IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

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| CHARLES E. JOHNSON, et al., Plaintiffs, v. JON P. GALLEY, et al., Defendants. | Civil No. H-77-113 |
| JOHN H.X. WASHINGTON, et al., Plaintiffs, v. JAMES P. TINNEY, et al., Defendants. | Civil No. H-78-1730 |

STIPULATION OF FACTS AND AGREED RESOLUTION

The parties are entering into this stipulation of facts and agreed resolution to correct violations of the Stipulated Agreement and Supplemental Stipulated Agreement entered by this Court on October 2, 1987 and February 19, 1988, respectively. For purposes of this Stipulation defendants do not stipulate that any of the matters or facts set forth herein constitute violations of any existing orders of this Court nor constitute any unconstitutional condition of confinement.

HEALTH CARE

1. The problems in the health care delivery system are summarized in the report of Dr. Charles Braslow, Attachment A.

2. Warden Waters at the Maryland Correctional Institution is currently investigating complaints against a physician assistant made by staff.

3. The Department of Public Safety and Correctional Services (hereinafter Department) is currently involved in negotiations to increase the health care staff.

NUTRITION

1. The problems identified by plaintiffs' nutrition expert are incorporated in her reports, Attachment B.

2. The food service supervisor will provide plaintiffs with the last 60-day menus for evaluation.

3. The Food Service facility for MCI-H is currently under construction. It is difficult to evaluate its adequacy due to this status.

4. There has been a great deal of improvement in the MHC Food Service.

ENVIRONMENTAL CONDITIONS

1. Active rodent infestation was found by Ted Gordon, plaintiffs' environmental health expert, at MCI-H.

2. Current maintenance staff at both facilities are unable to keep up with maintenance needs of the facilities.

3. There is a need for more maintenance staff. The department is not complying with its own standard of one

maintenance person per 17,000 square feet. There is currently one maintenance person for approximately 22,000 square feet.

4. The parties agree that they need to develop a standard for environmental conditions and uniform inspection formats. The state inspector often gives the institutions high marks although plaintiffs' expert finds serious problems.

5. Staff should be trained to do the inspections on a regular basis, using a checklist developed by them reflecting the agreement on standards.

6. Maintenance has become a priority with the department. A new department head of maintenance was hired, Mr. Chandler, who will report directly to the deputy commissioner.

7. The new program includes adding 60 new positions for the entire system and regionalizing maintenance services.

8. The sewage and water systems at MHC are inadequate. These systems will be remodeled with the renovations but the Department does not have the schedule.

9. The preventive maintenance program is not operative at either facility. If it had been operating, millions of dollars in expenditures could have been avoided.

FIRE SAFETY

1. Both facilities have significant fire safety problems that include:

a. Numerous fire alarms and smoke detectors that were partially or totally inoperable;

b. Inadequate evacuation plans;

c. Staff untrained in fire safety procedures.

2. There was a fire in January 1990 on the West Wing of MHC and none of the security staff knew evacuation procedures. Similarly, staff questioned by Mr. Gordon at MCI-H were unfamiliar with evacuation and fire suppression procedures.

3. The second means of egress for the basement annexes are unacceptable to plaintiffs. They are too small (17" x 24") and upon inspection were either blocked by furniture or required travelling through a shower area and over a radiator.

4. No staff are trained to repair fire alarms and smoke detectors.

5. There is a need for routine maintenance and repair of the fire alarm system if it is to operate in an emergency.

6. A service contract should be entered into for the repair and regular maintenance of the fire alarm system.

POPULATION

1. The department is developing plans to decrease crowding systemwide, including electronic monitoring, enhancement of evaluation of prisoners to identify those who may be eligible for intensive parole/probation supervision; increasing good conduct credits prisoners can earn by developing education programs for idle prisoners; increasing the number of parole hearing officers; expediting MAP contracts.

2. The department does not plan to increase the populations at these institutions except through construction of new facilities on the grounds of these institutions.

CONCLUSION

Conditions are at a critical level at both institutions.

RESOLUTION

1. Plaintiffs experts will team with the department's staff to develop specific plans to come into compliance with the stipulated agreements.

2. Defendants will not increase the population at either facility pending coming into compliance with the stipulated agreements, except in an emergency and after notification of plaintiffs' attorney.

Respectfully submitted,


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Dated: March 8, 1990

ATTACHMENT A

# REVIEW OF HEALTH CARE SERVICES

# AT

# MARYLAND CORRECTIONAL INSTITUTION - HAGERSTOWN

# AND

# MARYLAND HOUSE OF CORRECTION - JESSUP

Prepared for

AMERICAN CIVIL LIBERTIES UNION
NATIONAL PRISON PROJECT
WASHINGTON, DC

Prepared by

CHARLES A. BRASLOW, M.D.

JANUARY, 1990

# INTRODUCTION

In January 1990 I visited the Maryland Correctional Institution (MCI-H), Hagerstown, and the Maryland House of Correction (MHC), Jessup, on behalf of the ACLU National Prison Project in order to evaluate the provision of health services. The assessment of the health care services consisted of interviews with the facility medical staff, representatives of the health services contractor at each facility (Correctional Medical Services (CMS)), and inmates; and a review of medical records of inmates at both facilities.

GENERAL FINDINGS AND RECOMMENDATIONS

HAGERSTOWN (MCI-H)

The MCI-Hagerstown facility was inspected on January 5, 1990. Discussions were held with Ms. Martin, facility CMS administrator, and several inmates at the facility.

MEDICAL FINDINGS

1. Physician hours for clinical medical services amount to 250 hours/month or about 12 hours/weekday for the entire Hagerstown complex, with a total population of 4900 inmates (MCI-H+MCTC+RCI). Physician assistant coverage amounts to less than one PA per shift at MCI-H since all Hagerstown facilities must be covered. A full-time physician and full-time PA should be assigned to MCI-H alone to provide weekday clinical services.
2. The system of approval for surgical procedures results in disapproval of some procedures which are medically indicated. Example: Larry Morgan #166540 - Has inguinal hernia. Physician review note 12/13/89 states "The fact of a complaint of hernia does not require that it be scheduled for surgery." In fact, hernias should be surgically repaired due to the possibility of future complications.
3. Medical management of some cases is inadequate. Example: Howard Stokes #168502 - History of peptic ulcer treated in MCI-H infirmary in 9/89 for gastrointestinal bleeding resulting in fall in blood count from 47% to 28%.

Treated with antacids and discharged. Should have received workup for bleeding, including GI series and barium enema.

4. No written policy exists regarding criteria for treatment of HIV+ patients with AZT or PCP prophylaxis. Such policies should be developed and should recommend utilization of AZT for asymptomatic patients with T4 cell counts of less than 500. Implementation of such a policy will require availability of voluntary, confidential HIV testing upon request by asymptomatic inmates.
5. While it is true that some inmate complaints are unfounded or unrealistic, I was struck by a pattern of complaints from inmates about the conduct of the Senior Physician Assistant at MCI-H, who was variously described as "belligerant", "disrespectful", and prone to "curse out" inmates. I suggest that the medical services contractor investigate and monitor this situation.

