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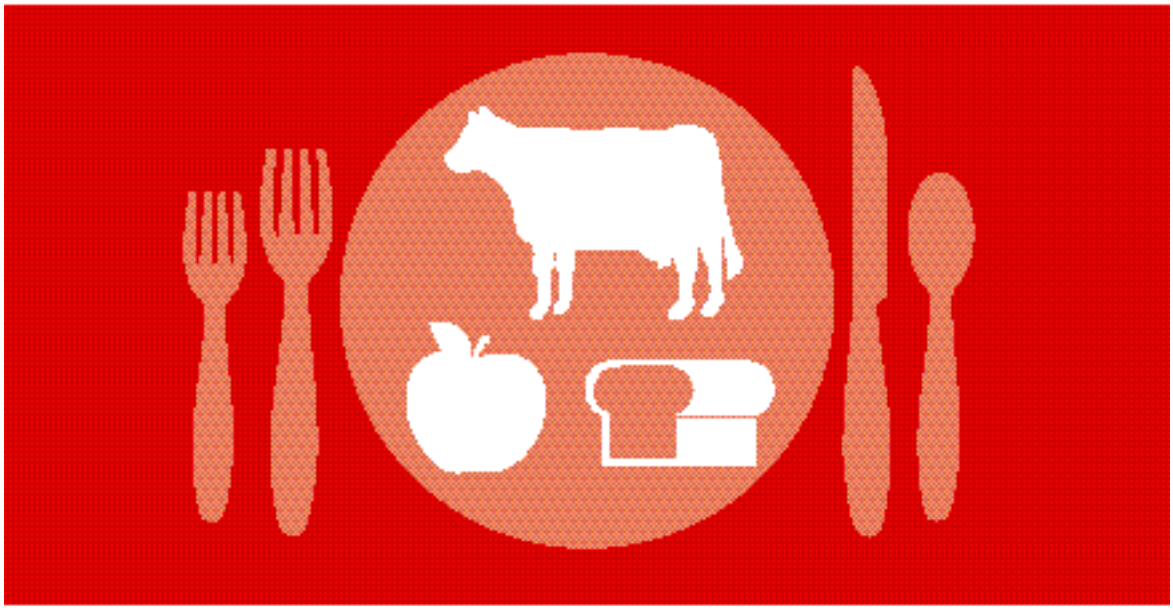

Illinois Food Safety Task Force

January 1999

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ACKNOWLEDGMENTS

This final report summarizing the deliberations and recommendations of the Illinois Food Safety Task Force has been developed under the leadership of task force members and directors Becky Doyle, Department of Agriculture and John R. Lumpkin, M.D., M.P.H., Department of Public Health.

The Illinois Food Safety Task Force thanks Jim Fraley of the Illinois Farm Bureau for generously providing space for meetings of the work groups. In addition, the expertise in food safety issues provided by special participants, visitors, or speakers to work groups and meetings of the Illinois Food Safety Task Force by Brian Barkley, Party Time Inc.; Dave Barowsky, Dominick's Finer Foods; Joe Delaney, Prairie Farms Dairy Co.; Jim Hankes, Thrushwood Farms; Deborah Larson, Illinois State Board of Education; Lowell Lenschow, Illinois Specialty Growers Association; Mike Roman, Kraft General Foods; Al Smith, Al Smith & Associates Engineering; Robert Stelletello, Greater Chicago Food Depository; Theresa Stretch and Drs. Constance Bussard and Jan Endres, Council on Food and Agricultural Research, substantially strengthened the recommendations included in this report.

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Executive Summary

Adequate, nutritious and safe food is essential to the health and survival of people everywhere, but food also can cause serious risks for consumers. Foodborne illnesses are a significant problem affecting the public's health. The scope of this problem is difficult to define because it is estimated that less than 5 percent of foodborne illnesses are ever reported. Experts believe as many as 81 million cases of food-related illness may occur each year in the United States. Of primary concern to the public health community are the 9,100 annual deaths resulting from foodborne illness and the serious health consequences, such as chronic diarrhea, reactive arthritis, congenital malformations, miscarriages and hemolytic uremic syndrome. In addition to the human suffering resulting from foodborne illnesses, the estimated economic impact ranges from $6.6 billion to $37.1 billion annually in medical costs and lost productivity.

