, quantity, and weight. If items check, delivery ticket is forwarded to the Food Stores accounting office.

Supplies stored in assigned staple storage area.

Supplies issued upon receipt of Food Stores Invoice for Staples form prepared by the Head of the Staples Department. Inventory balance of each item is noted on invoice by clerk in accounting department. Actual count compared with amount of invoice. Supplies delivered to food service units according to an established schedule.

Figure 12. Relationship of Purchasing Procedures and Material Management, Food Stores Building, Michigan State College.



Food service supervisors submit requisitions for staples, produce, and meat to heads of respective departments in Food Stores.

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Head of Meat Department

Submits weekly Request for Quotations for meat items to twelve or fifteen vendors. Vendors are invited to quote on all or any part of items listed, but must be able to furnish products on which they quoted a price.

Consolidates requisitions from food service units and checks against inventory to determine items to be ordered.

Consolidates quotations from vendors on a work sheet. Reviews quotations and indicates awards for the necessary items.

Prepares Purchase Order Work Sheet for each award which lists vendor, time of delivery, quantity, grade, description of item, and price. Submits Purchase Order Work Sheet to office of Manager.

Office of Manager

Secretary prepares Purchase Order from information listed on Purchase Order Work Sheet. Purchase Orders are signed by the Manager.

Mails Purchase Orders and standard Invoice-Voucher to vendor.

Vendor

Delivers supplies to Food Stores.

Supplies received by designated employee who checks physical count, weight, and quality against delivery ticket. If in agreement, signs and forwards to Head of Meat Department. He checks delivery ticket against Purchase Order for price, quality, quantity, and weight. If items check, delivery ticket is forwarded to Food Stores accounting office.

Supplies stored in meat refrigerators until issued or fabricated into cuts ordered by the food service units.

Supplies issued upon receipt of a Food Stores Invoice for Meat prepared by the Head of the Meat Department and delivered to food service units according to an established schedule.

Head of Produce Department

Consolidates requisitions from food service units and checks against inventory to determine items to be ordered.

Lists supplies needed on quotation sheet. Telephones the three qualified vendors and informs them of the quantity desired.

Vendors file quotations by telephone to the Head of the Produce Department. He lists quotations on quotation sheet; reviews, awards the order, and notifies the vendor of the award.

Contacts the egg and cheese vendors, negotiates for a price and places the order.

Prepares Purchase Order Work Sheet for each order placed which lists the name of the vendor, time of delivery, quantity, description of item, unit, and price. Submits Purchase Order Work Sheet to office of the Manager.

Supplies received by designated employee who checks physical count and weight against delivery ticket. If in agreement, signs and forwards to Head of Staples Department. He checks delivery ticket against Purchase Order for price, quantity, and weight. If all items check, delivery ticket is forwarded to the Food Stores accounting office.

Supplies stored in produce refrigerators.

Supplies issued upon receipt of Food Stores Invoice for Produce form prepared by the Head of the Produce Department and delivered to food service units according to an established schedule.

Stores is shown. A requisition was used to inform the Food Stores of the items needed. The supervisors of the food service units were responsible for the preparation of the Food Stores requisition for staples, produce, and meats. Kellogg Center and the Union Building ordered supplies daily; the other food service units submitted requests on a scheduled basis.

The Food Stores supplied the food service units with printed requisition forms which facilitated the ordering of staples, produce, and meats. The staples requisition and the produce requisition indicated the item, unit, and pack; the meat requisition listed the meats according to classification and the various cuts which were available. The food service supervisor designated the quantity of the items desired on the requisitions. The forms were collected by a representative from the Food Stores and delivered to the heads of the respective departments at Food Stores.

Staples and meats were requisitioned once a week and produce twice a week by the food service units. All dairy products, except butterettes, were ordered daily from the Michigan State College dairy. Bread products not produced by the food service units were ordered by the units as required from a local bakery.