## JESSUP (MHC)

The facility was inspected on January 4, 1990. Discussions were held with the CMS site administrator, Mr. Linton, and the Charge Nurse, Ms. Bingemer. The population for the day was 1369.

1. Need persists for a Registered Nurse in the Infirmary to manage the difficult patients housed there and to provide on-site supervision for the LPN.
2. No physician is assigned full-time at MHC. Physician hours are divided among the regional Medical Director and two physicians who divide time among all the regional facilities. A full-time physician should be assigned solely to MHC.
3. Segregation medical rounds do not occur on weekends.
4. Frequent delays in response to sick call requests result in waits of a week or longer.
5. The system for scheduling specialty clinics has improved with the implementation of a computerized log.
6. Many inmate complaints indicated that the new system for renewal of medical diets is cumbersome and frequently results in delays of diet renewals.
7. Many inmates complained that there are frequent gaps in medication renewals which result in lack of medication for several days between prescriptions. The pharmacy system should be revised and monitored to eliminate such gaps.

8. Stock medications for common conditions such as colds are not maintained in the Dispensary area. As a result, these medications require a prescription to be sent to the pharmacy and are not available until after symptoms have resolved. These medications, including decongestants and antihistamines, should be kept on hand for acute administration.

9. There are no written protocols regarding HIV testing, AZT treatment, or PCP prophylaxis. Such policies should be developed to conform to current medical standards.

10. Medically indicated surgical procedures are delayed or denied due to inappropriate criteria for approval. Examples:

    Burton (H dorm) - Large gall bladder stones. Surgery recommended by University of Maryland Hospital. Told by physician at MHC that an emergency situation must occur before he could have the operation. In fact, presence of gall stones is an indication for surgery.

    William Gross 174639 - Multiple foot deformities. Utilization review at MHC noted "Patient has insurance coverage and is willing to use it for surgery." However, when it was discovered that the patient's insurance did not cover this surgery, he was referred to University of Maryland Hospital who said the surgery would be deferred until the patient was released on parole. Insurance and parole should not be considerations in scheduling surgery.

11. Medical care reviewed in charts shows inadequacy in some instances:

George Floyd #163736 - Admitted to Infirmary on 1/2/90 for vomiting blood and dizziness. Seen by MD on 1/3/90 but gastrointestinal bleeding problem not addressed. No laboratory studies ordered to check blood count. Check of stool and stomach contents ordered but no results on chart.

David Robinson #193947 - Brought to dispensary on 12/23/89 with severe, life-threatening asthma attack. Chart states "Will refer to PA/MD on call for further evaluation. Call placed to Dr. Felix at 10:15 pm - no response. . . 1 am Dr. Francia here . . .1:30 am referred to emergency room." This patient could have died between 10:15 pm and 1 am. If there is no on-site medical coverage at night, the on-call system must be improved to assure immediate response to such life-threatening emergencies.

Richard Gross #196045 - Renal dialysis patient sent to University of Maryland Hospital on 12/25/89 for a seizure. No note on chart since then, no emergency room report or recommendations and no follow-up. All emergency referrals must be seen by medical staff on return to the facility to insure appropriate follow-up.

Francis Harper #200445 - Seen 11/8/89 for complaint of "Very severe pain and swelling in groin area."

Diagnosis was inguinal hernia. Medical recommendation was sitz baths. Should have been referred for surgical evaluation. Potential for severe complications of hernia, such as strangulation.

ATTACHMENT B

# SUMMARY SITE REPORT

## NOVEMBER 11, 1989

## Maryland Correctional Institution

## Hagerstown, Maryland

Prepared for
NATIONAL PRISON PROJECT
WASHINGTON, DC

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## SUMMARY OF FINDINGS

The following findings are based on observations of food service operations at MCI were made during the site visit on November 11, 1989. During the site visit, the food preparation facility at the Central and RCI kitchens, as well as the food service and food storage areas at MCI's main kitchen were toured. Interviews were conducted with inmates and staff as needed to obtain clarifications concerning components of operations and/or to point out problems identified. The following is a summary of the major findings and conclusions.

1. **CENTRAL KITCHEN**

   Upon arrival at the Central Kitchen at about 9:20 am, frozen hamburger was out on the table. This item was on the menu for November 12, 1989. The hamburger had not been thawed in the refrigerator.

   The practice of thawing foods at room temperature must be avoided. It is also inappropriate to leave large quantities of potentially hazardous foods on tables for hours while pre-preparation activities are being completed. Foods can safely be thawed in a thawing cabinet (which brings the food to 32°F) or thawed over a period of 36 hours in a refrigerated storage area. In any event, foods should not be allowed to reach the danger zone of 45-140 degrees.

Dry Storage

The following are findings in this area:

1.) Sugar and salt were stored in trash cans. These units were not lined and the lids and interior were soiled.

2.) Dried green peppers were stored in an uncovered container;

3.) Soap and cleaning agents were stored adjacent to foods, including open disinfectant agents;

4). Date stamps were not indicated on all the foods stored in the area [ this is necessary to preserve the viability of the inventory and to assure that older items in the inventory are used first];

5.) Several cans of kale greens had burst open and had become infested with worms;

6.) A significant number of bent cans of foods were observed; and,

7.) Water leakage was noted in the food storage area. Syrup was also dripping onto the floor in this area from the container.

The above findings present a hazard to food wholesomeness and safety. Food storage is a critical safety control point in the food cycle. Some of the above risks may have occurred during receipt and initial storage of the foods. To avoid these hazards, standards must be in place to avoid receiving unsatisfactory foods. Foods should be inspected upon receipt to assure that standards and specifications are met. Foods

should be properly packaged to avoid contaminations from other foods or environmental sources. This is why all foods should be covered in clean containers at all times. Since cleansers, disinfectants and chemicals can be mistaken for foods, these substances should never be stored in the same area as the food supply. In addition, foods for dry storage in particular should be date stamped upon receipt and the newer foods stored for later use. Clear policies regarding use of bent canned goods should be developed, communicated and implemented. Finally, a clean and dry environment is essential to maintain the shelve life and wholesomeness of the foods.

Refrigerators and Freezers

Most of the units were clean. Improperly wrapped and covered foods were consistent problems noted during the visit. For example, steaks were uncovered in one unit and hamburger and eggs in another unit. In the freezer, foods were tightly jammed into this unit and were stored in a clutter and very disorganized manner. The hamburger in this unit was not wrapped contributing to lost of nutrients and flavor of the meat. One refrigerator was quite untidy with blood on the floor, as well as food particles.

