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DATE: September 12, 2005

TO: All Local Health Departments (LHD's)
Attn: Health Officer/Director of Environmental Health/Chief Sanitarian
Michigan Department of Agriculture (MDA)
Attn: Food and Dairy Division Managers

FROM: Kevin Besey, Supervisor
Food Service Sanitation Section
Food and Dairy Division

SUBJECT: Baseline Survey on the Occurrence of Foodborne Illness Risk Factors in Michigan Retail Food Establishments

Enclosed is the MDA report on the occurrence of foodborne illness risk factors. This will serve as the baseline against which future risk reduction surveys will be measured. MDA's Cabinet Action Plan "Reducing the Risks of Foodborne Illness" has the goal of reducing the prevalence of the risk factors in food establishments by 25% by late 2010. This initiative parallels the National Retail Food Steering Committee of the U.S. Food and Drug Administration's goal to make a 25% reduction in the occurrence of the CDC risk factors in institutional food service establishments, restaurants, and retail food stores by October 1, 2010.

The initiative involves:

- baseline survey
- development and application of strategies to reduce the occurrence of unsafe behaviors
- midcourse survey to check if the strategies are working in 2007
- adjustments as needed
- final survey in 2010

The Risk Reduction Steering Committee and it's subcommittees are currently working to develop strategies to help reduce the occurrence of risk factors. While the goal is to reduce all risk factors as much as possible, the steering committee has agreed that the initial focus should be on reducing the occurrence of the two most prevalent risk factors-improper holding and poor personal hygiene.

Michigan Department of Agriculture
Baseline Survey on the Occurrence of Foodborne Illness Risk Factors in Michigan Retail Food Establishments
August, 2005

In 2004, a Governor's Cabinet Action Plan was initiated titled "Reducing the Risks of Foodborne Illness".

The CDC has identified five behaviors and practices through epidemiological data as being the most prevalent contributing factors of foodborne illness or injury: poor personal hygiene; food from unsafe sources; inadequate cooking; improper holding and contaminated equipment.

The goal of the initiative is to reduce the prevalence of the risk factors in food establishments by 25 percent by late 2010. This initiative parallels the FDA's goal to make a 25 percent reduction in the occurrence of the CDC risk factors in institutional food service establishments, restaurants, and retail food stores by October 1, 2010. A significant reduction in the prevalence of the risk factors has the potential for reducing the number of foodborne illnesses in Michigan. Nationally, it is estimated that there are 76 million people who become ill from microorganisms in food resulting in as many as 325,000 hospitalizations and 5,000 needless deaths every year.

The initiative involves a baseline survey, training and evaluation of local health department sanitarians, industry training and support, a midcourse survey, and a final survey. The information below summarizes the results of the baseline survey.

The baseline survey results show that the two risk factors most out of compliance are "improper holding (fig. 4)" and "poor personal hygiene (fig. 5)". This matches the Food and Drug Administration (FDA) national survey results.

Fig. 1: Baseline Measurement for Each Facility Type (All observable IN & OUT questions)

Facility Type	Total Questions In	In Percent	Total Questions Out	Out Percent	Total Questions
Full Service Restaurants, n=108	2,547	91	264	9	2,811
Deli, n=90	1,666	81	379	19	2,045
Combined, n=198	4,213	87	643	13	4856

Fig. 2: MDA Risk Factor Improvement Goal

Industry Segment	Facility Type	2005 Baseline	2010 MDA Goal (+25%)
Food Service	Independent Full Service Restaurants	91%	**93%**
Retail	Delis	81%	**86%**
Combined		87%	**90%**

Fig. 3: Survey Data- Percent of establishments surveyed with at least one risk factor question out of compliance

Risk Factor:	Appoved Source			Inadequate Cooking			Improper Holding			Contaminated Equip.			Personal Hygiene		
Facility Type	%	OUT	TOTAL	%	OUT	TOTAL	%	OUT	TOTAL	%	OUT	TOTAL	%	OUT	TOTAL
DELI	**2**	2	90	**32**	29	90	**79**	71	90	**42**	38	90	**54**	49	90
FULL SERVICE REST	**5**	6	108	**16**	17	108	**60**	65	108	**33**	36	108	**35**	38	108

Risk Factor Detail – If either facility type is ≥20% then both facility types were placed in the weak area.

Fig. 4: Improper Holding (10 questions)

Weak Areas	**FS % out**	FS # out	FS total in/out	**Deli % out**	Deli # out	Deli total in/out
9A. Ready-to-eat PHF held for more than 24 hours is date marked as required (prepared on-site)	**44%**	45	103	**35%**	26	75
6A. Cooked PHF is cooled properly	**36%**	36	100	**58%**	45	77
9C. Opened commercial container of prepared RTE PHF is date marked as required	**28%**	28	100	**58%**	46	80
8A. PHF is maintained at 140°F or above, except during preparation, cooking and cooling	**8%**	8	101	**23%**	19	81
9B. Discard RTE PHF and/or opened commercial container exceeding 7 days at < 41°F or 4 days at < 45°F	**14%**	13	93	**21%**	17	81
Strong Areas						
7A. PHF is maintained at 41°F or below, except during preparation, cooking and cooling	**7%**	8	108	**12%**	11	90

Questions 6B, 6C, 8B and 9D were not included in this table as they were mostly not applicable or not observed.

