Food acceptance in three Montana institutions
by Patricia Tutty Hennessey

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in Home Economics
Montana State University
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Abstract:
Food acceptance, or rejection, has "been explored by many investigators, Numerous factors can be determining influences in food acceptance, among them, biochemical, physiological, psychological, social, economic, and educational factors.

In group feeding situations, where the individual is "captive," acceptance of food is a part of the total therapeutic and social program and cannot be compartmented. Positive acceptance of the food is an indication of the success of the aim of the institution — to return the resident to his fullest potential in community life.

The study was made to determine what forces might be influential in food acceptance at three Montana institutions, a retirement home, a school for the mentally retarded, and a general hospital.

An historical case study was necessary to evaluate the food service in the light of established standards. A comparison of the menu of each institution was made with the Recommended Daily Allowances. It was concluded that regardless of the history and philosophy of the unit or of the standards of food service, food was accepted at each of the three institutions.

The recommendation is made that inactive professionals take positive and active interest in the work rather than merely giving lip-service. More important seems to be a study to determine the feasibility of the creation of a position for a nutritionist who could, under the Department of Institutions, be responsible for the establishment and maintenance of high food standards at those units under it's jurisdiction.

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ABSTRACT

Food acceptance, or rejection, has been explored by many investigators. Numerous factors can be determining influences in food acceptance, among them, biochemical, physiological, psychological, social, economic, and educational factors.

In group feeding situations, where the individual is "captive," acceptance of food is a part of the total therapeutic and social program and cannot be compartmented. Positive acceptance of the food is an indication of the success of the aim of the institution - to return the resident to his fullest potential in community life.

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CHAPTER I

INTRODUCTION

Importance of the Study

Although nutrition may be called a new science, knowledge of some of its aspects goes back to the beginning of civilization. That food was needed to maintain life, that one had to find food and eat it, and that when food was withheld one got hungry and suffered varying degrees of discomfort, were all bits of knowledge that our ancestors learned very early in life.

Genetically, nutrition has always incorporated some of the diverse disciplines that are with it today: environment, agriculture, economy, and physiology to cite a few. Acceptance of food, however, is a complex matter. It is not simply eating per se, nor is it just the satisfaction of hunger. Because man is man, the senses were involved with the acceptance or rejection of food by the primitive just as today we react to the stimulus of the senses in accepting or rejecting foods.

It is Goffman's thesis that the individual and his self-concept are largely determined by the institution in which he resides; that he eventually assumes the role determined by the institution.[1] The individual in an institution, however, should still retain his basic human rights. If the concept of total care is truly the aim of all members of

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[1] Erving Goffman, Asylums (New York: Doubleday & Company, Inc., 1961).

the institution's therapeutic team, acceptance of food must be an interdisciplinary process, although primarily the responsibility of the food service director.

Nutritonal standards have been established and guidelines set for the administration of an effective food service system. The incorporation of these values into the individual dietary department or their exclusion from it may be a reflection of the philosophy and history of the institution itself.

Purpose of the Study

This study was undertaken as an investigation of the factors that may influence the acceptance of food by an individual residing in an institution because of illness, mental retardation, or old age.

Projections of population would indicate that a large segment of the population will probably spend time in an institution of some type during their lifetime. Group feeding will be experienced by these individuals. Because eating is essential to life, acceptance of food can be an important tool in any comprehensive care program. This is supported by Atwater who wrote:

> Not the least potent of the factors that influence the welfare of a country is the rational and satisfactory nutrition of its people.[2]

Galdston states further:

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[2]U.S., Department of Agriculture, Office of Experimental Stations, Annual Report of the Office of Experiment Stations to the Secretary of Agriculture for the Year Ended June 30, 1901 (Washington, D.C.: Government Printing Office, 1901), p. 437.

When the chemists took over nutrition, we gained in knowledge but lost in humanity.[3]

For the purposes of the study, acceptance was defined as:

1. An experience, or gesture of experience, characterized by a positive (approach in a pleasant) attitude.

2. Actual utilization (purchasing, eating); may be measured by preference or liking for specific food item.[4]

The two are often highly correlated, but not necessarily the same.

Hypothesis

In many cases, group feeding occurs when individuals are incapacitated in some way. In institutions involved in this study, the objective is to bring the individual back to his highest potential, capable of functioning in community life. In this case, food service becomes a part of the interdisciplinary program and acceptance of food an indication of its success.

If food acceptance is to be an effective tool, measuring the success of group feeding situations, an understanding of the culture, emotions, and values of the individual as well as the philosophy of the institution is necessary. A dietary regime should be acceptable to the individuals, yet meet the prescribed nutritional levels.

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[3]Iago Galdston, "Nutrition from the Psychiatric Viewpoint." Journal American Dietetic Association, 28 (May, 1952), 405.

[4]Maynard A. Amerixe, Marie Pangborn, and Edward B. Roessler, Principles of Sensory Evaluation of Food (New York: Academic Press, 1965), p. 9.

CHAPTER II

REVIEW OF LITERATURE

Definitions

Goffman's classic study of institutions characterized them as having a total or encompassing quality. This is symbolized by a barrier of some kind, which acts to separate the institution from the outside society. Such a barrier also serves as a deterrent to departure. Walls, fences, locks, and even the location itself may be seen as symbolic barriers.

He visualizes several categories of total institutions. One is the institution devoted to the care of persons who are incapable and harmless. Homes for the blind, the aged, the orphaned, and the indigent are in this group. Another includes those institutions established to care for persons believed to be incapable of caring for themselves and who also act as a threat to the community, although an unintended one. Mental hospitals, TB sanitariums, and leprosariums are in this category.

None of the characteristics are shared by all the institutions nor is any one characteristic peculiar to a total institution. As Goffman sees it:

> The central feature of total institutions can be described as a breakdown of the barriers ordinarily separating these three spheres of life. First, all aspects of life are conducted in the same place and under the same single authority. Second, each phase of the member's daily activity is carried on in the immediate company of a large batch of others, all of whom are treated

> alike and required to do the same thing together. Third, all phases of the day's activities are tightly scheduled, with one activity leading at a prearranged time into the next, the whole sequence of activities being imposed from above by a system of explicit formal rulings and a body of officials. Finally, the various enforced activities are brought together into a single rational plan purportedly designed to fulfill the official aims of the institution.[5]

Institutional Food Service

Since earliest times the feeding of large groups of people has fascinated investigators. The bible notes Christ feeding the multitudes. In our own time, research of the food habits of people of varying ages, nationalities, geographical location and occupations under different conditions were undertaken by Atwater.[6] His concern for his fellowmen was a salient feature of his investigations.

The first extended inquiries in the United States were those of Wright concerning statistics of food consumption in 1886.[7] His results, computed and reported by Atwater, resulted in the authorization to experimental stations for cooperative studies of man and his nutrition. Apparatus and methods were devised and data was collected on food consumption of families, boarding houses, clubs, and institutions, and of the congested districts of Chicago (1895-1896). In 1901 Atwater reported:

> The proper nourishment of the institutions where large numbers must be fed, such as schools, reformatories, prisons, and hospitals, is a subject attracting no little attention at the present time.

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[5] Goffman, Asylums, p. 6.

[6] U.S., Department of Agriculture, Office of Experimental Stations, Annual Report for the Year Ended June 30, 1901, p. 45.

[7] Ibid., p. 439.

> In several instances, studies have been made of the actual food consumption in such institutions, and quite recently an extended study of the food requirements of the insane have been carried on by one of the states.[8]

In 1909 eight dietary studies were made in homes for the aged and three in orphan asylums in Philadelphia and Baltimore. These were institutions of two types, those publicly funded and those privately endowed. Objectives were:

> To secure data regarding the food consumption of aged men and women and children for use in formulating dietary standards for such individuals, in comparison with a man in full vigor. It was recognized that a matter of great importance, particularly in the expenditure of public funds, was to determine whether the diet of an institution corresponds in all respects to reasonable standards.[9]

One humanitarian aspect that was raised in this study was:

> In planning diets for institutions, whether for the aged, the middle-aged or the young, humanity demands that some account be taken of the comfort as well as the bare nutritive requirements of the inmates, especially when they have become wards of the public, through no fault of their own. To what extent the dietitian is justified in going beyond the minimum ration which is consistent with safety, or beyond the minimum cost for the sake of variety, must depend upon the character of the institution, and the funds at its disposal. There are, however, many methods by which variety can be increased with little or no increase in cost.[10]

Factors influencing food acceptance could be biochemical, physiological, psychological, social, economic, and educational. As stated by Eppright:

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[8] Ibid., p. 466.

[9] U.S. Department of Agriculture, Dietary Studies in Public Institutions in Philadelphia, Pa., and Dietary Studies in Public Institutions in Baltimore, Md., Bulletin 223 (Washington, D.C.: Government Printing Office, 1910), p. 1.

[10] Ibid., p. 44.