Food Preparation

Foods are prepared in the central kitchen for MCI and for the Huts. Many of the menu items are prepared using the

food/chill [1] method of food preparation, including such foods as soups, meat sauces and casseroles. Other items, such as fish and vegetables are prepared using cook/satellite preparation [cook/serve] [2] technique. All Dietary Officers should be trained in the cook/chill food preparation method. All staff should understand the limitations of the system. For example, Officer Robert Bathlow reported that the foods prepared by cook/chill could be held under refrigeration for up to 30 days, while Officer Souders reported that the foods could be held for 72 hours. Similar discrepancies were noted concerning the policy on the use of bent cans of produce. Officer Bathlow reported that bent cans were used if he found that the foods [after opening] were not discolored. He reported that about 50% of all cans were bent [observation indicated that about 30% of those being used during the site visit were bent]. On the other, hand Dietary Officer Souders reported that bent cans of items such as fruit were not used, but that items such as catsup were used. While both Officers reported that standardized recipes were available on site, these recipes were not used nor were they referenced during

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1 Cook/chill preparation involves the preparation of foods according to a production schedule, after which it is quickly chilled and stored for subsequent service. Foods may be stored, under refrigeration for 24 to 72 hours.

2 Cook/serve food service is based on preparing meals from raw food products and serving food on the same day it is prepared. Some already prepared foods such as breads and canned foods etc., may be used to supplement the food prepared on site. In cook/satellite food service, foods are prepared centrally and distributed or transported to service areas or satellites.

the food production process. Officer Bathlow reported that instructions are given to inmates based on his experience in preparing the items.

Vegetable preparation for the dinner meal was started at 10:30 am. The dinner meal starts at about 4:00 pm, thus these foods are held in heated containers for several hours. This long holding period contributes to the deterioration of the vitamins in these foods, as well as affect the palatability of the foods. By 4:00 pm these vegetables will be quite overcooked. Conversely, at RCI vegetable preparation was scheduled to start at about 3:00 pm. Dietary Officers reported that preparation at Central Kitchen had to start much earlier due to the limited number and size of the steam kettle available and the volume that had to be prepared. The efficiency of this preparation process was further hampered by the amount of preparation work that was required. Family sized packages of frozen vegetables had been purchased rather than institutional size. This error required hours of extra time to open these small containers!

I also observed that substitutions in the menu was not always recorded on the food service record. For example, hamburger meat was served in lieu of ground turkey patties [special diets] however this substitution was not indicated on the menu or the Menu Change Form.

Food Service

Food service was observed at MCI for the regular and diet items. Time and temperature tests were conducted and inmates and Dietary Officers and inmate personnel on duty were conferred with as appropriate.

DIETS

Hamburger was being substituted for ground turkey patties for special diets, reportedly because no turkey was in stock. However, observations at the central kitchen showed that turkey was available. Either turkey or chicken would have been a more suitable substitute for the turkey patties than the hamburger.

The menu also called for broiled, unbreaded fish. However, breaded fish sticks were served. To compensate, one slice of bread was to be omitted from diet trays, according to the Dietary Officer in charge of the special diets. This action was insufficient as the breaded fish sticks also contained oil which would not have been present in the broiled fish.

There were also food safety problems noted with the special diets as follows: 1. Cold cuts were not held under refrigeration nor were they on ice. [Note that diet foods are brought out at the beginning of the meal line and remain in the dining room until all the lines are served-about 1.5-2 hours]. 2. Other foods that were un-refrigerated included mayonnaise, milk, and cottage cheese. It was recommended that

the milk and cold cuts be kept on ice throughout the meal service process. These items could be returned to the refrigerator between lines. A refrigerated compartment should be secured to maintain all of the potentially hazardous foods at safe temperatures. The Dietary Officer on duty acted promptly to resolve the problems as they were pointed out to her. This is an indication that more monitoring by supervisory personnel and staff training could help to prevent problems.

I noted that the menu for special diets had been modified to reflect the specific caloric level of various diets. This change, implemented since my last site visit, helped to improve portion control for special diets.

Main Serving line

Temperature tests on the main serving lines showed that temperatures levels within the safe range.

Problems were observed, however, with the cleanliness of the trays and cups. Some of the trays had food debris in them and most were quite wet. A check of the dish washer showed that proper temperature levels were not reached. The wash cycle was not within the operating range of 180°F. In addition, cups were not placed onto trays before running through the dishwasher. Staff reported that these problems had been reported and attempts made to get repairs completed.

**CONCLUSION**

Some improvements were noted since my last visit to these facilities. However, until the renovations of the service facilities are completed and the situation normalized, it is difficult to make general recommendations to address problems in a comprehensive fashion. The food service operations in the facility have and will continue to be in a state of constant change. As the institution moves from one stage of renovation to the next, new problems emerge to replace old ones. These changes, combined with the increasing inmate census at the institution, make it essential that the food service management team carefully plan the transition. An attempt should be made to anticipate potential problems with procedures developed to prevent and minimize the impact of these problems.

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Washington, D.C.

# SITE VISIT REPORT

# FOR

# MARYLAND CORRECTIONAL INSTITUTION

[MAY 27, 1989]

AND

# MARYLAND HOUSE OF DETENTION

[JUNE 10,1989]

Prepared for

AMERICAN CIVIL LIBERTIES UNION
NATIONAL PRISON PROJECT
WASHINGTON, D C

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## INTRODUCTION

The following Report was prepared for the American Civil Liberties Union, National Prison Project, Washington, D. C., pursuant to the Stipulated Agreement in Johnson v. Galley, et al. The Maryland Correctional Institute (MCI) and Maryland House of Corrections [MHC] were toured on May 27, and June 10, 1989, respectively. The findings summarized in the following sections are based on observations during the site visit of food preparation, food service and food handling and storage practices. Results of interviews with inmates and staff are also considered as well as review of other documents and materialS.

During the visit to MCI, three kitchen areas and their respective food storage areas were inspected. Food service facilities at the Huts were also inspected. At MHC food service and food preparation were observed; a plate waste assessment was completed and food storage facilities were inspected. Food service in the segregation unit was also observed at MHC. At both MCI and MHC, inmates on medical diets were interviewed as well as Officers responsible for supervision of diets. Inmates receiving the regular menu were also interviewed.

Conclusions are based on the level of adherence to policies and procedures stipulated in the Maryland House of Corrections: Food

Service Operations Manual, 1988 and to recognized standards in the area of food service and nutritional care. The standards include those of the American Correctional Association and the American Public Health Association.

Personnel conferred with during the tour of MCI included the Deputy Warden, Dietary Officers at the RCI, Central and Main Kitchens as well as the following members of the Inmate Plaintiff Committee, Mr. Baha Wali and Mr. Steven Johnson. The Warden, Deputy Warden and Correctional Dietary Officers were conferred with at MHC.

My sincere thanks to the staffs of both MCI and MHC as well as inmates, for their cooperation during the site visit and the courtesies they extended.

