[DOH ADMINISTRATIVE ORDER NO. 2006-0001, January 10, 2006]

OPERATIONAL GUIDELINES FOR PARASITOLOGIC SCREENING OF FOOD HANDLERS

I. BACKGROUND/RATIONALE

Intestinal parasitic infections remain an important public health concern in the Philippines. Soil-transmitted helminthiasis (STH), considered the most common intestinal helminthiasis, is ranked first among all communicable and non-communicable diseases in the school-age population of developing countries worldwide (Worm Busters, 2004). Biomedical surveys done in the Philippines by the U.S. Naval Medical Research Unit No. 2 showed that national infection rates for the three major soil-transmitted helminths, *Ascaris lumbricoides* (roundworm), *Trichuris trichiura* (whipworm) and hookworm were 48%, 74%, and 38%, respectively (Cross and Sevilla, 1984). A recent nationwide study by UP/DOH/UNICEF revealed that 66% of pre-school children were infected with common intestinal helminthes (Lumampao and de Leon, 2004). These numbers clearly show that there have been no significant improvements in the prevalence of STH despite ongoing efforts by the Department of Health and other concerned institutions even after almost three decades. The magnitude of the problem and lack of adequate resources continue to remain as major challenges as evidenced by the latest UP/DOH/UNICEF nationwide survey.

Problems associated with intestinal parasitism vary according to the parasitic species, burden of infection and organ involvement. Intestinal infections may cause malabsorption, diarrhea, and other states of poor health (Beaver, 1994; Cooper, 1996; WHO 1986). Some parasites may even invade the intestinal mucosa to enter the bloodstream and affect other organs such as the liver, lungs, kidneys or brain. Intestinal parasitic infections are commonly acquired through the ingestion of contaminated food or water as a result of poor sanitation and hygiene. In some instances, transmission occurs through close contacts between infected and non-infected populations as exemplified by the transfer of organisms from food handlers to consumers.

In terms of Disability Adjusted Life Years (DALY) lost due to burden of disease, intestinal parasitism was ranked first among children, ages 5 to 14 years old, in developing countries (World Bank, 1993). These children are most prone to significant morbidities, especially in chronic untreated infections. Complications include malnutrition, anemia, growth retardation, delayed motor activity and poor mental development.

Intestinal parasitism is frequently transmitted through the oral-fecal route as a result of poor sanitation and hygiene. There is a growing concern over the continued high prevalence of parasitic infections acquired through food handling and

distribution. It is alarming to note that people involved in the preparation and distribution of food may actually be considered vectors of intestinal parasites. This is the reason why the importance of parasitologic screening can not be overemphasized.

Although the Implementing Rules and Regulations of the Code of Sanitation of the Philippines do not mention the need for stool examinations for the screening of food handlers for intestinal parasites, most local health units have already employed stool examinations as a basic laboratory requirement for food handlers applying for health certificates. However, Direct Fecal Smear (DFS) is the most commonly used method in the local health units. DFS is relatively inexpensive and simple but it does not possess the satisfactory sensitivity in detecting infection, especially among asymptomatic individuals (Jueco, 1976). In a recent study done among food handlers of a tertiary hospital in Manila comparing DFS and Formalin Ether/Ethyl Acetate Concentration Technique (FECT), results showed a prevalence of intestinal parasitic infection of 40.7% and a significant difference in the sensitivities of DFS and FECT at 52.0% and 88.0% (chi square test, p=0.031), respectively (Esparar et al., 2005). In another study among food handlers in selected food establishments in the University Belt area in Manila using FECT, the results showed a prevalence rate of intestinal parasitic infections of 61.8% (Avila et al., 2003)

There is a clear need to improve, the policy and practice regarding parasitologic screening of food handlers by the local health units. Early diagnosis and treatment of intestinal parasitism can be facilitated by using more sensitive screening methods, such as the FECT. These guidelines aim to improve the parasitologic screening of food handlers by the local health units by stating the requirements and procedures for FECT. These actions are geared towards improving early detection and management of cases which will consequently help decrease disease morbidity and spread to the population.

STATEMENT OF POLICIES

The Implementing Rules and Regulations of Chapter III Food Establishments of the Code of Sanitation of the Philippines (P.D. 856) states:

> A. No person shall be employed in any food establishment without a health certificate issued by the city/municipal health officer. This certificate shall be issued only after the required physical and medical examinations and immunizations. Briefings shall be provided by the local health office prior to the issuance of the health certificate to the recipient.
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> B. The Health Certificate shall be renewed at least every year or as often as required by local ordinance.
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> C. Health certificates are non-transferable.
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> D. No person shall be allowed to work in food handling and preparation while afflicted with a communicable disease or a carrier of such disease, which includes boils or inflicted wounds, colds or respiratory infection, diarrhea of gastrointestinal upsets, and other related illnesses.

III
OBJECTIVES

A. General Objective

To improve parasitologic screening of food handlers by the local health units.

B. Specific Objectives

1. To specify stool examination as a requirement in the screening of food handlers applying for health certificates

a. To specify FECT as the method for stool examination
b. To state the frequency of stool examinations

2. To prescribe the requirements and procedures for FECT in terms of personnel, physical plant, equipment and supplies

IV
DEFINITION OF TERMS

A. Department of Health (DOH) - The principal health agency in the Philippines responsible for ensuring the access of basic public health services to all Filipinos through the provision of quality health care and regulation of providers of health goods and services.

B. Direct Fecal Smear (DFS) - A simple parasitologic procedure that allows microscopic examination of a small amount (1 to 2 mg) of feces.

C. Food - Any raw, cooked or processed edible substances, beverages or ingredient used or intended for use or for sale in whole or in part for human consumption.

D. Food Establishment - A place or facility where food and drinks are manufactured, processed, stored, sold or served, including those that are located in vessels.

E. Food handler - Any person who handles, stores, prepares, serves food, drinks or ice or who comes in contact with any eating or cooking utensils and food vending machines.

F. Formalin Ether/Ethyl Acetate Concentration Technique (FECT) - A stool concentration technique that allows microscopic examination of approximately 1 gm of feces.

G. Health certificate - A certification in writing, using the prescribed form, and issued by the municipal or city health officer to a person after passing the required physical and medical examinations and immunizations.

H. Local Health Authority (LHA) - An official or employee responsible for the application of a prescribed health measure in a local political subdivision.

I. Local Health Unit - A health care facility where public health services are delivered in cities and municipalities.

J. Medical Technologist - A person who engages in the work of medical technology under the supervision of a pathologist or licensed physician authorized by the Department of Health in places where there is no pathologist, and who having passed the prescribed course (Bachelor of Science in Medical Technology/Bachelor of Science in Public Health) and examination, is