While outbreaks involving the highly publicized *Escherichia coli* O157:H7 in hamburger patties in 1993 remind consumers that, under certain circumstances, familiar foods can lead to serious consequences, most persons are not aware that foodborne illness is associated with a wide array of foods. Hot dogs, fermented sausage, cooked rice, raspberries, alfalfa sprouts, tomatoes and toasted cereal are just a few of the foods recently implicated in foodborne outbreaks. Everyone in the food distribution system–from producer to processor to transporter to preparer to consumer–has a significant role to play in the safety of the food supply. Consumer confidence, both actual and perceived, in the safety of the final food product depends in large degree on knowledge.

To address these concerns, Governor Jim Edgar charged the departments of Agriculture and Public Health to convene a task force to analyze food safety issues likely to confront Illinois in the 21st century and to recommend actions to resolve any identified concerns. The task force was instructed to consider, at a minimum, issues related to the food safety chain (extending from production to consumption), to analyze strengths and weaknesses in the Illinois food safety system, to identify barriers to safe food, to develop food safety solutions to problems, and to report findings and recommendations to the directors of the departments of Agriculture and Public Health, the governor and members of the General Assembly.

The Illinois Food Safety Task Force was chaired by Becky Doyle, the state's agriculture director and John R. Lumpkin, M.D., M.P.H., the state's public health director. The group's members represented academia; the legal profession; meat and other food processors; restaurants and food retailers; the commodities industry (beef, pork, eggs and dairy, and food ingredients); local health departments; and the public (see Appendix A). The task force met five times between December 2, 1997, and October 2, 1998, to address its mission.

Purpose and Scope of the Task Force

Representatives from all segments of the food chain, "from farm to table," were invited to participate in the Illinois Food Safety Task Force to devise strategies for addressing the food

safety problems identified through the group's work. The full task force met for the first time on December 2, 1997, and over a 10-month period utilized three work groups to address specific food safety concerns.

Illinois Food Safety Task Force Work Groups

- On the Farm
- Processing and Transportation
- Retail and Home

Task force members were asked by the co-chairs to consider the following charges when making their deliberations:

- Review the food safety chain from "farm to table," e.g., food production, transportation, processing, sales and service, and consumption.

- Identify the problems and barriers to safer food in Illinois, addressing such issues as

Effectiveness and efficiency	Adequacy of resources
Communication	Regulatory structure
Duplication of services	Education and training requirements
Statutory authority	Federal or national food safety guidelines

- Analyze the strengths and weaknesses of the current Illinois food safety system.

- Define problems identified, develop creative solutions and make food safety recommendations to the directors of the departments of Agriculture and Public Health.

Task Force Recommendations

After months of analysis and deliberation, the members of the Illinois Food Safety Task Force developed the following recommendations for presentation to the directors of Agriculture and Public Health. A full discussion of each recommendation and the proposed actions associated with it is contained in this report. It is the intent of the task force that these recommendations will provide guidance to the departments as they seek to address the issues identified in this report.

1. Broaden coordination and cooperation between the Illinois departments of Agriculture and Public Health and respective federal and local counterparts so that food safety programs are consistent and uniform.

2. Develop a mechanism to ensure that regulated industries, government agencies and the general public have a formal venue to advise the departments of Agriculture and Public Health on issues of mutual concern relating to Illinois' food supply.

3. Perform a comprehensive review of Agriculture and Public Health food safety laws and regulations to identify and reduce gaps in the system and any overlap or duplication of services.

4. Ensure that all retail level food establishments, including farm markets, food establishments in counties with no local health departments and all temporary and seasonal events in the state, are inspected under a risk-based prioritization system.

5. Develop uniform compliance tools for inspection and enforcement activities associated with retail level food establishments.

6. Increase the role of the state of Illinois in ensuring food safety and providing adequate funding for programs, services and regulations that are implemented.

7. Recruit and maintain adequate numbers of trained food safety inspectors.

8. Enhance the food safety education of Illinois residents by targeting specific populations such as farmers, processors, transportation industry staff, consumers, food service and retail employees, schoolchildren, the elderly, pregnant women and regulators.