Judy F. Wilson, RD, MSPH
NUTRITION CONSULTANT

## SUMMARY OF FINDINGS

The findings enumerated in this report are not meant to be an exhaustive statement of conditions. Rather, this Report provides a summary of broad problem areas noted. Modifications to this Report may be made upon receipt of new or additional information or analysis of additional documents.

Major findings and conclusions are provided for MCI and MHC respectively. Findings have been categorized into three broad areas: General, food storage and sanitation, and food preparation and service. General recommendations for enhancing food service operations at both facilities are also offered.

## I. MARYLAND CORRECTIONAL INSTITUTION

### A. GENERAL

On the day of the site visit, the Deputy Warden reported that the census was 1116 males. The age of the inmate population ranged form 16 to 60 years of age, with the average age of about 24 years. The average length of sentence was reported as about 16 years.

The food service and preparation facilities at this institution were being renovated. The kitchen at the Training facility, at which meals were previously prepared for MCI, was closed for renovations. A new kitchen facility had been opened at the main warehouse location. Most of the food for

the inmates and staff at MCI and some items for the RCI are prepared at the new kitchen. RCI prepares most of the foods for the inmates housed in the Huts or WPDC.

**B. FOOD STORAGE/SANITATION**

Inspection of food storage facilities at the main facility revealed problems in the following areas:

- In the main kitchen, improperly stored foods and poor storage conditions were noted. The dry storage room lacked ventilation. An old refrigerator was used for storage. The air in this area was stale and moist. Roaches were also observed in this area.

  One refrigerator contained uncovered foods (grapefruit halves) and another had food stored directly on the floor (onions). This promotes nutrient and flavor losses and fosters contamination. All of the refrigerators were old and some were in need of repair.

- At WPDC (C Building), the following sanitation problems were noted:

  Eating utensils were not properly cleaned and sanitized. Observation of the cleaning process revealed that utensils are hand-washed and dried with a cloth. Inspection of washed utensils showed that some contained

food debris. These cleaning procedures are not consistent with those specified in the Food Service Operation Manual, Dishwashing Section, which specifies that " not fewer than three compartments must be used for manual washing, rinsing and sanitizing of utensils...". Utensils should also be allowed to air dry after sanitizing to prevent contaminations.

Facilities were available in the food service area for hand washing, but no soap was available.

- At the Central Kitchen [new facility], I observed that the storage areas were tidy and had clean walls, floors, and proper temperature control. However, uncovered foods were observed in two refrigerators, namely beef steaks and tomato sauce. This practice promote potential contamination of foods and contribute to flavor and nutrient loss.

Poor food handling procedures were employed by staff at RCI. On the day of the visit, hamburger patties were being prepared for cooking the following day. Interview of the Supervisory Dietary Officer about this process reveals the following:

- Hamburger had been placed in the refrigerator overnight to thaw.

- o Hamburger had been removed from the refrigerator at about 10:00 am on May 27, when the pre-preparation process had started.
- o After the patties were placed on the pans, the pans were then put on carts that hold about ten pans each.
- o At the time of the visit [1:30] about seven (7) carts were in the kitchen and about 30 pounds of hamburger was on the preparation table. Inspection of the refrigerators showed that none of the hamburger had been refrigerated. The hamburger was not refrigerated for more than three and one-half hours. The temperature of the kitchen [about 78 F] was optimal for the proliferation of bacteria. The hamburger should have been removed from the refrigerator in small quantities for preparation and refrigerated immediately after each tray was completed. The Dietary Officer was apprised of potential danger of not refrigerating the meats for such a long period of time.

## II. FOOD PREPARATION AND SERVICE

Foods are prepared in several kitchens for inmates housed at the Hagerstown campus: the main kitchen at MCI (soup is reportedly prepared in this facility); the central kitchen

(the new food service facility located on the lower level of the main warehouse where foods are prepared for MCI, RCI and the Huts [WPDC]); and RCI (trays used at the Huts (WPDC) are sanitized and some foods are prepared here).

Food preparation activities for meals to be served on the day of the site visit was largely completed by 1:30 pm. Therefore, little food preparation was observed in any of the kitchens. The following findings are based on observations at the Central Kitchen and discussions with staff.

- Upon arrival at RCI at about 1:30 p.m., most of the food preparation for the evening meal had been completed. Baked fish was being placed in serving containers for transport to the various facilities. The peas, collard greens and other items, except the sauce, had already been loaded in transport units.

- Interview of the Dietary Officer in charge revealed that most foods, including the collard greens, had been prepared starting at 9:00 am, and had been loaded on transport carts at about 10:30 am. These foods were held in the heated carts for transport starting at about 2:00 pm. Meal service for dinner was reported to start at about 4:30 pm. Thus, the prepared food items were held for up to six hours. Foods should be served as soon

after preparation as possible to maximize its palatability, appearance, and nutritional value.

- A temperature check was conducted of the fish before it was placed in the heated cart. This check revealed that the temperature was only 100 F. This temperature is in the danger zone, where the growth and reproduction of germs and bacteria are enhanced. The Dietary Officer reported that all the heat units were plugged in and turned on subsequent to loading the foods; this assertion was not supported by observations. Two carts containing foods were not turned on. This matter was brought to the attention of the Officer.

- The Dietary Officer was also questioned about the use of standardized recipes. While recipes were reportedly available, they were not being used. Use of standardized recipes assure that the nutrition value, flavor and yield are consistently high. Failure to use standardized recipes compromises the quality of the food and contribute to shortage (small yield).

- Service of both regular and medical diets were observed during the lunch meal at MCI. Inmates were interviewed about the acceptability of foods and problems they had experienced with special diets. The following findings

were documented:

Food service was handled efficiently. The inmates exercised care in putting foods onto the trays and in giving the appropriate serving size.

Temperature test of foods served revealed that temperatures were below the standard for avoidance of bacterial growth and for maximum palatability. The Dietary Officer that observed these variances had the cold food replaced with a new container of food. While this was appropriate, the unacceptable temperature of the foods is likely to continue until the cause is addressed. Observations at RCI indicated that foods are held for long periods of time before they are transported and served. This practice is a contributing factor in the low temperature of the food, but time and temperature test of the food production and transport system are needed to clearly identify the cause(s) of the temperature problem.

Dietary Officers did not routinely or periodically check the temperature of the foods. Since a decentralized kitchen is used at this institution, time and temperature monitoring are essential to

assure the safety and palatability of foods (both hot and cold).

Considerable variation was noted in the foods served and those specified on the cycle menu. None of the items specified on the cycle menu for the lunch meal was served. These changes in the planned versus the actual menu were not recorded. At the evening meal, blackeye peas, collard greens and cherry pie were substituted for boiled sliced potatoes, buttered beets and cookies. Occasional substitutions are made in most food service operations. However, steps must be taken to assure that the items substituted are of comparable nutritional quality and acceptable (i.e. that texture, consistency and color are complementary to the rest of the menu items served). All substitutions made in the menu should be recorded so accurate records of the foods served to the population are maintained.