The open market buying procedure was followed by Food Stores instead of the practice of advertising for bids or competitive



formal buying. The head of each department at Food Stores obtained quotation from convenient sources of supply for the item which he was authorized to purchase. These quotations were written or verbal. This system was successful because of the high standards of business ethics established between Food Stores and the regular vendors. After the department head had reviewed these quotations for quality, service, and price, he awarded the order and prepared a purchase order work sheet. This work sheet furnished the following information: name and address of vendor, date of delivery, description of the item ordered, quantity, unit, and quoted price.

A negotiated buying procedure was followed for processed fruits and vegetables. A selected broker was notified of the requirement; then he negotiated with responsible sources of supply for those items. On occasion, the Head of the Staple Department negotiated directly with the food packer.

The purchase order work sheet which was submitted to the Manager by the department heads listed the information necessary for completing the purchase order. This order was signed by the Manager, and one copy was retained by his office. Other copies were distributed to the college purchasing office, college accounting office, head of the department which submitted the purchase order work sheet, Food Stores accounting office, and the vendor.



Material management

The Food Stores did not rely upon written descriptions to inform the vendors of requirements. Purveyors were selected for quality of product, integrity, and dependability. Requests for quotations on meats were based on Federal grades and weight range. Invitations for quotations on processed fruits and vegetables requested the names of the packers. The vendor could also be asked to submit samples in addition to furnishing a government grading certificate. Invitations for quotations for canned fruit and vegetable products also specified grade, style, size of container, and count. The grade, variety, style, and weight of container was indicated for frozen fruit and vegetable products. The sugar content was requested for frozen fruit packs.

The Department of Agriculture has developed standards of quality for most of the important agricultural commodities and has established various types of inspection and supervision to insure uniform application of these standards. Included in these standards were definite descriptions of the various established grades. These grades were used by Food Stores to indicate the quality desired when quotations were requested for meat, poultry, fish items, and for processed fruits and vegetables.



The following grades were used to indicate the quality of items acceptable to the Food Stores: U. S. Grade A and U. S. Grade B for frozen fruits and vegetables; U. S. Grade Choice and U. S. Extra Standard for canned fruits and vegetables; U. S. Choice, Good, Commercial, and Utility for beef; U. S. Choice, Commercial, and Utility for veal; U. S. Choice for lamb; U. S. No. 1 and U. S. No. 2 for pork products; U. S. Grade A and U. S. Grade B for poultry.

The Food Stores purchased food items without reference to stock levels. They were guided mainly by consumption records from the preceding year and current requisitions.

A perpetual inventory was maintained in the Food Stores accounting office for all items except meat. The method for pricing the inventories was the first-in-first-out policy. In addition to the accounting office perpetual inventory file, the head of each department maintained an inventory card system. The meat department took a physical inventory once a week and the produce department twice a week. In the staples department the inventory was verified each time an item was issued by checking the inventory balance against the physical count. This inventory balance was recorded on the staple storeroom order by the clerk in the cost accounting office when the order was prepared. The perpetual inventory in the Food

Stores accounting office was spot-checked during the year and checked once a year by a physical count.

Supplies were delivered to the Food Stores by vendors, transportation companies, and railroad facilities. Some merchandise was shipped to transportation terminals and transported by Food Stores trucks. Selected employees have been authorized to receive the supplies, which were unloaded on the receiving dock, and to sign delivery tickets.

Staples were inspected at delivery to insure that the quantity corresponded with the amounts stated on the delivery ticket. Quality of staple goods was not checked by Food Stores unless complaints were received from the food service units. Produce items were inspected for quality and count and were spot-checked for weight. All meat products were weighed and the amount was compared with the weight recorded on the delivery ticket. The platform scales, located on the receiving dock, and the rail scales, located outside the meat refrigerators, facilitated weight verification. Meats were also checked to certify that the grade of the meat delivered corresponded with the grade requested.