9. Charge the University of Illinois, the Illinois Department of Public Health and the Illinois Department of Agriculture with continued vigorous fundamental and applied research efforts into the use of antibiotics in food producing animals and the resistance of bacteria to antibiotics.

10. Promote research on new techniques and application of existing technologies to reduce or eliminate pathogenic microorganisms in the food supply throughout the food production and distribution system.

11. Develop organic food standards in uniformity with proposed federal standards when they are finalized.

12. Evaluate the outcomes of those Illinois Food Safety Task Force recommendations implemented by the state regulatory agencies.

13. Improve the foodborne illness surveillance system in Illinois.

Conclusion

The intent of the Illinois Food Safety Task Force was to survey all facets of the existing system and to recommend specific actions to improve food safety within the state. Several common themes emerged during meetings of the task force and work groups. These included coordination of efforts with federal, state and local counterparts; identification of gaps in inspections, education, training and research; regulatory uniformity; the need for qualified and trained industry personnel, regulators and

consumers; and the establishment of a science-based system that incorporates risk assessment and cost-benefit analysis into operations.

Deliberations of the task force resulted in short- and long-range strategies to improve the food safety system. The recommendations and related action items developed by Illinois Food Safety Task Force members are detailed in this report. The materials contained within this report are intended to assist the Illinois departments of Agriculture and Public Health in carrying out their charges. The departments will provide the Illinois Food Safety Task Force a status report on progress made toward implementation of recommendations within 12 to 18 months of receipt of this report.

Final Report and Recommendations of the Illinois Food Safety Task Force

Foodborne Illness: A Public Health Problem

Adequate, nutritious, safe food is necessary for human survival, but food also can pose serious risks to health. Although estimates vary widely, there is agreement that foodborne illness is a significant public health problem. Every year in the United States, foodborne infections cause millions of illnesses and thousands of deaths; most infections are undiagnosed and unreported. It has been estimated that as many as 81 million cases of foodborne disease occur annually (Archer and Kvenberg, 1985) in the United States. According to the U.S. Department of Agriculture's Economic Research Service, the cost of medical care and lost productivity due to acute disease is estimated between $6.6 billion and $37.1 billion. This includes factors such as the cost of medical care and the costs to industry resulting from lost productivity, product recalls and destruction of contaminated foods.

The U.S. Food and Drug Administration estimates that 9,000 needless deaths occur every year (Council for Agricultural Science and Technology, 1994) as a result of people becoming ill from microorganisms in food. In addition to deaths, public health professionals are concerned about the serious consequences of foodborne illness such as chronic diarrhea, reactive arthritis, miscarriages, congenital malformations and hemolytic uremic syndrome. In addition to microbial contaminants, chemical and physical hazards may be associated with food. Chemicals such as cleaning compounds and pesticides may injure or poison consumers, while physical contaminants such as metal slivers, pebbles or glass may cause injury.

In Illinois, between 1988 and 1991, there were 37 to 43 foodborne illness outbreaks annually, and as many as 47 during 1995. Etiologic agents identified in Illinois outbreaks between 1993 and 1997 were primarily viral and bacterial (90 %). Laboratory testing confirmed the pathogen in 34 percent of cases, 50 percent were suspected but not confirmed and 16 percent were unknown. Restaurants, cafeterias and delis accounted for 57 percent of the sites related to reported outbreak cases. During fiscal year 1998, Illinois local health departments investigated almost 1,200 foodborne illness complaints.

While the causes and effects of foodborne diseases are better understood today, emerging risks need to be monitored for several reasons. First, the food supply of the nation is changing dramatically. The conditions under which food animals are raised have changed greatly. According to the U.S. Centers for Disease Control and Prevention, the United States now imports more than 30 billion tons of food; these imported food items are an increasing proportion of consumers' diets and often come from developing countries where food processing technologies are less advanced. Food processing technologies are also constantly evolving. The centralization of the food industry means that a single contaminated product may appear in many different foods and many different

forms, and infect a considerable number of people before it is identified.

Second, consumers are also changing; there are increasing numbers of elderly and immuno-suppressed persons who are at higher risk of severe illness; consumers spend less time cooking than ever before, and may have received less instruction on food handling at home or school.