Visual inspection of the items served for the lunch meal revealed that foods were over-cooked. For example, the rice in the chicken soup was difficult to recognize. The spinach was also over-cooked. This is not surprising considering that vegetables were cooked and held in heated carts for up to six

[6] hours. The vegetables used at MCI are generally canned products. A more carefully prepared food production schedule could easily eliminate the problem of overcooked vegetables and increase both the nutritional quality and acceptability of these foods. The most frequently cited problem expressed by the inmates interviewed was that the foods were often overcooked.

Many nutrients are heat sensitive and water soluble. Prolonged cooking and holding of foods, such as vegetables, affects the palatability of the foods served. Important vitamins are also released into the cooking liquid and destroyed by prolonged heating and cooking. While the nutrient levels calculated from the planned menu were consistent with the Recommended Dietary Allowance, the food preparation practices at this facility results in reduced nutrient availability in foods served. This is particularly true of water soluble vitamins (thiamin, folacin, niacin, riboflavin, B6, B12, pantothenic acid, folacin,biotin, and vitamin c). Nutrients which are unstable to heat will be greatly reduced (thiamin, folacin, vitamin c).

o Interviews with inmates on medical diets revealed that

many had not received dietary instructions. These individuals should be counseled concerning foods allowed on their medical diets and the foods contraindicated. Of the eight inmates interviewed, only three reported that they had received instructions from the Dietitian or physician about their diets. I observed that at least two inmates had items on their trays that were not allowed on their medical diets. For example, a hypertensive inmate had table salt on his tray. Most of the inmates on medical diets had received saltine crackers, although many of these persons were on low sodium diets. The size of the portions served to inmates on calorie controlled medical diets was not adjusted to reflect the lower caloric levels of their diets. For example, an inmate on the 2400 Calorie Diabetic Diet received the same foods in the same quantity as the inmate on a Diabetic Diet without caloric restriction. Review of the diet menu sheets did not resolve this discrepancy.

- No provision was made for persons who for religious reasons, do not consume any or only limited animal products. Religious affiliations that customarily restrict the use of animal products include but is not limited to Hindus, Rastafarian, Muslims, Christians, and Jews. Provision of foods compatible with the religious

beliefs, is a generally acceptable practice in institutions of all kinds.

## MARYLAND HOUSE OF CORRECTIONS (JUNE 10,1989)

### GENERAL OVERVIEW

Institutional officials who accompanied the site visit team included Lt. Smith, Correctional Dietary Officer(CDO); Mr. Smith, Deputy Warden; and Warden Singleton. About 1370 inmates are housed in this facility.

An estimated 200 inmates were on medical diets. This facility is very old with the kitchen on two levels. Most of the 1370 inmates are fed in the main cafeteria, located adjacent to the kitchen, with about 100 inmates [those in segregation] eating on the cell blocks.

Food service staff consists of 17 CDO's and many inmates. Foods are prepared and served by the inmates assigned to the kitchen. The CDO's supervise the inmates in carrying out their responsibilities.

### FOOD STORAGE AND SANITATION

Housekeeping and sanitation are serious problems at this institution. Generally, the food preparation and storage areas were maintained in a very sloven manner. Officials of the institution reported that efforts had been made to repair and clean the facility subsequent to the visit by Mr Ted

Gordon, that occurred the previous week. However, the level of housekeeping and sanitation observed were far below standards. The following are examples of the conditions observed rather than a comprehensive list of problems noted:

- Personnel, both CDOs and inmates, were not outfitted in the appropriate attire, i.e. hats, gloves, clean aprons, etc. These articles were put on, however, when the arrival of the site visit team was detected.

- Foods were not properly wrapped in various refrigeration units, thus promoting contamination, nutrient lost and food quality deterioration.

- Neither hot water nor soap was available for hand washing purposes in the vegetable preparation area.

- In the bakery, the wooden table on which butter was being portioned was covered with a layer of dirty water. The inmate working on this assignment did not put on gloves until this error was brought to his attention. Food preparation equipment in this area was covered with dust and was not well cleaned.

- In the dry storage areas, numerous roaches, both dead and alive, were observed . In addition, a dead mouse was in

a glue trap. The mouse, if allowed to fester, would promote the growth of other pests, namely flies. The flies would spread the germs to food containers and food stuffs in the storage area as well as to the food preparation area. The floors, walls and windowsills in these areas were covered with accumulated dirt and other debris.

- Unlined garbage cans were used as storage containers for sugar and other food stuffs. These units were cleaned; the lids of these containers were covered with dirt and dead insects. These materials could contaminate the foods.

- Evidence of smoking was found in the storage areas, i.e. cigarette butts were observed in this area.

- Inspection of the meat slicer revealed accumulated meat grease and food particles. The staff reported that the equipment had just been disassembled and cleaned. At the request of the Deputy Warden this equipment was promptly cleaned again.

- The walls in the main kitchen were in the process of being plastered [showing that corrective actions had been taken since the last inspection]

- The kitchen was not clean. The ovens were dirty as were walls, floors and hoods. The grease vats in the grills were overflowing with grease and water. This problem was resolved on the instructions of the Deputy Warden. The hood over the stoves were reportedly cleaned after the previous inspection. However, grease and dirt had started to accumulate in the upper parts of the hoods.

- Foods were placed directly on the floor. This could lead to contamination of food preparation surfaces by cleaning agents, bacteria, germs and other substances when the food containers are transferred.

**FOOD PREPARATION AND SERVICE**

Foods are generally served cafeteria style. However,inmates housed in special units, such as the hospital and segregated units, eat in the cell blocks. In the latter case, foods are put in styrofoam containers or transported in bulk to these areas for service to these groups.

On the day of the site visit, the lunch meal consisted of sliced cold-cuts, macaroni salad, garden salad with oil and vinegar dressing, mustard, mayonnaise, applesauce and beverage (the fruit drink mix was vitamin C enriched). The following

is a listing of major findings.

- There was some evidence that standardized recipes files are used. However, the recipe file for the foods being prepared for the evening meal, could not be located to verify that all the appropriate ingredients were being used and were being combined in accordance with the recipe instructions. Use of standardized recipes assure that the foods prepared are of consistently high nutritional value, flavor and yield. Failure to use standardized recipes compromises the quality and contributes to shortage (small yield).

- The styrofoam trays and food carts used to transport food to the decentralized units were not appropriate for efficient service of the foods or for the retention of the foods at appropriate temperatures. The chicken that had been placed on special diet trays had a temperature of 120 F. It took about 15 minutes to complete the diet trays. When the trays were completed, the temperature had already fallen to 105 F. While it is unlikely that sufficient bacteria growth would occur in fifteen minutes to cause food borne illness, every effort should be made to assure that the temperatures of potential hazardous foods do not fall within the danger range of 40-120 F.