The designated receiving clerk checked the items delivered against the supplies listed on the delivery ticket. This ticket was

forwarded to the Head of the Staples Department who compared the ticket with the purchase order and noted discrepancies. When variations could be corrected by telephone, the necessary contact was made; otherwise a written memo was submitted to the college accounting office which assumed the responsibility for correcting the error.

Prior to the construction of the new freezer room, the third floor was used as a storage space for carload lots of staple products and the second floor was used as the issue room for this merchandise. Although supplies were issued from both floors at the present time, most orders were assembled on the second floor.

Carload lots of frozen food were stored in the freezer located on the second floor. Small less-than-carload-lot shipments (L.C.L.) and frozen fruits which were subject to drip loss were stored in the freezer units located in the basement. All freezer temperatures were maintained at 0° F or lower. Meats were stored in designated refrigerators at 34° to 36° F. The temperatures of the produce refrigerators were 38° F for fresh fruits and vegetables, 40° F for apples, and 45° F for eggs.

Orders for staples, meats, and produce were prepared by the Food Stores department heads from requisitions submitted by the food

service units. After they were completed by the respective department heads, the orders were sent to the Food Stores accounting office to be priced and to be posted on the perpetual inventory cards. These orders were returned to the respective department heads and used by the warehouse men to issue the supplies to the food service units. Staple supplies and potatoes were issued weekly; produce and meats were distributed on a semi-weekly basis. Two copies of the order form accompanied the supplies when they were delivered to the food service units. Upon receipt of the merchandise, the food service supervisor signed both copies; one was retained by the food service supervisor and the other signed copy was returned to Food Stores.



## SUMMARY

Certain steps are essential to all purchasing procedures and follow a common pattern. The pattern is varied to meet specific needs and problems of individual organizations. The practices of the institutions selected for this survey illustrate some of the variations and similarities of the common pattern.

There was little basis for comparison of physical facilities between the two hospitals in the study. The Veterans Administration Hospital, near Battle Creek, Michigan, received staple supplies from a storage depot located near Chicago. The warehouse for the mental hospital at Ypsilanti served as a storage center for other state institutions located in the area. Because of the distance between the Veterans Administration Hospital and the wholesale fruit and vegetable markets, perishable supplies were procured on a weekly basis. On the other hand, Ypsilanti State Hospital, located near Detroit, utilized the primary central markets and procured fresh fruits and vegetables according to daily demands.

A survey of the physical layouts of the Food Stores building at Michigan State and the Food Service building at the University of Michigan pointed out factors basic to efficient planning. Simplicity

was the keynote in the Food Stores building at Michigan State College. Large, open, storage areas, easy transportation, and interior construction which required a minimum amount of maintenance allowed Michigan State College to operate a centralized purchasing program efficiently with a minimum number of employees. Because of the proximity of the terminal markets in Detroit to the Food Service building in Ann Arbor, fresh fruits and vegetables were purchased daily. To facilitate unloading at the Food Service building, produce was placed directly on wooden pallets at the source of supply. However, the numerous small areas assigned for the storage of subsistence items complicated the receiving and issuing of supplies.

The departmental structures for Ypsilanti State Hospital and for the Veterans Administration Hospital, near Battle Creek, Michigan, were established at the state and federal level and there was little flexibility. At the Veterans Administration Hospital the established purchasing method determined who was to procure the food item.

Basically the departmental organization for purchasing subsistence supplies at the University of Michigan and Michigan State College showed little similarity. The Manager of the Food Service building at the University of Michigan was responsible for the operation

and maintenance of the building. Two Food Buyers, under the direction of the University Purchasing Agent, procured all supplies for the Food Service building. The Manager of the Food Service building supervised the receiving, storing, and issuing of these items. An office supervisor, under the direction of the Manager, was accountable for the business procedures of Food Service.