Finally, new and emerging foodborne pathogens that cause diseases unrecognized 50 years ago have been identified. Increasingly, large foodborne illness outbreaks are being traced to a large variety of foods not previously associated with illness–fresh shell eggs, fresh produce and dry cereal. Widespread media attention, a better informed and knowledgeable public, in addition to better investigation technologies, are now focusing more attention on foodborne illness. Public health approaches are effective, in many cases, in identifying the source and eliminating the spread of foodborne illness. However, foodborne illness can be substantially reduced with increased awareness of food safety in all areas – handling, processing and distribution.

The Current Illinois Food Safety System

An adequate and effective food safety program relies on scientific research, risk reduction and the mobilization of all stakeholders involved in the process. Regulatory efforts must be built on solid scientific rationale with strong functional and organizational linkages between monitoring, surveillance, regulation and enforcement. Additionally, knowledgeable industry representatives and consumers play an essential role in the food safety chain.

More than 90 Illinois local health departments and 135 municipalities provide preventive food safety functions at the community level through inspections of restaurants, schools, caterers and food stores for adherence to food safety requirements. They promote safe food handling behaviors through educational efforts with schoolchildren, the general public and the retail food industry. Public health agencies, both state and local, investigate complaints, monitor developments that emerge as potential threats to food safety for the population of Illinois and investigate foodborne illness outbreaks and recalls to identify the source and thereby prevent the spread of illness and injury.

The Illinois Department of Agriculture (IDA) exercises its food safety authority through preventing and eradicating animal disease, monitoring livestock slaughter, and inspecting meat and poultry wholesale processing and brokerage operations. IDA also regulates refrigerated warehouses, oversees egg grading and quality, verifies accuracy of weights and measures, and analyzes livestock feed for nutritive characteristics.

The Illinois Department of Public Health (IDPH) has responsibility for inspecting food processing plants and warehouses for all the remaining non-meat and poultry products, defining rules for operating retail level food establishments, providing training and standardization of local health department food inspections, and reviewing local food safety programs for compliance with state standards. IDPH also certifies food service sanitation managers, instructors of training courses and their sponsors. The Illinois Department of Public Health licenses food salvage operations, certifies shellfish shipping firms and inspects or investigates complaints in restaurants and food stores in areas not covered by a local health department. The Department monitors the state's milk supply for pathogens, filth, antibiotics and pesticides through licensing, inspections, product sampling and laboratory analysis.

Illinois formed the Interagency Food Safety Task Force in 1993, with participation from both the departments of Agriculture and Public Health, in response to a foodborne illness outbreak in the western United States associated with the *Escherichia coli (E. coli)* O157:H7 pathogen. Because contaminated beef, coupled with inadequate cooking procedures at the restaurant level, was implicated in the outbreak, IDA and IDPH developed a coordinated surveillance project aimed at ground beef processors at the wholesale and retail levels to determine whether beef contaminated with *E. coli* O157:H7 was a problem in Illinois.

The statewide coordinated sampling and analysis project showed no product contamination in

Illinois. Although confidence in the safety of the state's ground beef supply was increased, the results of the project prompted implementation of additional safeguards including an educational campaign for consumers and local health department inspectors regarding proper cooking techniques. Based on new guidelines established by the federal Food and Drug Administration's *Food Code*, an administrative rule change was introduced to increase cooking requirements for restaurants and retail food stores. This cooperative effort by the two departments to address food safety concerns was formalized into the Interagency Food Safety Task Force, which subsequently became a routine forum for information sharing and resolution of other food safety issues.

The evolution of this interagency group paralleled efforts at the federal level to address food safety concerns. President Bill Clinton submitted a 1998 budget request of $43.2 million to fund a nationwide early warning system for foodborne illness, to increase seafood safety inspections and to expand food safety research, training and education. The President also directed three Cabinet members from Agriculture, Health and Human Services, and the Environmental Protection Agency to identify specific steps to improve the safety of the U.S. food supply and to develop a report on food safety based on consultations with consumers, producers, industry representatives, states, universities and the public. The completed report, *Food Safety From Farm to Table, A National Food Safety Initiative: A Report to the President - May 1997,* outlines a comprehensive new strategy to improve the safety of the nation's food supply.