- Temperature problems were also noted for regular diet items. Specifically, the macaroni salad had a pre-service temperature of about 60 F. The macaroni salad contain eggs and mayonnaise, both of which are excellent mediums for bacteria growth and should be maintained at temperatures of 40 F of less. In an attempt to identify the cause of the temperature problem, temperatures of the macaroni salad under refrigeration were taken. These temperature tests revealed that the product in the refrigerator was also 60 F. No thermometer was located in the refrigerator. However, improper functioning could have been due to cracks in the refrigerator seals.

- Interviews with staff and inmates indicated that there have been several outbreaks of stomach discomfort following the consumption of a salad meal.

- The macaroni salad was stored in very deep containers. This increases the time it takes for the salad to reach uniform and safe temperature levels. The internal temperature [ center of the product] would reach an appropriate temperature much later than the food near the sides. Products that are highly perishable should not be stored in deep containers, and they should be kept in a functioning refrigerator unit until served. During

service, care must be taken to assure that these foods are retained at temperatures below 40 F.

- Regular and medical diets service were observed [lunch]. Inmates were interviewed about the acceptability of foods and problems they had experienced with special diets. A plate waste survey was also competed. The following findings were documented:

  - Food service in the cafeteria was handled efficiently. The inmates were careful in putting foods on the trays and for the most part, appropriate portion sizes were served.

  - Dietary Officers did not routinely or periodically check the temperature of the foods. Since foods are transported to decentralized areas, time/temperature checks are essential to assure the safety and palatability of foods(both hot and cold). All CDO's should carry thermometers and use them periodically to test temperatures.

  - No provisions were made for persons who for religious reasons, do not consume any or only limited amounts of animal products. Religious affiliations that customarily restrict the use of animal products include

but is not limited to Hindus, Rastafarian, Muslims, Christians, and Jews. Provision of foods compatible with the religious beliefs is a generally acceptable practice in institutions of all kinds.

o Service of special diets in the cafeteria was efficient. However, portion size instructions were not provided for calorie controlled medical diets.

o A plate waste study was done of 60 trays to determine the level of food acceptability. The results of this study are as follows: Forty-one percent [41%] of the inmates did not consume at least one ounce of the cold cuts; 25% did not consume 2-4 ounces of macaroni salad; 13% did not consume 2-4 ounces of the garden salad; 5% did not consume one or more slices of bread; and, 23% did not consume 2-4 ounces of applesauce. The scope of the survey did not include determining the reasons foods were not consumed. However, problems with illness subsequent to ingestion of some of these items may be a factor. The level of dissatisfaction with the temperatures of the foods may be another factor.

o A food satisfaction survey was completed of about 50 inmates in this facility. The survey revealed the following major complaints: lack of variety in the foods

served; improper temperatures of foods served; and improperly seasoned foods. Complaints concerning stomach or intestinal distress after consumption of highly perishable items were also frequent. Inmates indicated that outbreaks of illnesses have occurred on at least two recent occasions. One occasion of food borne illness was verified by officials. Some inmates were reportedly hospitalized for these problems following the ingestion of highly perishable items. Concerns were also expressed about the availability of vegetarian diets.

Many concerns were made about use of wet food trays. Inspection of the trays revealed that they were very wet. The cause of the wet trays was either improper dishwashing techniques and/or low water temperatures.

o The food service process for inmates housed in the segregation units was observed from the point the foods left the kitchen until served to the inmates. The equipment used for this purpose was not appropriate. The cart did not have the capacity to keep foods hot or cold, and one side of the cart was open. Foods were placed inside and on top of the cart. The transport process took about 12 minutes from kitchen to the cell blocks, including the time it took to replace a container of mayonnaise that fell off the top of the cart. The

following comments and observations are provided concerning this process.

- The equipment used to transport the foods contributed to the deterioration of the temperatures of the foods served. Forty minutes were required to complete meal service to inmates on two floors. The temperature of the foods continued to change during the service process.

- The food service was very inefficient. Foods were served from the cart on a device constructed from two trays. The inmate serving the food onto trays had to bend over and squat down to get to the foods. He then carried the tray to inmates' cells. Use of a temperature controlled food transport cart would eliminate bending by the inmate and increase efficiency in transferring the foods to trays. The cart, if properly used, would retain the foods at adequate temperatures throughout the food service process. Assignment of another inmate to assist in carrying the foods to the men would further expedite the process. Proper transport equipment would also reduce the potential of accidents.

- Foods for inmates who work outside of the prison are put on styrofoam trays and delivered to the men by two

inmates. The inmate responsible for preparing these trays was extremely slow in completing his work. He took almost one hour to complete the trays. Temperature tests of the macaroni salad showed that it had reached a temperature of 80 F on some of the trays when this process was completed.

## II. RECOMMENDATIONS

The following general recommendations are made for both institutions, in addition to those offered throughout the site visit.

- Procedures and schedules for cleaning of all food service areas and equipment need to be developed. The procedures should identify how the areas and equipments are to be cleaned [how to take the equipment apart, if this is warranted]; what products are to be used to clean the area and equipment; how often each area and piece of equipment is to be cleaned; and, who is responsible for cleaning what areas. A system to document that each job was correctly completed is essential. The CDO responsible for housekeeping and sanitation should be required to initial the schedule verifying that each job was inspected and was done in accordance with the standards. CDOs should be held accountable for their areas of responsibility.

- CDOs should carry thermometers at all times. Further, they should routinely test and record the temperatures of foods at key points in the food service process. At a minimum, temperatures should be taken prior to putting the foods on to trays and again prior to serving.

- A comprehensive procedure manual should be developed that

addresses all aspects of the food service system, including, but not limited to sanitation, storage, preparation, menu planning, food service, housekeeping procedures, equipment maintenance, dishwashing and utensil cleaning, emergency food service plan (natural disaster and others), food production and scheduling, etc.

- Comprehensive training related to the above procedures needs to be provided for both inmates and CDOs. Food service supervision training should also be provided to all Officers.

- Appropriate equipment should be procured to meet the needs of the institution. Procurement of temperature controlled food transport equipment is essential. Insulated trays are also needed for special diets, as well as transport containers. In addition a preventive maintenance program is needed to keep equipment operating correctly at all times, such as the elevators, refrigerators, etc.

- An ongoing monitoring system needs to be developed and implemented to assure that CDOs provide leadership by example and that they hold the inmate staff accountable for their duties. If inmates are properly trained in

food service operations, these skills can be used to secure employment subsequent to release. Prison officials may wish to visit other prisons with successful programs of this nature.

- Appropriate menu adjustments should be made to provide inmates, who for religious reasons require a vegetarian diets or substitutes for pork items. Further the menus should be analyzed on periodic basis to assure nutritional adequacy and adherence to current dietary recommendations. Specifically, careful attention should be given to fat, cholesterol and sodium levels in the diets of this population group. Males in general and black males in particular are at increased risk for the development of cardiovascular disease, to which excessive intakes of these food components have been clearly linked. This results in premature deaths of males, particularly minority groups. These facts support dietary modifications of menus to conform to the most recent scientific information.