> Full application of the knowledge in nutrition awaits a better understanding of the reasons why people eat as they do. Acceptance of food is a complex reaction determined by the biochemical condition of the body, the response of the sense organs, and the mental state of the individual. The latter, in turn, is influenced by social, economic, and environmental conditions, coupled with the past experiences of the individual. It has been said that food with man is not just food; it is the crossroads of emotion, religion, tradition, and habit.[11]

Other studies show that "The factors which influence food preferences are extremely varied - from the caprices of fashion to the prevalence of dentures."[12] Cultural patterns could be considered important. As stated by Amerixe, et al:

> The specific environment, both social and psychological may also have a marked influence on food consumption. Further, group situations lead to rejection or complaints about foods or to acceptance and even preference.[13]

Other investigators expressed the reasons for acceptance of food in the family group as follows:

> One answer to what people eat in a family situation is that they eat what is on the table. A change in food acceptability requires a change of the individual's frame of reference.[14]

Emotions were considered a crucial factor in the theory advanced by Gottlieb and Rossi. In their 1961 studies they enumerated cases of anxiety, early childhood experiences, use of food as a substitute for love, security, or companionship, involvement of oral and gastrointestinal activ-

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[11] Ercel S. Eppright, "Factors Influencing Food Acceptance." Journal American Dietetic Association, 23 (July, 1947), 597.

[12] Amerixe, Pangborn, and Roessler, Principles of Sensory Evaluation of Food, p. 9.

[13] Ibid., p. 9.

[14] Ibid., p. 11.

ities, and other psychogenic factors in food acceptance or rejection.[15]

In the Weisskopf studies, the feeding problems of the mentally retarded child and acceptance and rejection of food was associated with behavior problems. A specific abnormality which occurs more frequently in mentally retarded persons, is rumination. This is attributed to a disturbance in the parent-child relationship.

Weisskopf reports seeing this syndrome in the institutionalized child. In these cases, he believes, the problem is related to the lack of proper stimulation to the child from its environment; the habit is seen as a form of self-stimulation.[16]

Young pointed out:

> . . .although food selections often are in accord with nutritional needs, the correlation between need and acceptance is far from perfect. Food acceptance is regulated by the characteristics of the food object (palatability), by the environmental surroundings of the food object, by established feeding habits as well as by intraorganic chemical conditions which themselves may or may not be directly related to metabolic needs.[17]

Lepkovsky was concerned with the internal factors that were influential in food acceptance. Some normally unacceptable foods could become highly acceptable when a state of stress developed and he believed that the opposite was also true.[18] An example of the former may be cited

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[15] Ibid., p. 11.

[16] Kentucky State Department of Health, Proceedings of 1966 Growth and Development Conference (Frankfort, Kentucky, 1966), p. 151.

[17] Amerixe, Pangborn, and Roessler, Principles of Sensory Evaluation of Food, p. 13.

[18] Ibid., pp. 18, 19.

from our own history, that of the Donner party.

Some stress factors Lepkovsky listed as making foods more or less acceptable by:

1. Affecting the flavor of a food, either increasing or decreasing its perception.

2. Affecting motor phenomena in the digestive tract and thus increasing or decreasing peristalsis, gastric emptying time, etc.

3. Changing the composition of body fluids which bathe the hypothalamus and other tissues which play a role in the basic phenomena of food intake, such as hunger, appetite, and palatability.[19]

Among the many tests devised to determine acceptability of food is that of the frequency rating questionnaire. As Schuh, et al., stated:

> Consumption of food is the ultimate objective measure of acceptability when an adequate food supply is available.[20]

As recently as 1967, Schuh investigated the acceptability of food, noting that "acceptance criteria are the least explored and understood because they deal with the inconsistencies of human attitudes and behavior." She offers the theory that "one technique of quantifying the elusive characteristic of food acceptability is the frequency rating." Her investigations involved plate waste as an objective measure of consumption, and the use of the frequency rating questionnaire as a tool to validate the technique.

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[19] Ibid., pp. 18, 19.

[20] Doris D. Schuh, Aimee N. Moore, and Byrdine H. Tuthill, "Measuring Food Acceptability by Frequency Ratings." Journal American Dietetic Association, 51 (October, 1967), 341.

Background of Institutions

Hillcrest Homes

Hillcrest Homes is a non-profit agency of the Methodist church. It was established in 1963 as an expansion of the corporative structure of the Bozeman Deaconess Foundation.

The institution, commonly called Hillcrest, is designated Hillcrest Retirement Apartments on the directional signs. It is located atop a hill in the southwest section of the city of Bozeman and occupies about twenty-one acres of land.

Hillcrest was opened for occupancy August 9, 1963, ground having been broken in May, 1962. One building encompasses the living quarters and medical care unit. Located in the central section are the dining room and kitchen facilities, the lounge, chapel, and recreation areas.

As stated in the brochure:

> Hillcrest is considered to be one of the finest retirement residences in the United States. It was given a 1963 award of merit in architectural design by the Federal Housing Administration. Operated like a resort hotel or club apartment house, it offers a large variety of apartments ranging from the economy size to the deluxe.[21]

There are 120 living units, some of which are combined. Wall-to-wall carpeting is part of the apartment, but residents provide their own furnishings.

Residents pay a lifetime occupancy fee which gives them a guaranteed lease regardless of length of life or degree of care. However, they do not have an equity in the building as such.

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[21] Hillcrest Brochure, p. 1.

A monthly care charge, based on the cost of operations, "provides utilities, upkeep, linens and linen laundry, meals and care in the health unit when needed, dovetailed with Medicare under Social Security."[22]

It is anticipated that the facility will eventually be financially able to provide a residence "for deserving persons compatible with the Christian atmosphere of the home to be admitted to residence regardless of their ability to pay."[23]

Requirements

Persons admitted must be ambulatory and in normal health for their age. Sixty-two years is given as the lower age range, although exceptions are made. There is no upper limit.

Staff

The Bozeman Deaconess Foundation, comprised of the Board of Trustees of the Bozeman Deaconess Hospital, is the administrative force of Hillcrest. At present, the administrator is a retired Methodist minister who was an active participant in the preliminary planning and development of Hillcrest.

The departments of the institution are maintenance, dietary, nursing, housekeeping, and administration.

A total of forty-two full time employees, eight part-time employees including nurses, and a recreational director constitute the personnel

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[22] Ibid., p. 1.

[23] Ibid., p. 1.

structure at Hillcrest.

Residents

When Hillcrest opened in 1963, there were nine residents. At present there are 103 regular residents and ten on a temporary basis. Three of the original residents are still at the residence.

The temporary residents are cared for in the health center, being extended care patients who are entitled to the facilities of Hillcrest under Medicare.

Services

The program of services includes maintenance, housekeeping, dietary, health, administration, recreational, and religious. In addition, residents with cars are provided with heated garages; a bus is maintained for trips to town or special functions elsewhere; a branch post office is located in the main lobby; garden space is available to those who wish it; a beauty shop is operated regular hours. Other features are a fish pond, greenhouse, and workshop.

Dietary Services

Food service is under the direction of a professional food manager. His association with the institution dates from the planning stage. Pre-planning at that time established standards which resulted in personnel policies, work schedules, job specifications, and the managerial programs that make for efficiency. Records are kept and purchases weighed in and accepted by authorized personnel. Authority is delegated to key

members of the staff. Menus are written well in advance and posted, allowing preparatory work to be anticipated and scheduled.

Other members of the non-union dietary staff include a lead cook who has worked with the food manager for twenty years, and seventeen other full and part-time employees.

Waitresses are classified as follows:

1. Head Waitress
2. Assistant Head Waitress
3. Regular Waitresses.[24]

The head waitress is directly responsible for the operation of the dining room and acts as supervisor of all dining room employees. In her absence, the assistant head waitress assumes the responsibility. The regular waitresses are charged with the usual work procedures of serving, clearing the tables, and other duties of waited service.

A continuing training program is in effect with the premise that "all of Hillcrest's employees must learn and fully understand that Hillcrest is operated for the benefit of the residents and not for the employees."[25]

Waitresses are given the following rules:

1. Always be courteous.
2. Never argue with a resident.
3. Bring all complaints to the attention of the food service director, regardless of how trivial this complaint may seem to you.
4. Be attentive to your work.
5. Keep smiling.[26]

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[24]Hillcrest, Memorandum to Waitresses, 1963 (Mimeographed.)

[25]Hillcrest, Memorandum from Food Manager, 1964. (Mimeographed.)

[26]Ibid.

Physical Plan

The department is located on the second floor level. It is efficiently planned and well-lighted and ventilated. A large dining area, - separated from the main kitchen by the cafeteria line, - an office, meat-cutting room, staff dining room, and storage room comprise the department. Another large dry storage area on the basement level is assigned to the dietary department.

There is a large walk-in refrigerator and recently a walk-in freezer was completed. Up-to-date institutional equipment such as pass-through refrigerators, ranges, bake ovens, steamers, and mixers are installed. These are planned to handle an additional work load required should the institution expand.

Meal Service

Actual food service includes a variety of systems. Breakfast and lunch are cafeteria style. Dinner is waited table service. For those who are non-ambulatory, a selective menu is provided. Trays with their selections are delivered to the resident's room by means of heated food carts.

The health unit receives the amount of bulk food needed for the patients. Nursing service sets up the trays, dishes the food, and passes the trays to the patients. The dietary service is responsible for the return of the heated food cart to the kitchen.

Serving times are planned for the convenience of the residents. (Table 1). Menus are posted for their perusal. (Figure 1).