The Manager of the Food Stores building at Michigan State College was responsible for the operation and maintenance of the building and for the procurement of supplies. The respective heads of the staples, meat, and produce departments were accountable to the Manager of Food Stores for purchasing, receiving, storing, and issuing the food items under their supervision.

A number of men in the key jobs at the institutions studied had occupied these positions for a period of twenty years and had been promoted from within the organization. The Food Stores Manager and the respective heads of the staples, meat, and produce department at Michigan State College had served a tour of duty in at least one of the campus food service units prior to Food Stores assignments.

A requisition was used by the four institutions in this survey to initiate the buying procedure. In order to reduce administrative

costs and to spread the buying activities evenly throughout the year, requisitions for selected supplies were submitted to the State Food Buyer each month by the state institutions. Supplies for the Veterans Administration Hospital were requisitioned on an established schedule and only those items indicated by the Chief of the Dietetic Service could be procured by the supply division. The quantity of the supplies ordered by the state and federal hospitals was controlled by a standard ration pattern. Requisitions were submitted on a scheduled basis by the food service managers at the University of Michigan and Michigan State College. Requisitions were summarized by a clerk in the general office and in the meat cutting unit at the Food Service building, University of Michigan. These summaries which were forwarded to the Food Buyer or the Produce Buyer gave them authority to purchase the food supplies needed to fill the requisitions. The commodities ordered by the food service managers at Michigan State College were summarized by the respective heads of the staples, meat, and produce department at Food Stores.

The Business Manager at Ypsilanti State Hospital and the Food Buyer for the State of Michigan purchased the supplies for the hospital. With few exceptions these supplies were procured by competitive bid. An Ypsilanti wholesale produce vendor purchased fresh



fruits and vegetables at the Detroit Terminal Market and charged the hospital twenty-five cents per container for delivery charges. Contracts for staple items were awarded to vendors on a yearly basis and each state agency ordered supplies as needed. The central office, located in Washington, D. C., procured all staple supplies for the Veterans Administration hospitals and stored them in supply depots until requisitioned by the individual hospitals. Centralized contracts were also issued by central office. The majority of the purchases made at the hospital were by formal competitive bid.

Direct buying was practiced by Food Service at the University of Michigan and by Food Stores at Michigan State College. Large volume purchases, adequate storage space, and simplified purchasing procedures facilitated this practice at the University of Michigan. The success of open market buying at Michigan State College resulted from the high standards of business ethics established between Food Stores and the regular vendors. Speculative buying was practiced in the procurement of frozen meats at Food Stores. The Produce Buyer at the University of Michigan purchased direct from carload receivers at the Terminal Market and from producers at the Farmers Market in Detroit.

Purchase orders were used by all institutions in this study and copies were forwarded to the units responsible for receiving the

supplies. All institutions except the University of Michigan used a standard invoice-voucher form.

The institutions used federal grades to inform the vendors of the quality which was acceptable to them. (See Appendix Figure 16.) A food committee had established food commodity standards for the mental hospitals located in Michigan.

Food Stores at Michigan State College was the only institution studied which did not use written specifications. The regular vendors and brokers were aware of the high quality of merchandise demanded by Food Stores. Detailed specification cards which corresponded to the standard food commodities were located at each state mental hospital and at the office of the State Food Buyer. The supply division at the Veterans Administration Hospital furnished each vendor with written specification pamphlets for packing house and dairy products and for fresh fruits and vegetables. Written specifications for meat and meat products were supplied to vendors who submitted quotations to the Food Buyer at Food Service. Government grading certificates and samples of processed fruits and vegetables were requested by the State Food Buyer, the Food Buyer for Food Service at the University of Michigan, and the Manager of Food Stores at Michigan State College.

Stock levels were established by the Veterans Administration Hospital and the Food Service at the University of Michigan; the other two institutions were guided by previous consumption records.