As the Interagency Food Safety Task Force began to identify jurisdictional problems between the departments of Agriculture and Public Health, it became clear that a more comprehensive review of food safety in Illinois was necessary. Directors Becky Doyle (Agriculture) and John R. Lumpkin, M.D., M.P.H., (Public Health), approached the Governor's Office with the concept of an Illinois Food Safety Task Force comprising a broad network of stakeholders at the state and local levels to engage in innovative problem solving.

The task force members would be charged with addressing Illinois' food safety needs and the concerns of consumers throughout the food safety system in the state; the interaction between federal, state and local governments and other state systems; how regulatory programs could be most effective with the least negative impact on the food industry; how new technologies could result in improved food safety systems; and the impact of emerging pathogens. The two directors issued invitations to 27 persons to become members of the Illinois Food Safety Task Force and convened the first meeting on December 2, 1997.

Successes of the Current System

Members of the Illinois Food Safety Task Force were asked to consider issues pertaining to the current food safety system, as well as to address the needs of the system in the future. The charges to the task force are detailed in Figure 1 at right.

During the initial meetings of the Illinois Food Safety Task Force, members decided to develop three work groups to assist with the analysis and review of specific food safety concerns in the areas of

- On the farm
- Processing and transportation
- Retail and Home

During the review of Illinois' current food safety system, task force work group members were asked to identify areas in which the Illinois food safety system is operating successfully. After surveying constituents, members identified the following areas that satisfactorily address various components of the food safety system:

- Overall, a good relationship exists between members of the agricultural community, the food marketing industry and their related state regulatory agencies.

Charges to the Illinois Food Safety Task Force

The task force members were asked to consider the following charges when making their deliberations:

- Review the food safety chain from "farm to table," e.g., food production, transportation, processing, sales and service, and consumption.
- Identify the problems and barriers to safer food in Illinois, addressing such issues as

  Effectiveness and efficiency
  Adequacy of resources
  Communication
  Regulatory structure
  Duplication of services
  Education and training requirements
  Statutory authority
  Federal or national food safety guidelines

- Analyze the strengths and weaknesses of the current Illinois food safety system.
- Define problems identified, develop creative solutions and make food safety recommendations to the directors of the departments of Agriculture and Public Health.

Figure 1

- State programs adequately represent the interests of small operators.
- Information regarding new science-based practices and research advances effective in providing food safety is made readily available to the industry and constituents.
- There is good communication between state public health officials and local health authorities.

- State regulators provide strong regulatory oversight, using "common sense" approaches to both meat and food inspections. This common sense approach ensures that risks and benefits are considered in the decision-making process.

- Ad hoc committees comprising people from different backgrounds have been effective in advising regulatory agencies on various food safety issues.

- Sharing lessons learned, as with *Salmonella* outbreaks in the dairy industry, has proved an effective mechanism for improving the Illinois food safety system.

- Illinois has an established network of government, industry and consumer groups that provide food safety education.

- Research centers and state-of-the-art technology are available to ensure prevention and control of foodborne diseases.

- State regulators have an awareness and understanding of the problems confronting the agricultural and food marketing industry and are provided with clear responsibilities for action.

- There is growing consumer concern about the existence of pathogens in the food supply.

- The vast majority of food produced, processed, transported, sold or served, and consumed in Illinois is safe from foodborne illness.

Challenges and Areas for Improvement

Members of the three Illinois Food Safety Task Force work groups also analyzed the state's current food safety system to identify challenges and areas where improvements are needed. The task force sought to address many areas through the subsequent development of recommendations and associated proposed action items.

- Additional monetary resources are necessary at the state and local levels for regulatory activities and to provide educational opportunities addressing food safety issues for regulators, industry personnel and consumers.

- Basic and applied research into microbes that cause foodborne disease and into the mechanisms by which they contaminate our foods and cause outbreaks, as well as into emerging pathogens is necessary. Better understanding of foodborne pathogens creates the foundation for new approaches to disease prevention and control.

- Food safety regulations are not uniformly applied or enforced throughout the system. The present legal framework of inconsistent statutes and regulation and the implementing authority are sometimes fragmented or involve duplication of efforts.