TABLE 1

SCHEDULE OF MEAL SERVICE AT HILLCREST

Day	Meal	Times
Weekdays	Breakfast	7:15 A.M. - 8:45 A.M.
	Lunch	11:30 A.M. -12:45 P.M.
	Dinner	First Seating 5:15 P.M. - 5:30 P.M. Second Seating 6:00 P.M. - 6:20 P.M.
Sunday	Breakfast	8:00 A.M.
	Dinner	First Seating 12:30 P.M. - 12:45 P.M. Second Seating 1:15 P.M. - 1:30 P.M.
	Snacks	5:15 A.M.

Meal Cost

Meal Cost for June, 1968 was:

Raw food cost 30
Cost per meal per resident .....63 [27]

Boulder River School and Hospital

The Omnibus Statehood Bill, signed February 22, 1889, by President Grover Cleveland, provided for the creation of Montana, Washington, North and South Dakota.[28] It was an Enabling Act, and in it, lands were laid

[27] Joe Roe, private interview, June, 1968.

[28] Enabling Act, Codes and Statutes of Montana, Annotated (Booth, 1895), Vol. I, sec. 1 (1889).

aside for the establishment of the institutions of higher learning. The distribution was as follows:

100,000 acres for a school of mines
100,000 acres for state normal schools
140,000 acres for agricultural colleges
50,000 acres for a state reform school
50,000 acres for a deaf and dumb asylum.[29]

What was to become the Boulder River School and Hospital was described in the Constitution of the State of Montana:

> The object of said school shall be to teach the English language to all the deaf and dumb children in the State, and to furnish all children who are debarred from the public schools by reason of deafness, dumbness, blindness or feeble-mindedness, with at least an ordinary public school education in all customary branches, and to train them into mastery of such trades as shall enable them to become independent and self-sustaining citizens.[30]

Location

Boulder, a growing settlement nestled in the Jefferson valley, was chosen for its location. For the most part, this was due to the lovely scenery, thermal springs, and the rich farm and ranch lands which surrounded the community.

But most of all, Boulder was chosen by the "out of sight, out of mind" attitude that prevailed during that time. The town was small; it was secluded in the mountains equidistant from Butte and Helena, two of the larger settlements of the state. The physically and socially handicapped of the new state were thus provided for.

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[29] Ibid., sec. 17.

[30] Montana, Constitution (1889), art. 2, sec. 2331.

Initiation

The Third General Assembly of Montana set the needed machinery in force. Thus it was that the school formally opened September 1, 1893. It was housed, however, in temporary quarters which had been leased for a two-year period.[31]

Organization

A three-man board of trustees, appointed by the Board of Education, was responsible for the management and control of the institution. They were authorized to elect a president and secretary from their own members and each would serve a two-year term. The three were responsible for the appointment of a superintendent who was to be:

> A man of recognized Christian character, who shall have acquired an easy and ready use of the 'sign language,' ...who shall have had at least three years' actual experience in teaching the deaf; who shall be familiar with the methods used in general instruction of defective youths, and who shall possess other qualification necessary in their judgment to fit him for such office.[32]

Governor Rickards appointed five Boulder residents to serve as a local executive board and act as a liason between the school and the community. This they did, without pay.

A Helena woman was elected matron-in-charge of the institution, and two teachers, Miss Anna Wood, teacher of the deaf, and Miss Daisy

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[31]Montana, Deaf and Dumb Asylum, First Annual Report of the Montana Deaf and Dumb Asylum to the State Board of Education for the Year Ending December 1st, 1895 (Helena: State Printing Office, 1896), p. 7.

[32]Montana, Constitution (1889), art. 2, sec. 2338.

Doyle, instructor of the blind, were the first faculty members.[33]

Ten pupils had been admitted. They came from all parts of the state. Handicaps were classified as deaf, blind, and feeble-minded with four each for the two former, and two of the latter. In May, 1894, another deaf boy was admitted, making the total permanent enrollment for the first session of the school eleven.[34]

The ages of the students ranged from nine years to twenty-three years. The two "feeble-minded" boys were thirteen years of age.[35]

Requirements

To qualify for admittance one must be deaf, dumb, or feeble-minded; a resident of the state of Montana; between the ages of six and twenty-one years; and not of unsound mind or dangerously diseased in body or of confirmed immorality or incapacitated for useful instruction by reason of physical disability. Applications had to be passed on by the board of trustees.[36]

Financing

The legislature appropriated $15,000 per annum for the expenses of the school and $5,000 for a building and furnishings. Hopefully, this would be raised by the sale, rental or leasing of the 50,000 acres of

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[33]Montana, Deaf and Dumb Asylum, First Annual Report, p. 7.

[34]Ibid., p. 8.

[35]Ibid., p. 8.

[36]Montana, Constitution (1889), art. 2, sec. 2342.

public land granted to the institution by the Enabling Act. The total appropriation, however, exceeded the total state revenue. Furthermore, the number of students was limited to thirteen. The Board of Education, therefore, fixed the allowance at $6,000.[37]

The financial report pointed out:

> It has been our consistent endeavor to practice the strictest economy, consistent with safety, efficiency and ordinary comfort.[38]

At this time there was no real estate or buildings. Optimistically it was reported that negotiations for the purchase of a prime 40-acre piece of land southeast of the town on the north bank of the river were nearing completion. In addition, a contract for a $37,911.38 building which was to house 60-75 residents and be ready for occupancy by September 1, 1896, had been let.[39]

At the end of the first year, L. J. Hamilton, the president, felt compelled to write to the Board of Education:

> Bearing in mind the benignant purpose of its creation and the kindly interest taken by modern civilization in the welfare of the unfortunate, evidently this institution is entitled to more liberal provisions for present and future maintenance.[40]

Growth

By 1923 there was increase in both buildings and number of resi-

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[37] Montana, Deaf and Dumb Asylum, First Annual Report, p. 9.

[38] Ibid., p. 9.

[39] Ibid., p. 11.

[40] Ibid., p. 3.

dents. At this time there were three buildings, described as follows:

> The school for the Deaf and Blind, consists of three buildings. In one of these is the main office for the school. A part of this building is used for class rooms, part for living quarters for the officials and part for the boys' dormitory. In the second building, the kitchen, dining room, and print shop were located, while in the third building the household store room, girls' dormitory, gymnasium, and a few class rooms were located.[41]

The number of residents was now nine times the original number. Most of them were over ten years of age. Distribution was shown to be as follows:

Under 10 16
From 10 - 15 40
Over 15 . . . . . .34.[42]

Handicaps were of a physical nature. For the most part they were considered deaf, blind, mute, either singly or in combination.

In 1937 a long-sought separation was effected. The Montana School for the Deaf and Blind was moved to new quarters in Great Falls. The Boulder facility could now devote its full attention to the mentally retarded. It became the Boulder River Training School and Hospital.[43]

During the early 1960's, the situation at Boulder became a major topic of discussion in the press. There was controversy concerning means of financing, food and service, and even political neglect.[44] No valid

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[41]Cooly, Elizabeth C., "A Dietary Survey of Three Institutions in Montana." Unpublished M.A. thesis, Montana State College, Bozeman, 1924. p. 35.

[42]Ibid., p. 37.

[43]Montana, State Board of Education. Annual Report of the Montana School for the Deaf and Blind for the Year Ending June 30, 1941 (Boulder: School Printing Office, 1941), p. 27.

[44]Great Falls Tribune, September 21, 1962, p. 1.

study was made. The charges, however, were of such a nature that concerned citizens pressed for legislation. This resulted in the creation of the Department of Institutions in 1963. Subsequently, additional legislation was required to permit the newly designed department to operate efficiently.[45]

Present

Sixty-eight buildings occupy the 1,320 acres that comprise the Boulder River School and Hospital. In addition to the old administration building, there is a hospital, a school, kitchen and dining rooms, laundry, butcher shop, dairy, farm buildings, and workshop. It has its own water supply, sewer system and power facilities.

Philosophy

The motto that guides the work at the Boulder facility is "Love and accept the retarded child." In a summarizing statement, the superintendent said:

> We have been able to accomplish much these last two years in the implementation of the comprehensive training program for the care, training and rehabilitation of our residents. From the inception of our school, our primary purpose and thinking has been one of custodial care, understanding and treatment of the State's retarded children; the concentration of our main interest was primarily custodial care. There has been and is now in effect, a radical change from this outmoded concept to one of habilitation where the students can be trained to take their place in society as self-sustaining citizens and/or be self-sustaining in their foster home - meaning our school.[46]

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[45] Department of Institutions, Title 80 Act, Revised Code of Montana (1947), art. VII, secs. 10, 19, 20; art. X, sec. 1; XVIII, sec. 2.

[46] Editorial, The Boulder Star, Spring, 1968, p. 1.

Staff

There are 387 employees. Professionals include a medical director, nurses, psychologists, social workers, speech therapists, occupational and physical therapists, counselors, recreational directors, laboratory technicians, and school teachers. (Figure 1).

Five hundred of the residents participate in a work-training program. This provides on-the-job training for the individual in an area suited to his capabilities.[47]

Love and acceptance of the retarded child, therefore, is the main qualification for employment. Professional staff members must qualify in their field as well. To insure top performance, in-service training is a regular part of the continuing education program for the employees. Of special value are the work-shops and institutes conducted at regular intervals by outstanding authorities in the field of genetics, orthopedics, and pathology, and other related fields.