Fig. 5: Poor Personal Hygiene (5 questions)

Weak Areas	**FS % out**	FS # out	FS total in/out	**Deli % out**	Deli # out	Deli total in/out
12A. Hands are clean and properly washed when and as required	**15%**	16	107	**29%**	26	90
Strong Areas						
14A. Employees do not contact exposed, ready-to-eat food with their bare hands.	**13%**	14	105	**16%**	14	88
13A. Food Employees eat, drink, and use tobacco only in designated areas / do not use a utensil more than once to taste food that is sold or served / do not handle or care for animals present. Food employees experiencing persistent sneezing, coughing, or runny nose do not work with exposed food, clean equipment, utensils, linens, unwrapped single-service or single-use articles	**3%**	3	108	**18%**	16	90
15A. Handwash facilities conveniently located and accessible for employees	**10%**	11	108	**8%**	7	90
15 B. Handwash facilities supplied with hand cleanser / sanitary towels / hand drying devices	**6%**	6	108	**17%**	15	90

Fig. 6: Contaminated Equipment (5 questions)

Weak Areas	**FS % out**	FS # out	FS total in/out	**Deli % out**	Deli # out	Deli total in/out
11A. Food-contact surfaces and utensils are clean to sight and touch and sanitized before use	**16%**	17	108	**30%**	27	90
Strong Areas						
10A. Food is protected from cross contamination by separating raw animal foods from raw ready-to-eat food and by separating raw animal foods from cooked ready-to-eat food	**14%**	15	105	**19%**	15	81
10C. Food is protected from environmental contamination – critical items	**10%**	11	108	**16%**	14	90
10B. Raw animal foods are separated from each other during storage, preparation, holding, and display	**2%**	2	98	**13%**	10	77
10D. After being served or sold to a consumer, food is not re-served	**0%**	0	83	**1%**	1	90

Fig. 7: Inadequate Cooking (12 questions)

Weak Areas	**FS % out**	FS # out	FS total in/out	**Deli % out**	Deli # out	Deli total in/out
5A. PHF that is cooked and cooled on premises is rapidly reheated to 165°F for 15 seconds for hot holding	**16%**	14	88	**36%**	13	36
4C. Roasts, including formed roasts, are cooked to 130°F for 112 minutes or as Chart specified and according to oven parameters per Chart	**7%**	3	44	**20%**	3	15
5B. Food reheated in a microwave is heated to 165°F or higher	**4%**	2	57	**21%**	5	24
4B. Comminuted Fish, Meats, Game animals cooked to 155°F for 15 seconds	**0%**	0	93	**31%**	12	39
4A. Raw shell eggs broken for immediate service cooked to 145°F for 15 seconds. Raw shell eggs broken but not prepared for immediate service cooked to 155°F for 15 seconds	**0%**	0	56	**29%**	4	14
Strong Areas						
4D. Poultry; stuffed fish, stuffed meat, stuffed pasta, stuffed poultry, stuffed ratites, or stuffing containing fish, meat, poultry or ratites cooked to 165°F for 15 seconds	**0%**	0	100	**13%**	10	77
4G. Ratites, injected meats are cooked to 155°F for 15 seconds	**0%**	0	41			
4H. All other PHF cooked to 145°F for 15 seconds (pork etc.)	**0%**	0	84	**8%**	6	74
5C. Commercially processed ready to eat food, reheated to ≥140°F **for hot holding**	**2%**	2	88	**7%**	5	67

Questions 4E, 4F and 5D were not included in this table as they were mostly not applicable or not observed.

Fig. 8 Unsafe Food Source (7 questions)

Weak Areas	**FS % out**	FS # out	FS total in/out	**Deli % out**	Deli # out	Deli total in/out
No questions ≥20% out of compliance						
Strong Areas						
1A. All food from Regulated Food Processing Plants/ No home prepared/canned foods	**4%**	4	108	**0%**	0	90
2A. Food received at proper temperatures/ protected from contamination during transportation and receiving/food is safe, unadulterated	**0%**	0	108	**1%**	1	90

Questions 1B, 1C, 3A, 3B, 3C were not included in this table as they were mostly not applicable or not observed.

*Deli surveys were conducted on randomly selected establishments within the City of Detroit, Oakland County and Kent County areas and full service surveys were conducted during regularly scheduled local health department accreditation field reviews, between February and August, 2005. Five MDA employees conducted the surveys using a standardized survey form. Two surveyors were FDA certified and the remaining three were standardized by FDA certified, MDA staff to assure accurate and consistent results. The minimum statistically valid sample size for each establishment type surveyed was 87 establishments. For a more thorough discussion of sampling methodology, see the FDA publication "Developing a Baseline on the Occurrence of Foodborne Illness Risk Factors, Data Collection Instruction Manual", Annex III, 4/28/03.