Perpetual inventories were maintained by all institutions in this study and verified by a yearly physical inventory at Ypsilanti State Hospital and the Food Stores at Michigan State College. A bi-monthly physical inventory was taken in the subsistence warehouse at the Veterans Administration Hospital and a daily inventory was conducted in the dietetic service. Lot numbers assigned to each day of the year and stamped on all items received at Food Service, University of Michigan, provided a constant check between supplies on hand and those carried on the perpetual inventory cards. If there was a discrepancy between the lot numbers listed on the perpetual inventory cards and the lot numbers indicated on the requisition, an immediate investigation was made. Each department head at Food Stores, Michigan State College, maintained an inventory for the supplies in his unit.

The subsistence supplies were weighed, measured or counted, and carefully inspected at all institutions to verify that the quantity and quality delivered complied with the purchase order. A receiving report was prepared in the warehouse at Ypsilanti State Hospital



and forwarded to the hospital accounting office. The warehouse indicated the new balance for each item on the receiving report and the accounting office compared the totals when the supplies received were posted on the perpetual inventory cards. Two clerks received all subsistence supplies at the Food Service building at the University of Michigan. These employees were not under the supervision of the Food Buyer, but they notified him if the supplies received did not comply with the descriptions on the purchase order. The receiving clerks reported the receipt of the merchandise to the general office where a receiving report was prepared. At Food Stores, Michigan State College, the respective heads of the staples, meat, and produce department were responsible for the receipt of the supplies they purchased.

The warehouse at the Veterans Administration Hospital was the only storage area where supplies were arranged alphabetically. In the other institutions, available space at the time of delivery determined where the supplies were stored.

Ypsilanti State Hospital warehouse issued supplies upon the receipt of an institution stores requisition. A separate requisition was used for each food commodity. The warehouse recorded the balance remaining on the requisition when it was forwarded to the

accounting office. This procedure enabled the accounting office to compare the balance on the inventory cards with the actual amount on hand in the warehouse.

At the Veterans Administration Hospital subsistence supplies were issued by two methods, consisting of a daily issue book for staple supplies and dietetic issue slips for perishable supplies. The shipping department at the Food Service building, University of Michigan, filled the requisitions for staples and for fresh and frozen fruits and vegetables and notified the general office if the lot numbers did not agree. Orders from the other units were consolidated by the shipping department. At the Food Stores building, Michigan State College, an invoice was prepared by the respective heads of each department from requisitions submitted by the food service supervisors. This invoice was used to issue the supplies. The amount of staple supplies listed on the perpetual inventory cards in the accounting office was indicated on the invoice and could be compared with the actual amount on hand as the orders were filled. At all institutions a copy of the order was sent with the supplies when they were delivered to the requisitioning unit.

A review of the departmental structures, purchasing procedures, and material management of the four institutions studied illustrated



adjustments which were made in the common purchasing pattern for the purpose of implementing an efficient purchasing program in the individual institutions.