Enrollment

As stated in the rules for admission:

> The Training School accepts none but mentally retarded and mentally deficient, so certified by the Montana Mental Hygiene Clinic. None are accepted who have psychotic complications, since we have no facilities or treatment for this type. No child under the chronological age of six years is accepted due to the lack of nursery facilities at this time. It is possible, however, to place the names of the mentally retarded and mentally deficient children on the waiting list with the understanding that they cannot be accepted until they reach the age of six years and their names reach

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[47] Stephen Chiovaro, personal interviews at Boulder, July, 1968.

BOULDER RIVER SCHOOL ORGANIZATION CHART

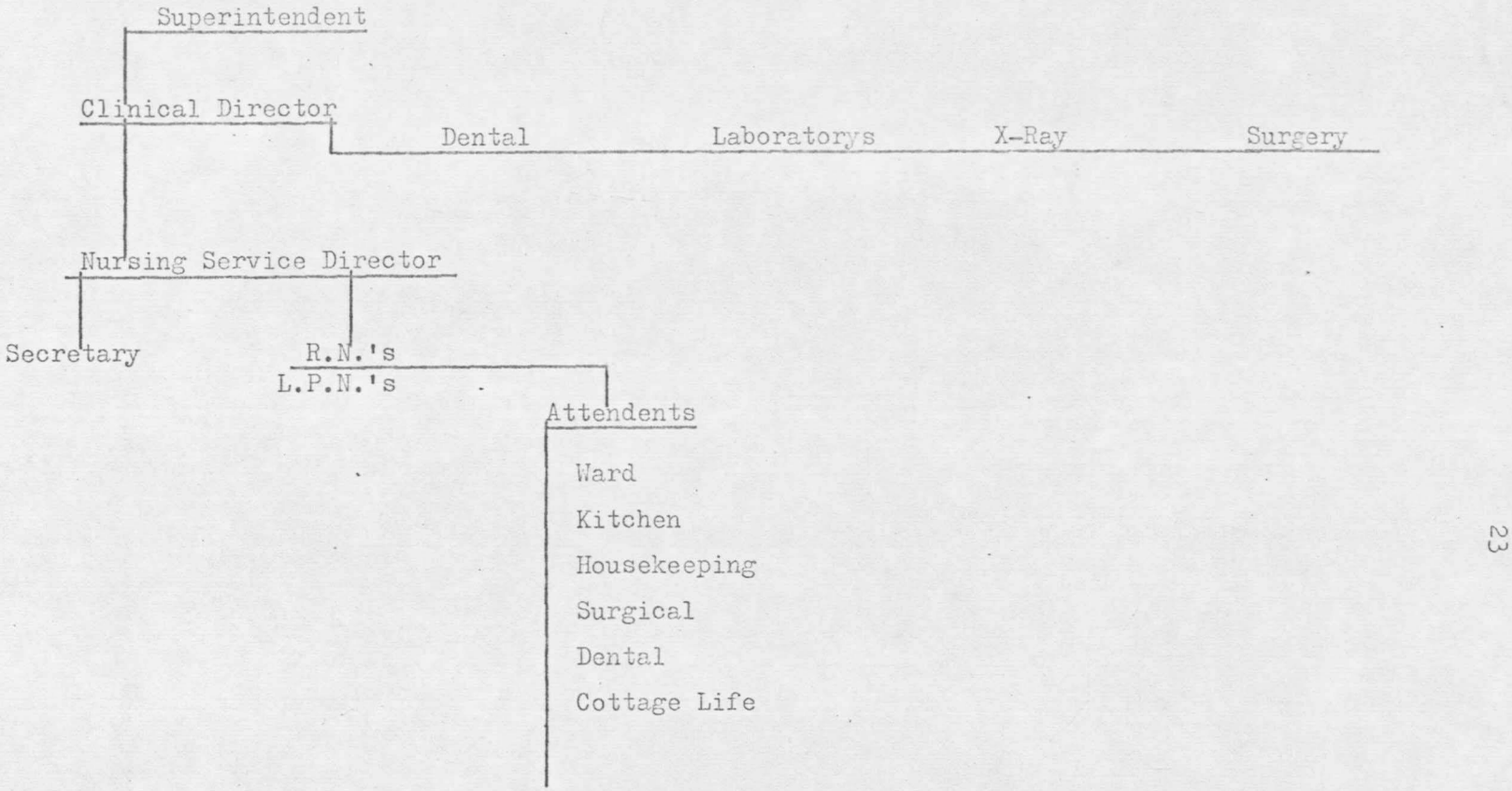

Figure 1.

the top of the waiting list.[48]

The length of time a student spends in the Boulder school is dependent upon the degree of retardation. The aim of all concerned is to develop the individual to the full extent of his potential. Because many have multiple physical handicaps, it is often necessary to correct these defects also.

Education is developed along two levels: - one for those who will always be residents of the school and one for those who will eventually be able to take a place in the outside community.

A few have always been residents of the facility and some come only during the summer vacation months on a limited program of rehabilitation.

Distinction must be made between "Mental Retardation" and "Mental Illness." The definition which has evolved and which is accepted by the State of Montana is one offered by the American Association on Mental Deficiency:

> Mental retardation refers to sub-average general intellectual functioning which originates during the developmental period and is associated with impairment in the adaptive behavior.[49]

Currently there are 884 mentally retarded residents. Of these, 367 or 41.5% are female and 517 or 58.5% are male. There are 340 on the

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[48]Boulder River School, "Admission to Boulder River School," 1966. (Mimeographed.)

[49]Boulder River School, "A Brief Introduction to Mental Retardation," 1966. (Mimeographed.)

waiting list and another 150 are boarding at Warm Springs.[50]

Residents are also classified according to educable level. (Table 2).

TABLE 2

BOULDER RIVER SCHOOL AND HOSPITAL
RESIDENTS BY CLASSIFICATION
DECEMBER 1, 1966

Population by Level	Number	Per Cent
Borderline & Normal	33	3.5
Educable	205	23
Trainable	237	27
Severe	222	24
Profound	187	20

[51]

Services

Under Montana law, responsibility for the state's 21,000 mentally retarded is placed in the State Department of Institutions. The responsibility for educating the mentally retarded of school age is still that of the State Department of Public Instruction. Boulder River School cares for and educates 4% of this total, providing comprehensive care for the

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[50]Boulder River School, "Welcome to Boulder River School and Hospital," 1968, p. 3. (Mimeographed.)

[51]Ibid., p. 2

mentally retarded on a state-wide basis.[52]

The present plan calls for an accommodation of 900 retardates and upon this realization, the Boulder facility will serve the southwestern region of the state. (This region has a projected population of 167,500 in 1972). It will also continue to serve as an evaluation and training center for the referral of more severe retardates.[53]

The cottage unit system has been initiated. This provides a residential type of living and is based on the studies of Itard.[54] Placement of the retarded person in the community and if possible, in a job, is the aim of the program.

Five autonomous units of two or three cottages are staffed with a unit team which is responsible for the living, eating, and personal habits of the resident. Teams are composed of a leader, supervisor, medical staffer, psychologist, social worker, recreational aide, vocational advisor, educational advisor, speech therapist, and training specialist.

Residents are generally assigned to units according to age. (Table 3).[55]

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[52]Division of Hospital and Medical Facilities, Montana State Department of Health, Montana State Plan for Mental Retardation Facilities Construction, 1967-1968 Revision, p. 16.

[53]Ibid., p. 54.

[54]Lloyd M. Dunn, "A Historical Review of the Treatment of the Retarded," in Mental Retardation, ed. by Jerome H. Rothstein (New York: Holt, Rinehart and Winston, 1962), pp. 14-15.

[55]Personal interview with director of Cottage Life, Boulder, December, 1968.

TABLE 3

COTTAGE ASSIGNMENTS, NUMBER, AND CLASSIFICATION
DECEMBER, 1968

Name of Cottage	Number of Residents	Classification
Elm	49	Problem boys. Special therapy; pre-vocational training.
Robin	46	Problem girls. Special therapy; pre-vocational training.
Bluebird	30	Boys & girls. Wheelchair unit.
Oak	61	Boys, ages approx. 20-40. Continuing care.
Fir	60	Older men. Continuing care.
Dove	39	Ages over 20-40 years. Vocational & placement training.
Lark	109	Boys & girls. Continuing care. Some able to care for selves.
Pine	86	Boys. Able to feed and dress selves.
Spruce	65	Vocational training & placement.
Cedar	40	Older women
Aspen	68	Boys. Educatable age.
Wren	48	Girls. Educatable age.
Maple	31	Boys. Beginning pre-training. Some in school.
Thrush	41	Girls. Beginning pre-training. Some in school.

Several other services have been initiated, among them a series of dental seminars. These are designed to teach the techniques of working with the mentally retarded to dentists all over the state.

Genetic research is another continuing program which is of benefit to the resident, his family, and the state.

Dietary Services

A professional food manager is responsible for the food service. Other kitchen employees are union members. In addition, work boys and girls are assigned to various areas of the department for training.