- The knowledge, skills and competencies of Illinois food inspectors are inconsistent. There is a lack of qualified personnel in the retail food industry and also in the related regulatory agencies. Hiring and maintaining qualified personnel with appropriate technical expertise is critical to an effective food safety system.

- The hazard analysis critical control point (HACCP) system is widely accepted by the scientific community as the best known approach to enhancing the safety of foods. If HACCP systems are fully implemented, the effectiveness of the food safety system can be enhanced significantly, but absolute safety of potentially hazardous foods cannot be assured. Unfortunately, adequate resources have not been provided to enable comprehensive implementation of HACCP-based systems.

- Collaborative testing programs and data sharing between regulatory agencies and the agricultural and food marketing system are currently available on a limited basis only.

- Jurisdictional boundaries and interpretation of statutes and regulations are vague for intra- and interstate transportation of food products.

- Rapid scientific response and long-term research into microbial testing are needed to adequately address food safety issues. Up-to-date and appropriate microbial guidelines for the Illinois food safety system are necessary.

- Illinois lacks a comprehensive and effective foodborne illness surveillance system. Strong surveillance and technical support provide an infrastructure to set priorities for research, education and response. Monitoring foodborne disease can allow early and rapid detection of hazards and illnesses.

- Increasing numbers of persons are immuno-suppressed due to age, illness, or medical treatment. These persons are highly susceptible to illness and death from microbial pathogens in the food supply, and therefore require additional information regarding food safety.

- Consumer food handling practices are critical to preventing the occurrence and spread of foodborne illness. Yet many Illinois consumers lack an understanding of or fail to follow recommended food safety practices.

- Illinois lacks a centralized clearinghouse for food safety education materials that is available to persons involved with all aspects of food, from producers to consumers.

Recommendations and Proposed Actions

Task force discussions led to the endorsement of an overriding general recommendation centering on the importance of collaboration and partnership among members of the general public, food production and distribution industries, academia and governmental agencies to achieve a safe food supply. Such cooperation is integral if the remaining issues are to be addressed successfully.

Food safety is the responsibility of numerous and diverse stakeholders, and partnerships provide the links necessary to build a coordinated and cohesive framework for action. Partnerships can improve efficiency and provide a mechanism for the exchange of information and data. With partnerships come the interaction and communication necessary to promote cooperation and collaboration between government regulatory agencies and industry. Partnering among stakeholders also can serve to integrate regulated activities with important non-regulatory components such as education and training activities.

Figure 2, adapted from the Institute of Medicine's 1998 report on food safety, depicts the attributes of an effective food safety system. Although each of the stakeholders has independent functions and priorities, each must implement many actions through strong relationships with its partners.

The recommendations developed by the Illinois Food Safety Task Force support the concept of partnership described above. The group's 13 specific recommendations include proposed action items that are intended to provide guidance to the departments of Agriculture and Public Health in successfully addressing the issues identified in this report.

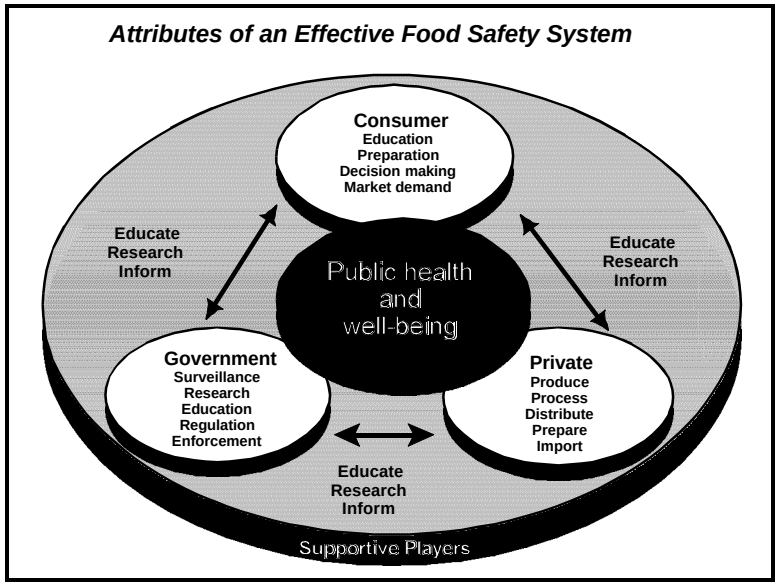

Figure 2. Partners in an effective food safety system include government, private industry and consumers. Supportive players, critical to the system, include academia, media and special interest organizations, among others.