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## APPENDIX



Figure 13. Questionnaire

## I. General Information

Name of institution \_\_\_\_\_ Type of institution \_\_\_\_\_

Location of institution \_\_\_\_\_

Governing board for  
institution \_\_\_\_\_

Names of persons supplying information	Title
_____	_____
_____	_____

## Type of food service units

Units which serve meals to male students or patients \_\_\_\_\_

Total census \_\_\_\_\_

Units which serve meals to female students or patients \_\_\_\_\_

Total census \_\_\_\_\_

## Other food service units and census

Type of unit	Census
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

Budget for subsistence supplies for calendar year 1953 \_\_\_\_\_

When was centralized purchasing initiated? \_\_\_\_\_

How was food purchased prior to this time? \_\_\_\_\_

## II. Physical Facilities

## Location of central stores

Within a mile radius of food service units? \_\_\_\_\_ Yes \_\_\_\_\_ No

## Construction of central stores

Building materials for outside walls \_\_\_\_\_

Inside walls \_\_\_\_\_

Floors \_\_\_\_\_

## Facilities for receiving

Railroad spur \_\_\_\_\_ Yes \_\_\_\_\_ No

Number of cars spur will accommodate \_\_\_\_\_

Truck dock \_\_\_\_\_ covered, \_\_\_\_\_ uncovered

Number of trucks dock will accommodate \_\_\_\_\_





## Facilities for staple storage

- ( ) supplies arranged alphabetically
- ( ) supplies stored on dunnage racks
- ( ) supplies arranged according to groups
- ( ) high cost supplies stored separately
- ( ) bulk supplies pre-packaged
- ( ) windows heavily screened and locked
- ( ) floor constructed of materials which will withstand heavy trucking
- ( ) floor drain located in area to permit easy cleaning
- ( ) pest control

## Allocation of space

Name	Location	Space Allocated		Temp.
		Amount	Adequacy	
Office				
Staple storage				
Meat fabrication				
Preparation of fruits and vegetables				
Bakery				
Sharp freeze				
Refrigerations				
Produce				
1.				
2.				
3.				
4.				
Meat				
1.				
2.				
3.				
4.				
Sharp Freeze				
1.				
2.				
3.				
4.				

Changes which have been made in space allocation within the last ten years

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Production of agricultural products \_\_\_\_\_ Yes \_\_\_\_\_ No

Products produced

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### III. Organization of purchasing department

Who determines and develops purchasing policies and procedures?

Are purchasing policies written or verbal? \_\_\_\_\_

Who is directly responsible for the actual procurement of subsistence supplies? \_\_\_\_\_

Who decides the quality and type of food which shall be purchased? \_\_\_\_\_

Responsibilities of centralized purchasing unit

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

What assistance is received from other departments in order to fulfill these responsibilities? \_\_\_\_\_

### IV. Training and experience of key personnel

Title of position _____	Training
Person in position _____	Grade school _____ years
	High school _____ years
	College _____ years
	Major field _____
	Minor field _____



Last ten years of experience. Start with current position

Title of position	Length of service
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Additional training or experience pertinent to present position

1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_

Qualifications of the position

1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Responsibilities of the position

1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_  
 5. \_\_\_\_\_

## V. Purchasing

Methods used at institution

Method of procurement	Items purchased
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Does the amount of money involved in the purchase determine the method of procurement? \_\_\_\_\_ Yes \_\_\_\_\_ No

Bid and award

Procedures followed when purchasing on a bid and award basis

- ( ) sealed bids received
- ( ) unsealed bids received
- ( ) bids opened publicly
- ( ) bids opened privately
- ( ) bids submitted to an established list of bidders

- ( ) bids accepted from any vendor  
 ( ) lowest bidder receives the award

If not, what factors determine the decision? \_\_\_\_\_

Who is authorized to make the award? \_\_\_\_\_

Are quotations requested from a select group of vendors? \_\_\_\_\_ Yes  
 \_\_\_\_\_ No

Are verbal quotations acceptable? \_\_\_\_\_

Are verbal quotations verified in writing? \_\_\_\_\_ Yes \_\_\_\_\_ No

Are arrangements made for quantity, delivery date and price when  
 purchases are made by contract? \_\_\_\_\_ Yes \_\_\_\_\_ No

Are written specifications used? \_\_\_\_\_ Yes \_\_\_\_\_ No

If not, how are vendors informed of requirements? \_\_\_\_\_

Are government grades used as a guide for purchasing? \_\_\_\_\_ Yes  
 \_\_\_\_\_ No

If not, what guides are used? \_\_\_\_\_

Are brand names used to describe the quality desired? \_\_\_\_\_ Yes  
 \_\_\_\_\_ No

For what items? \_\_\_\_\_

Are certain foods obtained from a specific geographic area?