Physical Plan

The main kitchen is housed in Canary building. There is also a large dining room which serves employees and residents cafeteria style. This will soon be enlarged to accommodate the anticipated increase in residents and staff. There is also a bakery, a large vegetable peeling room, walk-in refrigerators, and storage room and office in this building. Equipment and facilities are adequate and up-to-date.

The six unit kitchens are also part of the dietary department. These are located in the hospital, in Bluebird, Lark, and Pine. A staff is maintained in each of these kitchens and they are responsible to the food manager. Bulk food is brought to the kitchen by truck and is dished up and served in a semi-family style service.

Food Service

A three-meal-a-day menu pattern is used. (Figure 3). The number of meals prepared daily is about 3,400.[56] All preparation is done in the main kitchen and the food is dished into vacuum containers and transported by truck to the individual unit kitchens. Here the necessary modifications are effected, such as grinding or cutting the meat.

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[56]Bill Gusak, personal interviews at Boulder, July, 1968.

Tray service is used in the hospitals, the trays being delivered on open carts to the sections of the hospital. Nursing service is responsible for passing the trays.

In the other units, trays are dished and served to the residents by the dietary staff.

Financing

The food budget allows for approximately 90¢ per child per day. This is supplemented by the use of home grown vegetables, home produced pork and beef, and eggs from the farm. Milk also is provided by the dairy. In keeping with state procedures, bids are let for foods needed, and the institution receives some government surplus.

Food purchases are determined on the basis of previous usage and figures.

Meal Cost

The meal cost per resident per day is quoted as 90¢. This figure includes wages for the dietary department employees.

Silver Bow General Hospital

In the pioneer days of the mining camp that was Butte, the care of the poor, aged, and ill was the responsibility of the Board of County Commissioners, just as it is today.[57] Care of such individuals was contract-

[57] The Historical Records Survey, Inventory of the County Archives of Montana, No. 47. Silver Bow County (Butte) (Butte: The Historical Records, Survey, 1939), p. 170.

ed by citizens who were paid by the county. Those who were diagnosed as having a contagious disease were confined to an isolated building known as the "pest house" or the "bug house."

About 1882, the establishment now known as the Rest Home was erected as a home for the indigent and aged.[58] It was located in the southeastern section of the city, quite removed from the concentration of the mining activity. That it was close to the cemeteries may have been by unacknowledged design. However, the area was one of scenic enjoyment with the wooded mountains forming a lofty background.

On January 2, 1896, E. W. Wynne, deputy county auditor and also assistant superintendent of the poor, reported:

> There are forty-eight patients at the poor farm. Of these ten are suffering from rheumatism, five from paralysis, five are the victims of accident, four are crippled, three have been frozen, two are suffering from general debility, two from sore eyes, while blindness, eczema, old age, copper sores, plain "sores", pains, stomach trouble, abscess, kidney trouble, and obesity each claim one victim. One man has been bitten by a dog while another gives his trouble as "used up all over". The patient who is suffering from old age has seen eighty-three years of life. In the summary of nationalities it appears that fourteen are American and eleven of Irish birth. There are two colored people and one Chinaman. Only two of the forty-eight patients are women.[59]

An interesting peculiarity was that the patients were reluctant to discuss their familial or marital status. This may have been due to the stigma of the term "poor farm" which was used interchangeably with "hospital".

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[58] John Delaney, personal interview in Butte, August, 1968.

[59] The Butte Miner, January 2, 1896, p. 1.

Growth

In 1901, bids were let for the expansion of the building. All those received were too high and the commissioners asked the architect to revise the plans so that some of the expensive features would be eliminated and work could begin.[60] In the next few years, the building progressed. Safety features were incorporated and the county commissioners allocated funds annually for the replacement of equipment and for renovation.

In 1954, the hospital had 85 beds, an average daily census of 75.5 and annual admissions were reported as approximately 700.[61]

All the services offered by a general hospital were provided: - major and minor surgery, including urology and electrosurgery; obstetrics, pediatrics, clinical laboratory services, X-ray, cardiograph and metabolic procedures.

The hospital enjoyed the reputation of being one of the state's best. It was approved and licensed by the Montana Hospital Licensing Board and was a member of the Montana State and Western Hospital Association.[62]

In 1958, plans were being formulated for a new Silver Bow County Hospital. Among the reasons given to back the venture were:

1. Surveys conducted by the Division of Hospital and Medical Facilities of the State Department of Health

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[60] The Butte Miner, September 24, 1901, p. 5.

[61] The Montana Standard, June 13, 1954.

[62] Ibid.

indicated that Montana was without a chronic disease hospital; that there were no chronic disease beds in the Butte area at all; and that a need for 147 such beds did exist.

2. The 1956 occupancy percentage of the county hospital was 100.8. Because of lack of space, the county also provided assistance in the maintenance of an additional 45 chronically ill persons. These various rest homes were not professionally staffed nor did they provide the needed services.

3. The Silver Bow County Hospital no longer met the federal and state standards which would allow it to be expanded and it was deemed economically unfeasible to attempt to do so.[63]

Thus it was that a $2.5 million new county hospital was begun. The facility was planned to be a combination 28-bed general hospital, 114-bed chronic disease hospital, and a diagnostic and treatment unit. The facilities, it was noted, would not be limited to care and feeding of the aged and poor but would provide medical and nursing treatment and care also.

On July 10, 1960, the patients of the old building were transferred to the new Silver Bow County General and Chronic Disease Hospital. The new building was just two blocks north of the old establishment. The first admission, a transfer, was an eight-day old premature infant. The oldest was over seventy years of age.[64]

At this time, there were two other hospitals in Butte. One was St. James, built in 1882 by the Sisters of Charity of Leavenworth. The

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[63]"Narrative Description and Program Comments, New Silver Bow County Hospital." (Typewritten.)

[64]The Butte Daily Post, July 11, 1960, pp. 1, 2.

other was the Butte Community Hospital which had been given to the people of Butte by the Anaconda Copper Mining Company. This was also under the supervision of the nuns. In the unexpected move, the decision was made to close the old St. James' and consequently, the new Silver Bow General Hospital found it necessary to again reassess the situation. The result was that some of the elderly were reassigned to the old facility, now called the Silver Bow Annex or Rest Home. This provided care for seventy-two of the county's aged poor. Silver Bow County General and Chronic Disease Hospital became a general hospital, caring for non-welfare patients as well as those under county care.

Present

Silver Bow General Hospital now is classed and operates as a general hospital. It is approved by the Joint Commission on Accreditation of Hospitals. It is licensed by the state of Montana and is certified for participation in the Medicare program.

The 142-bed, six bassinet facility reported an 83.8% occupancy in 1967. At that reporting, there were 3,380 admissions including 167 births. Length of hospitalizations was, for the most part, termed short-term.[65]

At the time of planning the new facility, the objective was stated thus:

> Each patient shall be treated as an individual, not as one of a group, and is entitled to that degree of physical restoration and rehabilitation which is within his own capacity to attain. The end objective, therefore, is to return the patient to that

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[65]"Listing of Registered Hospitals," Journal American Hospital Association, 41 (August 1, 1961), 154.

> degree of community life of which he is capable and thereby make available space for the reception of other patients requiring the same type of care.[66]

To help in achieving this aim, the facilities and services include a pathology laboratory and pathologist, pharmacy, physical therapy department, premature nursery, outpatient department, emergency department, and postoperative recovery room.

The hospital is under an administrator appointed by the Board of County Commissioners. There are forty physicians and surgeons on the staff, all medical doctors. Total personnel is listed as 202 with fifty-five registered nurses, forty of whom are full-time.[67]

Dietary Services

Supervision of the dietary department is under the direction of one of the former cooks of the old facility. A dietitian, located approximately 100 miles away, is retained on a consultant basis. She is available by telephone in case of any dietary question. Her other duty is the planning of the master menu, designating the general, soft, and liquid modifications. A copy of this is mailed to the institution in advance and minor changes are made by the food supervisor.

Other employees, approximately twenty, are union members and are responsible for the normal tray service, including the delivery of the tray carts to the nursing stations. Nursing service is responsible for passing the trays to the patients.

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[66] "Narrative Description," p. 3.

[67] John Delaney, personal interviews in Butte, August, 1968.

Physical Plan

The dietary department is located on the basement level. It consists of the main kitchen, two walk-in refrigerators, a large store room, a storage room for bulk vegetables, and a receiving dock and room. Freezer space is provided by a household size upright unit.

The equipment is of good quality, is well-cared for, and with the exception of the freezer, adequate for the needs of the institution.

Electrically heated food carts are used for transportation of the trays, a centralized system of food service being used.

Artificial lighting is required as there is only one small window in the department, this being in the kitchen. The dining room is devoid of windows entirely. It is a tiled room and while presenting a clean look, is uncomfortably cold appearing. This room is immediately adjacent to the kitchen and is served by a compact cafeteria line.

A normal schedule of meal times is followed. (Table 4).

Employee meals are priced as follows:

Breakfast	.50
Lunch	.75
Dinner	$1.00

Provision for one meal while on duty is part of the union contract.