Source: Adapted from Institute of Medicine, *Ensuring Safe Food: From Production to Consumption*, 1998.

Recommendation I

Broaden coordination and cooperation between the Illinois departments of Agriculture and Public Health, and respective federal and local counterparts so that food safety programs are consistent and uniform.

In the public sector, state government is in the best position to influence how other components of Illinois' food safety system work together. Partnerships between regulatory agencies can establish a framework to ensure that regulation and enforcement are effective and consistent, and that resources are adequate and appropriately allocated throughout the system.

Proposed actions

- *IDA and IDPH should strengthen linkages with federal and local counterparts to address food safety issues.*

- *The Interagency Food Safety Task Force, which preceded the Illinois Food Safety Task Force and comprised staff from the departments of Agriculture and Public Health, should be reconvened to continue working on issues that cross jurisdictional lines and to promote cooperation, communication and information sharing.*

Recommendation II

Develop a mechanism to ensure that regulated industries, government agencies and the general public have a formal venue to advise the departments of Agriculture and Public Health on issues of mutual concern relating to Illinois' food supply.

Responsibility for food safety relies on partners working together in an effective food safety system. These partners include persons from every aspect of food production to distribution to consumption, including producers and importers, processors, marketers (retail and wholesale), trade organizations, academia, consumers and regulators. Allowing partners a forum for sharing information and raising concerns has been recognized as an effective tool for raising awareness about regulatory developments and for developing and maintaining procedures for the industry.

Proposed actions

- *An ad hoc food safety committee that includes stakeholders from the regulated industries, consuming public and government agencies should be created to advise the departments of Agriculture and Public Health on food safety issues of mutual concern.*

Recommendation III

Perform a comprehensive review of Agriculture and Public Health food safety laws and regulations to identify and reduce overlap or duplication of services and gaps in the system.

One of the mechanisms for the prevention of foodborne illness is the regulatory system. Regulation is both a preventive and a protective measure. A prerequisite for regulation must be the assurance of adequate, consistent and effective enforcement, but all too often, food statutes are inconsistent or uneven, and unclear jurisdictional boundaries may cause duplication of effort or even gaps in the system.

Proposed actions

- *A comprehensive review of food safety laws and regulations under which the departments of Agriculture and Public Health operate should be performed by the agencies' legal sections. The focus of this review should be to clarify jurisdictional responsibilities, to identify ambiguous language and to resolve issues relating to duplication of or gaps in services. Reducing overlap or duplication of services may be achieved by defining jurisdictional areas prior to inspections and, when possible, scheduling joint inspections. The following points, identified by task force members, address specific regulatory areas that require consideration:*

  - *Create statutory authority for the Illinois Department of Public Health to license or register all food processing plants and warehouses. To ensure that food products have been inspected and meet minimum sanitary standards, including good manufacturing practices, all wholesale foods processed in Illinois should come from a licensed or registered facility. To minimize duplication, licensure or registration should be coordinated between the U.S. Food and Drug Administration (FDA) and the state's regulatory agency.*

  - *Although the use of state general fund resources is the best alternative for funding food safety programs that benefit the general public, in the event that such funds are not available, IDPH should establish a special fund for deposit of licensing or registration fees generated by such programs.*

  - *Create statutory authority for the Department of Agriculture to quarantine animals for reasons other than disease such as, but not limited to, radiological or other contaminants.*

- *In certain instances, there is a need to recall food products to protect the health of the public. The success of product recalls however, is dependent on the cooperation of the food industry. Generally, there is good cooperation from the food industry for product recalls, but to address instances where timely response is needed and voluntary cooperation is not achieved, IDPH should explore the use of product recall, in addition to embargo authority or court injunction, as a mechanism for removing contaminated or adulterated foods from distribution channels.*

- *Require that legislative initiatives or rule changes addressing farm issues be developed as part of an integrated system that allows synchronization of pre-harvest and post-harvest efforts.*