\_\_\_\_\_ Yes \_\_\_\_\_ No

Item	Geographic Area
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____

Is government grading mandatory for all meat products? \_\_\_\_\_ Yes  
 \_\_\_\_\_ No

Are stock levels used to initiate reordering? \_\_\_\_\_ Yes \_\_\_\_\_ No

If not, what methods are used to determine the reordering point?  
 \_\_\_\_\_

How often do the food service units submit requisitions for the  
 following items?

Item	Requisitioned	Delivered
1. Meat	1. _____	1. _____
2. Fresh produce	2. _____	2. _____
3. Frozen produce	3. _____	3. _____
4. Dairy products	4. _____	4. _____
5. Eggs	5. _____	5. _____
6. Staples	6. _____	6. _____

What information is furnished by the purchase order? \_\_\_\_\_

Are all purchases verified by a purchase order? \_\_\_\_\_ Yes \_\_\_\_\_ No

Who compiles the information needed to complete the purchase order? \_\_\_\_\_

To whom are purchase orders distributed? \_\_\_\_\_

Who signs the purchase order? \_\_\_\_\_

Food Items	Grades	Specifications	Sources of Supply	Frequency of Purch.	Frequency of Del.
Beef					
Veal					
Lamb					
Pork					
Poultry					
Eggs					
Fresh fruit and vegetables					
Frozen fruits and vegetables					
Canned fruits and vegetables					
Flour					
Coffee					
Sugar					
Dried fruits and vegetables					
Dried cereals					
Prepared cereals					

#### VI. Receipt of supplies

Who is responsible? \_\_\_\_\_

Are supplies received at other units? \_\_\_\_\_ Yes \_\_\_\_\_ No

Who is responsible? \_\_\_\_\_

Are employees authorized to sign the invoice? \_\_\_\_\_ Yes \_\_\_\_\_ No

Does the person responsible for the receipt of food have a copy of the purchase order? \_\_\_\_\_ Yes \_\_\_\_\_ No

Are the quantities indicated? \_\_\_\_\_ Yes \_\_\_\_\_ No

Who compares purchase order with the invoice? \_\_\_\_\_

Procedure for receipt of canned fruits and vegetables. \_\_\_\_\_

Procedure for receipt of frozen fruits and vegetables. \_\_\_\_\_

Procedure for receipt of meat products. \_\_\_\_\_

Procedure for receipt of staples. \_\_\_\_\_

Who makes final decision for acceptance of goods? \_\_\_\_\_

#### VII. Storage of supplies

Who is responsible? \_\_\_\_\_

Is a perpetual inventory maintained? \_\_\_\_\_ Yes \_\_\_\_\_ No

How often is perpetual inventory checked by physical inventory? \_\_\_\_\_

By whom? \_\_\_\_\_

Method used to price inventory. \_\_\_\_\_

#### VIII. Issuing of supplies

Who is responsible? \_\_\_\_\_

Who authorizes the issue of supplies? \_\_\_\_\_

Procedure for filling and checking orders for produce. \_\_\_\_\_

Procedure for filling and checking orders for meat. \_\_\_\_\_

Procedure for filling and checking orders for produce. \_\_\_\_\_

Procedure for filling and checking orders at the food service units. \_\_\_\_\_



Figure 16. Market Grade Acceptable to the Individual Institutions

Item	Ypsilanti State Hospital	Veterans Adminis- tration Hospital	University of Michigan	Michigan State College
<u>Beef</u>				
Carcass . . . .	High utility	Choice		Utility
Primal cuts .		Choice	Good, Commer- cial	Choice, Good, Commer- cial, Utility
Fabricated cuts . . . .			Good, Commer- cial	Good, Commer- cial, Utility
<u>Veal</u>				
Carcass . . . .	Good	Choice		
Primal cuts .		Choice	Choice	Choice
Fabricated cuts . . . .			Choice, Good, Utility	Commer- cial, Utility
<u>Pork</u>				
Carcass . . . .	Farm	Farm		
Loins . . . . .		No. 1	No. 1	No. 1
Hams . . . . .	No. 2	No. 1	No. 1	No. 1 & 2
Bacon . . . . .	No. 2	No. 1	No. 1	No. 1 & 2
<u>Lamb</u>				
Carcass . . . .		Choice		
Primal cuts .		Choice	Choice	Choice
Fabricated cuts . . . .			Choice, Good	Choice
<u>Mutton</u>				
Carcass. . . .	Good			