Organization

Food preferences of patients are noted on the tray card by the patient or nurse. Patient contact is done by the kitchen supervisor upon the request of the charge nurse. Dietary modifications and calculations are also within her jurisdiction. There is no standard diet manual for

TABLE 4

MEAL SCHEDULE FOR PATIENTS AND EMPLOYEES
OF SILVER BOW GENERAL HOSPITAL

Meal	Patients		Employees
	Feeders	Regular	
Breakfast	7:00 A.M.	7:00 A.M.	7:00 A.M. – 7:45 A.M.
Lunch	11:20 A.M.	11:40 A.M.	11:30 A.M. – 1:00 P.M.
Dinner	3:30 P.M.	4:30 P.M.	5:30 P.M. – 6:15 P.M.

the facility. Reference is made to the diet instruction sheets which were contributed by the staff members. There are also a number of professional texts and handbooks available.

Standardized recipes are used for the most part, and some portion control items supplement the menu. Servings are fairly well controlled and waste is held to a normal level.

Financing

There is no limitation as such on the food budget. Because Silver Bow General is primarily a county hospital, it was anticipated at the planning stage that rising costs and the high percentage of free and part-free care to be provided would mean an operating deficit. This deficit is provided from local tax sources and also through state aid grants. Patients on welfare who have exceptional medical expenses are allowed an extra al-

lotment. Consequently, a lower standard of food service is not demanded to satisfy the budget.

Meal Cost

Meal cost over the January to June, 1968 period was:

Raw food cost per meal $0.43
Cost per meal per patient . . . . . .$0.97 [68]

Menu

The menu for patients and personnel is the same. (Figure 4). This menu is also used for the seventy-two residents of Silver Bow Annex. Breakfast is prepared at that facility but lunch and dinner are prepared at the hospital. The food is dished into containers and picked up by the superintendent of the annex and transported by station wagon to the kitchen. There it is dished up and taken on trays to the resident's rooms. Provision of the food is the extent of the responsibility of the hospital to the old facility.

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[68] John Delaney, personal interview in Butte, August, 1968.

CHAPTER III

PROCEDURES

Each unit in this study represents a distinct and unique institution. One was a privately owned retirement apartment complex, one a state school for the mentally retarded, and one a county hospital which included care of both welfare and non-welfare patients. Differences in age, mental ability, educational background of residents, financing and administration is inherent in the purposes of these institutions.

Similarities however, can and do occur. All used group feeding methods and the individuals cared for in these institutions were incapacitated in some manner.

Methods of Evaluation

Nutritional, organizational, sanitary, and safety standards - all significant factors in food acceptability, are available. To determine nutritional acceptability the standard used by the National Research Council was chosen. Random sample of a weeks menu made possible a comparison of dietary levels with those in the standard. (Table 5).

County and state officers routinely assess sanitary and safety standards. Local sanitarians judge the level of sanitation using an updated check list. Violations of the operation or facility are noted and must be corrected within a specified period of time. Failure to comply may result in punitive action - either downgrading of the

TABLE 5

COMPARISON OF AVERAGE DAILY NUTRITIONAL LEVELS
AT HILLCREST, BOULDER, AND SILVER BOW GENERAL
WITH N.R.C. RECOMMENDED DAILY ALLOWANCES

Institution Age, Sex	Wt. Kg. (lb)	Ht. Cm. (in)	Cal.	Pro. gm.	Ca. gm.	Iron mg.	Vit. A I.U.	Thia-mine mg.	Ribo-flavin mg.	Niacin Equi. mg.	Ascorbic Acid mg.
Men 55-75 yrs.	70 (154)	175 (69)	2200	70	0.8	10	5000	0.9	1.3	15	70
Women 55-75 yrs.	58 (128)	163 (64)	1600	58	0.8	10	5000	0.8	1.2	13	70
Hillcrest			2584	95	1.2	14	13886	1.5	20.5	17	120
Boys 9-12 yrs.	33 (72)	140 (55)	2400	60	1.1	15	4500	1.0	1.4	16	70
Girls 12-15 yrs.	47 (103)	158 (62)	2500	62	1.3	15	5000	1.0	1.5	17	80
Boulder			1880	61	1.5	9.5	8198	1.1	2.1	8.6	70
Men 35-55 yrs.	70 (154)	175 (69)	2600	70	0.8	10	5000	1.0	1.6	17	70
Women 35-55 yrs.	68 (128)	163 (64)	1900	58	0.8	15	5000	0.8	1.2	13	70
Silver Bow General			2260	86.5	1.2	11	10902	1.2	2.4	13.5	64.5

facility or even complete closure.

A nutritionist with the Montana State Department of Health, Licensing Division, also makes regular inspections of the health care facilities. Suspension of the state license, a monetary penalty, and loss of federal funds such as Medicare, may result if the established standards are not met.

It is evident that the indications of food acceptance by residents could not be employed in the same manner at each institution. Mentally retarded children cannot answer a questionnaire. In some cases an interview would not be successful. Plate waste, another valuable tool, could not be determined because one of the institutions had a clean plate policy.

Observations then, of comments and reaction of residents became the key method of assessing food acceptance by residents. Records were kept on pre-structured diet file cards at the retirement village and on evaluation forms at the hospital. No structured tool could be employed at the school for the mentally retarded. A record of unsolicitated comments was kept at each institution.

To see the effect of the philosophy of the institution and the culture of the residents on food acceptance, a case study of each institution was made. Historically, each had its basis for foundation in the desire to help those in need. The retirement community, however, is a comparatively new institution in our social structure whereas the other two facilities had their beginnings at the time of statehood. Both the school and hospital represent cases of public concern; the retirement

complex is of a different nature and consequently a freedom-from-care atmosphere prevails which is not seen at the other two institutions.

While attitudes of the staff could be observed, they could not be evaluated on a scale, thus negating this as a tool.

CHAPTER IV

RESULTS

Standards of Acceptability

Nutritional

Figures 2, 3, and 4 show random samples of a week's menu followed in each institution. It will be noted that the one from Hillcrest gave the residents more selection of food than that available from the other two. The format of the Hillcrest menu is such that it is easily read by the staff who use it as a guide to preparation and by the residents. In addition, it presents a picture of contrasts of flavor, color, and texture which make for appetite appeal. The menus of the hospital and school are generalized and while not posted for preview by the residents, show lack of appeal variety, color, and texture-wise.

The Recommended Daily Allowances was the reference used in the menu analysis, shown in Table 5. (Appendix A)

The average dietary level at the retirement village was consistently above recommended levels. This may or may not be advisable. Calories, for example, are necessary for body energy but senior citizens often are not active and such excess could cause undesirable weight gain.

The dietary level at the general hospital is equal to or above the recommended standard. One must remember the general relationship of food to health. These levels show emphasis on protein, vitamin A, (an all

HILLCREST MENU
JUNE 2-8, 1968

Sunday

Assorted Juices & Fruit
Assorted Dry Cereals
Assorted Hot Cereals
Buttermilk Hot Cakes
Bacon
Beverage

Seafood Cocktail
Roast Beef, Rich Brown Gravy
Shorty Brown Potatoes
Wax Beans
Hot Rolls
Fresh Strawberry Pie
Beverages

Snacks on the Line

Monday

Assorted Juices & Fruit
Assorted Dry Cereals
Assorted Hot Cereals
Scrambled Eggs
Toast or Sweet Roll
Beverages

Vegetable Soup
Southern Style Baked Hash
Assorted Salads
Assorted Desserts
Beverages

Homestyle Lettuce & Tomato Salad
Stuffed Baked Pork Chop
Whipped Potatoes
Buttered Beets
Corn Bread
Iced White Cake
Beverages

Tuesday

Assorted Juices & Fruit
Assorted Dry Cereals
Assorted Hot Cereals
French Toast
Sausage
Beverages

Bean & Bacon Soup
Potato Pancakes
Weiners
Assorted Salads
Assorted Desserts
Beverages

Grape Juice
Relish Tray
Cube Steak, Country Style
Parsley Potatoes
Buttered Peas
Muffins
Banana Jello
Beverages

Figure 2

Wednesday

Assorted Juices & Fruit	Chicken Rice Soup	Fruit Salad
Assorted Dry Cereals	Grilled Ham &	Baked Meat Loaf
Assorted Hot Cereals	Cheese Sandwich	Baked Potato
Soft Cooked Eggs	Potato Chips &	Buttered Green Beans
Toast or Sweet Roll	Salad	Hot Rolls
Beverages	Assorted Salads	Cherry Tart
	Assorted Desserts	Beverages
	Beverages	

Thursday

Assorted Juices & Fruit	Old Fashioned	Arabian Peach Mold
Assorted Dry Cereals	Lentil Soup	Roast Leg of Pork
Assorted Hot Cereals	Chicken Chop Suey	Applesauce
Fried Eggs	Crisp Noodles	Whipped Potatoes
Bacon	Rice	Buttered Garden
Toast or Sweet Roll	Assorted Salads	Carrots
Beverages	Assorted Desserts	Hot Rolls
	Beverages	Ice Cream & Wafers
		Beverages

Friday

Assorted Juices & Fruit	Homemade Potato	Sliced Tomato Salad
Assorted Dry Cereals	Soup	Grilled Liver & Onions
Assorted Hot Cereals	Creamed Codfish	or
Scrambled Eggs	Toast Rice	Meat Loaf
Toast or Sweet Roll	Assorted Salads	Baked Potato
Beverages	Assorted Desserts	Creamed Corn
	Beverages	Hot Rolls
		Iced Devils Food Cake
		Beverages