FOOD AND NUTRITION BOARD, NATIONAL ACADEMY OF SCIENCES–NATIONAL RESEARCH COUNCIL

RECOMMENDED DAILY DIETARY ALLOWANCES,[a] Revised 1980

*Designed for the maintenance of good nutrition of practically all healthy people in the U.S.A.*

| | Age (years) | Weight (kg) | Weight (lb) | Height (cm) | Height (in) | Protein (g) | Fat-Soluble Vitamins: Vitamin A (μg RE)[b] | Vitamin D (μg)[c] | Vitamin E (mg α-TE)[d] | Water-Soluble Vitamins: Vitamin C (mg) | Thiamin (mg) | Riboflavin (mg) | Niacin (mg NE)[e] | Vitamin B-6 (mg) | Folacin[f] (μg) | Vitamin B-12 (μg) | Minerals: Calcium (mg) | Phosphorus (mg) | Magnesium (mg) | Iron (mg) | Zinc (mg) | Iodine (μg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Infants | 0.0–0.5 | 6 | 13 | 60 | 24 | kg × 2.2 | 420 | 10 | 3 | 35 | 0.3 | 0.4 | 6 | 0.3 | 30 | 0.5[g] | 360 | 240 | 50 | 10 | 3 | 40 |
| | 0.5–1.0 | 9 | 20 | 71 | 28 | kg × 2.0 | 400 | 10 | 4 | 35 | 0.5 | 0.6 | 8 | 0.6 | 45 | 1.5 | 540 | 360 | 70 | 15 | 5 | 50 |
| Children | 1–3 | 13 | 29 | 90 | 35 | 23 | 400 | 10 | 5 | 45 | 0.7 | 0.8 | 9 | 0.9 | 100 | 2.0 | 800 | 800 | 150 | 15 | 10 | 70 |
| | 4–6 | 20 | 44 | 112 | 44 | 30 | 500 | 10 | 6 | 45 | 0.9 | 1.0 | 11 | 1.3 | 200 | 2.5 | 800 | 800 | 200 | 10 | 10 | 90 |
| | 7–10 | 28 | 62 | 132 | 52 | 34 | 700 | 10 | 7 | 45 | 1.2 | 1.4 | 16 | 1.6 | 300 | 3.0 | 800 | 800 | 250 | 10 | 10 | 120 |
| Males | 11–14 | 45 | 99 | 157 | 62 | 45 | 1000 | 10 | 8 | 50 | 1.4 | 1.6 | 18 | 1.8 | 400 | 3.0 | 1200 | 1200 | 350 | 18 | 15 | 150 |
| | 15–18 | 66 | 145 | 176 | 69 | 56 | 1000 | 10 | 10 | 60 | 1.4 | 1.7 | 18 | 2.0 | 400 | 3.0 | 1200 | 1200 | 400 | 18 | 15 | 150 |
| | 19–22 | 70 | 154 | 177 | 70 | 56 | 1000 | 7.5 | 10 | 60 | 1.5 | 1.7 | 19 | 2.2 | 400 | 3.0 | 800 | 800 | 350 | 10 | 15 | 150 |
| | 23–50 | 70 | 154 | 178 | 70 | 56 | 1000 | 5 | 10 | 60 | 1.4 | 1.6 | 18 | 2.2 | 400 | 3.0 | 800 | 800 | 350 | 10 | 15 | 150 |
| | 51+ | 70 | 154 | 178 | 70 | 56 | 1000 | 5 | 10 | 60 | 1.2 | 1.4 | 16 | 2.2 | 400 | 3.0 | 800 | 800 | 350 | 10 | 15 | 150 |
| Females | 11–14 | 46 | 101 | 157 | 62 | 46 | 800 | 10 | 8 | 50 | 1.1 | 1.3 | 15 | 1.8 | 400 | 3.0 | 1200 | 1200 | 300 | 18 | 15 | 150 |
| | 15–18 | 55 | 120 | 163 | 64 | 46 | 800 | 10 | 8 | 60 | 1.1 | 1.3 | 14 | 2.0 | 400 | 3.0 | 1200 | 1200 | 300 | 18 | 15 | 150 |
| | 19–22 | 55 | 120 | 163 | 64 | 44 | 800 | 7.5 | 8 | 60 | 1.1 | 1.3 | 14 | 2.0 | 400 | 3.0 | 800 | 800 | 300 | 18 | 15 | 150 |
| | 23–50 | 55 | 120 | 163 | 64 | 44 | 800 | 5 | 8 | 60 | 1.0 | 1.2 | 13 | 2.0 | 400 | 3.0 | 800 | 800 | 300 | 18 | 15 | 150 |
| | 51+ | 55 | 120 | 163 | 64 | 44 | 800 | 5 | 8 | 60 | 1.0 | 1.2 | 13 | 2.0 | 400 | 3.0 | 800 | 800 | 300 | 10 | 15 | 150 |
| Pregnant | | | | | | +30 | +200 | +5 | +2 | +20 | +0.4 | +0.3 | +2 | +0.6 | +400 | +1.0 | +400 | +400 | +150 | [h] | +5 | +25 |
| Lactating | | | | | | +20 | +400 | +5 | +3 | +40 | +0.5 | +0.5 | +5 | +0.5 | +100 | +1.0 | +400 | +400 | +150 | [h] | +10 | +50 |

[a] The allowances are intended to provide for individual variations among most normal persons as they live in the United States under usual environmental stresses. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined. See text for detailed discussion of allowances and of nutrients not tabulated. See Table 1 (p. 20) for weights and heights by individual year of age. See Table 9 (p. 23) for suggested average energy intakes.

[b] Retinol equivalents. 1 retinol equivalent = 1 μg retinol or 6 μg β carotene. See text for calculation of vitamin A activity of diets as retinol equivalents.

[c] As cholecalciferol. 10 μg cholecalciferol = 400 IU of vitamin D.

[d] α-tocopherol equivalents. 1 mg *d*-α tocopherol = 1 α-TE. See text for variation in allowances and calculation of vitamin E activity of the diet as α-tocopherol equivalents.

[e] 1 NE (niacin equivalent) is equal to 1 mg of niacin or 60 mg of dietary tryptophan.

[f] The folacin allowances refer to dietary sources as determined by *Lactobacillus casei* assay after treatment with enzymes (conjugases) to make polyglutamyl forms of the vitamin available to the test organism.

[g] The recommended dietary allowance for vitamin B-12 in infants is based on average concentration of the vitamin in human milk. The allowances after weaning are based on energy intake (as recommended by the American Academy of Pediatrics) and consideration of other factors, such as intestinal absorption; see text.

[h] The increased requirement during pregnancy cannot be met by the iron content of habitual American diets nor by the existing iron stores of many women; therefore the use of 30–60 mg of supplemental iron is recommended. Iron needs during lactation are not substantially different from those of nonpregnant women, but continued supplementation of the mother for 2–3 months after parturition is advisable in order to replenish stores depleted by pregnancy.