Figure 16 (Continued)

Item	Ypsilanti State Hospital	Veterans Adminis- tration Hospital	University of Michigan	Michigan State College
<u>Frozen Fruits</u> .		A	A & B	A & B
<u>Frozen Vege- tables</u> . . . . .		A	A	A & B
<u>Canned Fruits</u> .	Fancy, Choice, Standard	Choice	Fancy, Choice	Choice
<u>Canned Vege- tables</u> . . . . .	Fancy, Extra Standard	Choice	Fancy, Extra Standard	Extra Standard
<u>Fresh Fruits &amp; Vegetables</u> . .	No. 1	No. 1	Personal Selection	High Quality
<u>Eggs</u> . . . . .	A & B Large, A & B Medium	A Large	Fancy, Heavy Wt., Mixed Colors	-----
<u>Butter</u> . . . . .	90 & 92 score	92 score	92 score	College Dairy
<u>Poultry</u> . . . . .	B	A	A	A & B

STATE OF MICHIGAN  
DEPARTMENT OF ADMINISTRATION  
PURCHASING DIVISION

BIDDING POLICY

Figure 14.

Established procedures governing State Purchasing provide for the following:

SEALED BIDS

Sealed bids are required for all purchases estimated to exceed \$2000.00. Such bids state they are to be received on or before a specified date and hour at which time they are opened, read and tabulated at a public hearing. With all "requests for quotation" covering sealed bids, return envelopes are enclosed giving the bid number, time of opening, name of bidder and name of buyer. All bids should be returned in this envelope. Should it be necessary to use a larger envelope to include literature, samples, etc., all of the above information must be shown on the face of your envelope. Sealed bids which are sent by mail must reach the Purchasing Division so that they may be "time stamped" prior to the formal opening. Bids delivered in person must be taken to the Purchasing Division and "time stamped" previous to the specified opening time. Bids not stamped or stamped after the specified opening time cannot be accepted.

OPEN BIDS

Bids for purchase estimated to total less than \$2000.00 are to be returned on or before the date specified on bid. A public opening is not held and bids are not made public until after award has been designated. Bids received in our mail room up to 5:00 P.M., of the closing date indicated on the bid, shall be considered as meeting the requirements. Late bids will be so marked and kept on file but cannot be given consideration for an award. Regular procedures may be waived only in cases of real emergencies.

TELEGRAPH BIDS

Bids by telegraph will be accepted only in response to telegraphic invitations or when replies by telegram are specifically requested on our "Request for Quotation Form DA-201". In the latter case, the confirming bid must also be returned immediately.

Both sealed and open bids may be changed or amended by telegraph provided, both the bid form and the telegram are received before the designated time of opening in the case of sealed bids, and the specified closing time in the case of open bids.

PRICES

Prices quoted are considered firm unless otherwise stated. Firm quotations may, at the discretion of the Purchasing Director, be given preference. If escalator clauses are used, they must also provide for price adjustments reflecting market changes downward.

We cannot permit price adjustments involving errors due to carelessness. Vendors are, therefore, requested to check carefully their quotations for accuracy.

NOTE

Do not include open bids in sealed bid envelopes. Do not enclose two or more sealed bids in the same envelope unless they are to be opened at the same time.

Do not invalidate your bid. Follow these instructions and those contained on the face and reverse side of the bid form.

WE CANNOT MAKE EXCEPTIONS TO THESE PROVISIONS.



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