Saturday

Assorted Juices & Fruits	Beef Barley Soup	Pear & Grated Cheese
Assorted Dry Cereals	Spanish Rice	Salad
Assorted Hot Cereal	Assorted Salads	Farm Style Beef Stew
Soft Cooked Eggs	Assorted Desserts	Homemade Bread
Toast or Sweet Roll	Beverages	Date Nut Pudding
Beverages		Beverages

Figure 2 – continued

BOULDER RIVER SCHOOL MENU*

Sunday		
Dry Cereal	Beef Noodle Soup	Roast Beef
Milk	Glazed Carrots	Mashed Potatoes
Fruit Juice	Vanilla Pudding	Lima Beans
Jam and Bread	Bread and Butter	Ice Cream
One Egg	Coffee and Milk	Bread and Butter
Coffee and Milk		Coffee and Milk
Monday		
Pancakes and Syrup	Vegetable Soup	Spaghetti & Meat Sauce
Bread and Butter	Pickled Beets	Mixed Vegetables
Milk and Coffee	Fruit Jello	Tossed Salad
Orange Juice	Bread and Butter	Dessert
	Coffee and Milk	Bread & Butter
		Coffee & Milk
Tuesday		
Hot Cereal	Green Pea Soup	Beef Stew c/
Bacon	c/ Bacon	Vegetables
Bread and Butter	Fruit Cobbler	Pound Cake
Milk and Coffee	Bread and Butter	Bread and Butter
Orange Juice	Coffee and Milk	Coffee and Milk
Wednesday		
Pancakes and Syrup	Tomato Rice Soup	Meat and Gravy
Bread and Butter	Cole Slaw	Rice
Coffee and Milk	Bread and Butter	Spice Cake
Juice	Chocolate Pudding	Bread and Butter
	Coffee and Milk	Coffee and Milk
Thursday		
Hot Cereal	Creamed Potato Soup	Chili Beans
One Egg	Fruit & Graham Crackers	Boiled Potatoes
Bread and Butter	Bread and Butter	Butterscotch Pudding
Juice	Coffee and MIlk	Bread and Butter
Coffee and Milk		Coffee and Milk

*Menu not dated

Figure 3

Friday

Pan Cakes or Dry Cereal	Bean Soup c/ Franks	Macaroni and Cheese
Bread and Butter	Bread Pudding	Creamed Spinach
Juice	Bread and Butter	Rice Pudding
Coffee and Milk	Coffee and Milk	Bread and Butter
		Coffee and Milk

Saturday

Hot Cereal	Chicken Rice Soup	Boiled Beef
Bread and Butter	Green Beans	Gravy
Juice	Chocolate Cake	Rice
Coffee and Milk	Bread and Butter	Hominy
	Coffee and Milk	Bread and Butter
		Jello
		Coffee and Milk

Figure 3 - continued

SILVER BOW GENERAL MENU
AUGUST 18-26, 1968

Sunday

Grapefruit	Soup	Roast Beef - Gravy
Maltomeal	Sandwich	Mashed Potatoes
Soft Cooked Egg	Salad	Frozen Mixed Vegetables
Toast	Ice Cream	Cake

Monday

Applesauce	Tomato Bouillon	Salesbury
Dry Cereal	Cold Cuts	Oven Brown Potatoes
French Toast	Macaroni Salad	Harvard Beets
Syrup	Cookies	Jello-Whipped Cream

Tuesday

Juice	Vegetable Soup	Baked Ham
Oatmeal	Spaghetti c/Meat Sauce	Creamed Potatoes
Soft Cooked Egg	Tomato Salad	Peas
Toast	Fruit	Cake

Wednesday

Prunes	Split Pea Soup	Chicken
Dry Cereal	Stew	Potato
Bacon	Fruit Salad	Green Beans
Toast	Rolls	Cookies
	Jello	

Thursday

Orange	Soup	Steak
Cream of Rice	Ham & Scalloped Potato	Baked Potato
Soft Cooked Egg	Cole Slaw	Whole Kernel Corn
Toast	Sherbet	Fruit Whip

Figure 4

Friday

Plums	Cream Vegetable Soup	Fish
Dry Cereal	Macaroni & Cheese	Potato
Hot Cakes	Perfection Salad	Spinach
Syrup	Fruit	Cake

Saturday

Juice	Soup	Liver
Cornmeal	Goulash	Steamed Potato
Scrambled Eggs	Lettuce Slice	Carrots
Toast	Rolls	Fruit
	Pudding	

Figure 4 – continued

inclusive term for the alcohol, retinol; the aldehyde, retinal; and retinoic acid), and riboflavin. All are important components of a diet, whether normal or therapeutic.

Protein is essential for the building and replacement of the tissues. The hospitalized patient often is in need of increased protein because of the debilitating effects of accident or disease. Protein, of course, has other functions in the body: - regulation of the body processes and reactions, to cite only two which may be important in the healing processes.

Vitamin A is recognized as being necessary for growth and normal skeletal development but is mainly related to the maintenance of normal vision in dim light. However, toxicity is a real possibility in cases of high intake over continued periods of time. And in animals, excessive amounts of the vitamin have been thought to cause congenital malformations.

Riboflavin functions as a coenzyme and is concerned with tissue oxidation. It may also be involved with red cell formation. Recent work with riboflavin indicates that a deficiency could produce skeletal anomalies in offspring.

The school for the mentally retarded shows adequacy in every area except calories, iron, and niacin. (Ascorbic acid is borderline). However, few studies have been done on the dietary requirements of the mentally retarded and perhaps the RDA are not applicable to this group. The low level of calories may be the proper level in the case of the physically handicapped child who is confined to a bed or wheelchair. Much work must be done in this area before we can make judgments. However, symptoms

which are attributed to low niacin intake are evident in some of the Boulder residents. These are atrophied papillae, slick, red tongue; brown patches on the skin; diarrhea, and nervousness. It may be that these are due to other causes; we must be cautious in any case, and not jump to erroneous conclusions. The low iron intake level could be raised by the inclusion of liver and eggs and such a simple adjustment would make the diet more nutritionally acceptable and correct the niacin defect.

Food Service

Good food service implies a high sense of values, implementation of standards, and constant attention to all phases of the operation. This includes the menu, purchasing, preparation and storage of food, sanitation, safety, organization (record-keeping, job specifications, etc.), communications, and continuing education.

At Hillcrest the highest standards of food service are consistently met; at Boulder, seldom. At Silver Bow General, the actual menu and the methods of preparation, purchasing and storage are acceptable. This might be due to the work of the dietary consultant. Organization and administration were less satisfactory. Communication and help with the diet after dismissal was unsatisfactory. (See Table 6).

Cost

Cost of food at the various institutions was difficult to determine. Raw food cost at Hillcrest and Silver Bow General ranged from 33¢ per meal to 43¢ per meal, while only total cost of food service was avail-

TABLE 6

EVALUATION OF STANDARDS OF FOOD SERVICE
AT HILLCREST, BOULDER RIVER SCHOOL,
AND SILVER BOW GENERAL HOSPITAL

Standards	Hillcrest	Boulder	Silver Bow
Menu	+	−	+
Purchasing, Preparation, Storage	+	−	+
Sanitation, Safety	+	−	$\overline{+}$
Standardization and Portion Control	+	−	$\overline{+}$
Organization: Records, Job Specifications, Diet Manual, Policies, etc.	+	−	$\overline{+}$
Communication; Continuing Education	+	−	−

+ ... 100
− ... 0
$\underline{+}$ ... +50
$\overline{+}$ ... −50

able at the Boulder River School. Investigation shows the average cost of raw food to be 33¢ per meal and total food cost to be 75¢ per meal in this area. The 90¢ meal cost per resident per day as quoted for Boulder would appear to be low by the average. However, Hillcrest and Silver Bow General reported costs relatively close to the average.

Personnel

The personnel involved in food service at the three institutions ranged from the untrained work-study pupils at the school to the professional food service directors. For the most part, union regulations dictated the classifications of labor at the school and hospital. At Hillcrest, the food manager had established the classification.

In each case, the menu was planned by a professionally trained person. Figures 2, 3, and 4, however, reveal noticeable differences. Perhaps this reflects the philosophy of the individual responsible for the menu.

Supervision of the staff, an important part of job training, was a regular feature of the Hillcrest dietary service, but was lacking at the other two institutions. As a consequence, it could be noted that there was waste of time and food. Produce which should have been promptly and properly stored was allowed to remain in the hot kitchen. Standardized servings were not recognized and portion control was for the most part confined to the commercial items such as ice cream bars, etc.

Food Acceptance by Residents

Hillcrest Homes

There were approximately eighty individuals in residence at the time of the observations although records were kept for only twenty-eight. Of these, only one indicated a dissatisfaction with the food. Her criticism was that it was "institutionalized". It should be noted, however, that this individual was non-ambulatory and was known for her general attitude of negativism.

Boulder River School

Much has been done to dignify the mentally retarded and stress integration as an ideal of the education and rehabilitation of the resident. Food service, however, leaves much to be desired.

Criticism from the staff was in every instance a sincere testimonial of concern for the individual residents.

Residents themselves made few comments concerning food, except to request second helpings of bread. It was observed that whatever was served was eaten and only in a few cases, notably where a resident had a tendency to day-dream, was urging needed. For the most part, they accepted meal-time as a feature of the routine.