**TABLE 10** Estimated Safe and Adequate Daily Dietary Intakes of Selected Vitamins and Minerals[a]

| | | Vitamins | | |
|---|---|---|---|---|
| | Age (years) | Vitamin K (μg) | Biotin (μg) | Pantothenic Acid (mg) |
| Infants | 0–0.5 | 12 | 35 | 2 |
| | 0.5–1 | 10–20 | 50 | 3 |
| Children | 1–3 | 15–30 | 65 | 3 |
| and | 4–6 | 20–40 | 85 | 3–4 |
| Adolescents | 7–10 | 30–60 | 120 | 4–5 |
| | 11+ | 50–100 | 100–200 | 4–7 |
| Adults | | 70–140 | 100–200 | 4–7 |

| | | Trace Elements[b] | | | | | |
|---|---|---|---|---|---|---|---|
| | Age (years) | Copper (mg) | Manganese (mg) | Fluoride (mg) | Chromium (mg) | Selenium (mg) | Molybdenum (mg) |
| Infants | 0–0.5 | 0.5–0.7 | 0.5–0.7 | 0.1–0.5 | 0.01–0.04 | 0.01–0.04 | 0.03–0.06 |
| | 0.5–1 | 0.7–1.0 | 0.7–1.0 | 0.2–1.0 | 0.02–0.06 | 0.02–0.06 | 0.04–0.08 |
| Children | 1–3 | 1.0–1.5 | 1.0–1.5 | 0.5–1.5 | 0.02–0.08 | 0.02–0.08 | 0.05–0.1 |
| and | 4–6 | 1.5–2.0 | 1.5–2.0 | 1.0–2.5 | 0.03–0.12 | 0.03–0.12 | 0.06–0.15 |
| Adolescents | 7–10 | 2.0–2.5 | 2.0–3.0 | 1.5–2.5 | 0.05–0.2 | 0.05–0.2 | 0.10–0.3 |
| | 11+ | 2.0–3.0 | 2.5–5.0 | 1.5–2.5 | 0.05–0.2 | 0.05–0.2 | 0.15–0.5 |
| Adults | | 2.0–3.0 | 2.5–5.0 | 1.5–4.0 | 0.05–0.2 | 0.05–0.2 | 0.15–0.5 |

| | | Electrolytes | | |
|---|---|---|---|---|
| | Age (years) | Sodium (mg) | Potassium (mg) | Chloride (mg) |
| Infants | 0–0.5 | 115–350 | 350–925 | 275–700 |
| | 0.5–1 | 250–750 | 425–1275 | 400–1200 |
| Children | 1–3 | 325–975 | 550–1650 | 500–1500 |
| and | 4–6 | 450–1350 | 775–2325 | 700–2100 |
| Adolescents | 7–10 | 600–1800 | 1000–3000 | 925–2775 |
| | 11+ | 900–2700 | 1525–4575 | 1400–4200 |
| Adults | | 1100–3300 | 1875–5625 | 1700–5100 |

[a] Because there is less information on which to base allowances, these figures are not given in the main table of RDA and are provided here in the form of ranges of recommended intakes.

[b] Since the toxic levels for many trace elements may be only several times usual intakes, the upper levels for the trace elements given in this table should not be habitually exceeded.

**PRESCRIPTION FOR LOWER CHRONIC DISEASE RISK:**
**LESS FAT AND MORE FRUITS, VEGETABLES AND COMPLEX CARBOHYDRATES**

| **NATIONAL RESEARCH COUNCIL COMMITTEE ON DIET AND HEALTH** Summary of Recommendations | **IMPLEMENTATION IDEAS** |
|---|---|
| 1. Reduce total fat intake to 30 percent or less of calories. Reduce saturated fat intake to less than 10 percent of calories, and the intake of cholesterol to less than 300 milligrams daily. | Use margarine, polyunsaturated vegetable oils, low fat milk, yogurt and cheeses, low fat & low cholesterol mayonnaise, and low fat frozen desserts. And use two egg whites in baked baked products for one whole egg.<br><br>Eliminate or limit use of butter and hard fats like lard, crisco, products containing palm coconut oil, mayonnaise, cream, hard cheeses, whole milk products. Limit eggs to 3 per week including those in baked products. |
| 2. a. Eat five or more one-half cup servings of a combination of vegetables and fruits. | Eat fresh fruit for snacks and desserts.<br><br>Eat dried fruit instead of candy for extra energy. Add fruits to cereals.<br><br>Eat more green and yellow vegetables & citrus.<br><br>Eat two or more vegetables at lunch and dinner. |
| b. Eat six or more daily servings of starches and other complex carbohydrates as combination of breads, cereals and legumes. Carbohydrates should total more than 55 percent of calories. | Include two servings of carbohydrates at each meal.<br><br>Eat more whole grain cereal and breads.<br><br>Avoid pastries, white breads and baked products. |
| 3. Maintain protein intake at moderate levels, preferably 4-6 ozs. per day but no more than about 8 oz. per day. (3 ozs. is equal to, for example, a medium-sized hamburger.) | Plan two meatless dinners per week such as peas and rice and vegetables or pasta with vegetable sauce.<br><br>Eat poultry and fish (baked or broiled). Trim fat from all meats including chicken.<br><br>Avoid fried meats, fish and poultry and limit red meat to twice weekly. |
| 4. Balance food intake and physical activity to maintain appropriate body weight. | Walk, run, ski, swim, bike, hike, bowl, dance, play baseball, basketball, volleyball, squash, etc. - just get up and move your body! **Exercise more and eat as recommended to stay in shape.** |
| | |

| RECOMMENDATIONS | IMPLEMENTATION IDEAS |
|---|---|
| 5. Avoid alcoholic beverages. | If you must drink, limit yourself to less than one ounce of pure alcohol daily. This is equivalent to two cans of beer, two small glasses of wine, or two average cocktails. Pregnant women should avoid alcoholic beverages altogether. |
| 6. Limit total daily intake of salt to 6 grams or less. | Limit the use of salt in cooking and avoid adding it to food at the table. Salty, salt-preserved and salt-pickled foods should be consumed sparingly. Avoid highly salty foods like potato chips, popcorn, cornchips porkskins, etc. |
| 7. Maintain adequate calcium intake. | Include 2 or 3 daily servings of calcium rich foods such as skimmed milk, yogurt, green leafy vegetable. |
| 8. Avoid taking dietary supplements in excess of the Recommended Dietary Allowances for one day. | If you eat right you don't need vitamins. But if you do take them use multi-vitamin supplements with no more than 100% RDA of the nutrients. |
| 9. Maintain an optimal intake of fluoride, particularly during the years of primary and secondary tooth formation and growth. | Drink the water from DC taps. It has the fluoride you need. |

WIC State Agency
Commission of Public Health
March 9, 1989