Modified diets, salt-restricted or calorie-restricted, for example, were favorably accepted by the individuals just as were the general diets.

Silver Bow General Hospital

There were approximately 100 patients at the time the food satis-

faction survey was conducted at Silver Bow General Hospital. Forty patients were interviewed and only one declined to comment. Twenty-eight of the forty questioned said the quality of the food was "good," eight termed it "fair," one thought it "poor," and four offered no comment. One individual accepted the food because it was "what the doctor ordered". Thus it became part of her therapy to desired dismissal from the institution.

TABLE 7

RESPONSES OF PATIENTS TO FOOD SATISFACTION SURVEY CONDUCTED AT SILVER BOW GENERAL HOSPITAL

	Yes	No	Some-times	Usually	No Comment
Temperature					
Hot foods hot	23	2	6	4	5
Cold foods cold	23	3	6	4	4
Attractively Served	30	3	2	1	4
Portions					
Large Enough	24	2	1	1	6
Too Large	3	10	2		
Preferences Satisfied	24	5		4	7

Relationship of Philosophy of the Institution to Food Acceptance

The character of each institution is reflected in the acceptance of the food by its residents. At the retirement village the philosophy was "retain as much as possible from the resident's prior life while giving something to which to look forward."

Bread and jelly are home-made. For the most part, menu items are "made from scratch". Very few convenience foods are used and these on rare occasion only. Thus, the food manager recognizes that the flavor and quality of home-made products is superior to the commercial - it has a touch of love added. He noted, too, that a tie of continuity with the past is achieved with the from-scratch preparation and that the residents appreciate this attention. Favorite recipes of the residents were requested by the food manager and were incorporated into the menu.

At Boulder, the philosophy in regard to food was that its purpose was only to satisfy hunger. Quantity appeared to be the criterion expressed by the food manager when he asked the investigator, "Don't you think the kids get enough to eat?" Since the amounts of food prepared were in excess of needs and a clean-plate policy was in effect, it was unnecessary to make it attractive or tempting. This is obvious when one reviews the menu.

Butte developed from a mining camp and some of the cultural influences may still be noted. A certain clanishness exists. Patients in the hospital are brought their trays and encouraged: "Sit up now, luv, and have your dinner while it's hot. That's a good girl now; eat it all

up."

The professionalism usually associated with a hospital is not evident. For the most part, staff and patients are on a first name basis. Here again the history of the city as well as the size of the population is influential; everyone knows everyone else or his relatives.

That food acceptance is colored by such factors may be pointed up by comments of the patients. Many after indicating their answers, remarked on the care and attention shown them. They discussed the strike and the depression that they had just experienced. Nearly all emphasized that the staff was doing the best job it could.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Food acceptance, which also implies rejection, may be influenced by a multiplicity of factors. Some of these are biochemical, physiological, social, economic, and educational. Others may be the historical background of the institution and the philosophy which the institution has evolved regarding the resident.

Various criteria have been established for the determination of acceptability of food. The National Research Council has set a Recommended Daily Allowance as a guide in evaluating the nutritional adequacy of the diet. Standards of sanitation, service, and performance have been drawn up by the federal and state boards of health and by the various professional groups such as the hospital and dietetic associations. Acceptability ratings, preference and satisfaction surveys, and weighing of waste are also means of determining reaction to foods.

In this study, three Montana institutions were observed. One was a retirement community, one a facility for the mentally retarded, and one a general hospital. Historical case studies were completed and observations made of the resident's satisfaction with the food.

Service and sanitation standards were met at Hillcrest while Silver Bow General presented a mediocre record in this area. At the Boulder

facility these standards are not met nor even firmly established as yet. However, the progress in other departments of the school is encouragement that the dietary service will soon be upgraded.

Philosophy of the institution was found to affect the acceptability of the food. At the retirement village for example, pains were taken to incorporate favorite foods of residents. Residents were also made aware of the care with which the food was prepared. All of this tended to reduce the usual complaints concerning the serving of "institutional" food encountered in many such institutions. Because food was a necessary but not influential part of the Boulder River School program, this attitude was reflected in the menu as well as service. At the general hospital, residents were encouraged to eat and attitudes toward food by the staff indicated concerned interest that they do so. Food preferences and idiosyncrasies were honored and proper substitutions were made in the diet thus insuring adequte meals. A menu designed to assure a balanced diet is prepared by a dietitian. The problems at Silver Bow General were in the area of education: training of the staff and instruction of the patient in his diet so as to insure satisfactory food adjustment after release from the hospital.

Conclusions

In this study, food was accepted at each institution regardless of the standard of service. This would give credence to Goffman's theory of the role of the individual in an institution. It also indicates that the belief that "people eat what is on the table" has some truth.

Individually and in group feeding situations, an understanding of the culture, emotions, and values of the individual involved is a determining factor in structuring a dietary regime that is truly acceptable and which is nutritionally adequate.

Food service cannot be compartmented. It is a discipline of the total therapeutic program as well as the social program of the institution. As such, it is deserving of more emphasis if the individual is to achieve his highest potential and function adequately in community life.

The history and philosophy of an institution have an influence on the staff and consequently on the residents as evidenced by the three institutions studied. However, it was also evident that an out-dated and erroneous philosophy can be supplanted effectively as was proven by the Boulder River School. In this case, residents who had lived a lifetime - some forty years or more - at the facility, have been trained and are now employed in the outside community. The "out of sight, out of mind" philosophy is a thing of the past.

Recommendations

For Future Studies of This Type

As the study progressed, several factors were noted that would improve any future studies of this type. Attitudes of people are extremely difficult to assess. This observer used several techniques of observation. It was impossible in some instances to separate personal bias from resident reaction. Improvement could be made by a standardized evaluation instrument that could be used in all situations.

For Additional Studies at the Institutions

A standardized observation concerning food acceptability was seen as a need as the study progressed. The construction of such an instrument might prove to be a valuable contribution to the field.

Two other main avenues of possible study presented themselves as a result of the research. A question was raised as to the concern of the professionals for their particular fields. There was much talk and the theory expressed that specialists should make an effort to put their dogmatic ideas into effect and thus assume some of the personal responsibility for correcting problems.

There is much to be desired concerning the dietary standards at Boulder River School. Whether this is true at other state institutions might be questioned. Under the Department of Institutions, a nutritionist could become a permanent member of that board. She could be empowered to establish and maintain standards of food service for the institutions under its jurisdiction.

APPENDIX

APPENDIX

A

Recommended Dietary Allowances, Revised 1963

Food and Nutrition Board, National Academy of Sciences, National Research Council

Designed for the maintenance of good nutrition of practically all healthy persons in the United States (Allowances are intended for persons normally active in a temperate climate.)

Age and Sex	Wt.	Ht.	Cal.	Pro.	Ca.	Iron	Vit. A	Thia-mine	Ribo-flavin	Niacin Equi.	Ascorbic Acid
Men	kg. (lb)	cm. (in)		gm.	gm.	mg.	I.U.	mg.	mg.	mg.	mg.
18-35 yrs.	70 (154)	175 (69)	2900	70	0.8	10	5000	1.2	1.7	19	70
35-55 yrs.	70 (154)	175 (69)	2600	70	0.8	10	5000	1.0	1.6	17	70
55-75 yrs.	70 (154)	175 (69)	2200	70	0.8	10	5000	0.9	1.3	15	70
Women											
18-35 yrs.	58 (128)	163 (64)	2100	58	0.8	15	5000	0.8	1.3	14	70
35-55 yrs.	58 (128)	163 (64)	1900	58	0.8	15	5000	0.8	1.2	13	70
55-75 yrs.	58 (128)	163 (64)	1600	58	0.8	10	5000	0.8	1.2	13	70
Pregnant (2nd and 3rd trimester)			+200	+20	+0.5	+5	+1000	+0.2	+0.3	+3	+30
Lactating			+1000	+40	+0.5	+5	+3000	+0.4	+0.6	+7	+30
Infants, up to 1 year	8 (18)		kg x115 ±15	kg x 2.5 ±0.5	0.7	kg	1500	0.4	0.6	6	30
Children											
1-3 yrs.	13 (29)	87 (34)	1300	32	0.8	8	2000	0.5	0.8	9	40
3-6 yrs.	18 (40)	107 (42)	1600	40	0.8	10	2500	0.6	1.0	11	50
6-9 yrs.	24 (53)	124 (49)	2100	52	0.8	12	3500	0.8	1.3	14	60
Boys											
9-12 yrs.	33 (72)	140 (55)	2400	60	1.1	15	4500	1.0	1.4	16	70
12-15 yrs.	45 (98)	156 (61)	3000	75	1.4	15	5000	1.2	1.8	20	80
15-18 yrs.	61 (134)	172 (68)	3400	85	1.4	15	5000	1.4	2.0	22	80
Girls											
9-12 yrs.	33 (72)	140 (55)	2200	55	1.1	15	4500	0.9	1.3	15	80
12-15 yrs.	47 (103)	158 (62)	2500	62	1.3	15	5000	1.0	1.5	17	80
15-18 yrs.	53 (117)	163 (64)	2300	58	1.3	15	5000	0.9	1.3	15	70

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