- *Promote the development and implementation of pre-HACCP systems and good agricultural practices (GAP) based protocols to enhance pre-harvest food safety. IDA and IDPH should promote the development of pre-harvest HACCP/GAP protocols to promote food safety in conjunction with the ad hoc food safety committee.*

- *Examine food transportation issues to ensure maximum food safety at all points during transport and delivery. If necessary, identify and develop any needed legislation or regulations.*

- *Address the special concerns of facilities regulated by multiple authorities having jurisdiction. Responsibilities of the appropriate state and local agencies should be defined through the use of memoranda of understanding or policy development.*

- *The Illinois Food Safety Task Force, in a coordinated effort with the departments of Agriculture and Public Health and other stakeholders, should support the Council on Food and Agricultural Research (C-FAR) call for continued research and educational outreach efforts in food safety.*

- *IDPH should adopt all parts of the* ***Code of Federal Regulations*** *related to food.*

Recommendation IV

Ensure that all retail level food establishments, including farmers markets, food establishments within counties with no local health departments, and all temporary and seasonal events in the state, are inspected under a risk-based prioritization system.

Some areas of the state lack a local health department charged with providing preventive food safety functions at the community level. This, coupled with a lack of uniformity among local health departments in carrying out their responsibilities, subjects the public to potential threats from foodborne illness and injury.

Proposed actions

- *The Illinois Department of Public Health should propose and adopt a uniform, retail food code based on the U.S. FDA's* ***food code****.*

- *Food safety programs in areas not administered by certified local health departments should be required to comply with food program standards that are, at minimum, equivalent to those prescribed by the* ***Local Health Protection Grant Rules*** *(77 Ill. Adm. Code 615).*

- *Develop criteria for approved sources for non-amenable protein foods–such as fish, turtles, frogs legs, game animals, etc.--not currently regulated under the* ***Meat and Poultry Inspection Act*** *[225 ILCS 650/1 et seq.].*

- *IDPH and IDA should review and revise as necessary existing guidelines for the donation of food and develop specific food safety recommendations for organizations that distribute donated foods for the needy. Representatives from not-for-profit organizations regularly involved in food donation efforts should be consulted during the review process.*

- *IDPH and IDA should develop guidelines for inspection of farmers markets and road side sales of "home-made" food items, as well as church and community suppers, festivals, fairs, etc. Safe food handling practice training should be made available to all charitable and not-for-profit organizations participating in non-inspected food activities. Optimally, education and training should be provided on-site or at a central location.*

Recommendation V

Develop uniform compliance tools for inspection and enforcement activities associated with retail level food establishments.

In Illinois, 91 certified local health departments and 135 municipalities provide food safety oversight for retail level food establishments. These regulatory authorities often use different

methods and standards; many operate within different cultures that affect their regulatory stance. To ensure an effective food safety system at the retail level, it is critical that the application and interpretation of statutes and regulations be uniform.

Proposed actions

- *IDPH should convene a committee of stakeholders and other interested parties to participate in a series of statewide meetings to discuss the adoption of the U.S. FDA's food code. The committee should be charged with, among other issues, determining a format and scoring system for a retail food establishment inspection report.*

- *Create a uniform food safety survey form (inspection report form) for food service facilities and retail food stores, for use by inspectors, that reflects an emphasis on HACCP principles.*

- *Incorporate a minimum, statewide enforcement and compliance procedure for adoption, along with the state code, by all local health departments. Because local autonomy (home rule) is an issue, consideration should be given to whether a common enforcement and compliance procedure for retail food regulations is of benefit to the entire state.*

Recommendation VI

Increase the role of the state of Illinois in ensuring food safety and in providing adequate funding for programs, services and regulations that are implemented.

The immense and sometimes seemingly overwhelming responsibility of an effective food safety system for Illinois is linked with the need for adequate human and financial resources. If state food safety programs are to prevent, identify, track, control and respond to food-related illness and reduce risks of future outbreaks or hazards, they will require commensurate funding. Insufficient funding can diminish the ability of the state's regulatory agencies to carry out their responsibilities, thereby placing Illinois residents in danger.

Proposed actions

- *The departments of Agriculture and Public Health should continue operating in the roles currently assigned to each agency, with provision of adequate support for those activities.*

- *IDA and IDPH should analyze current fiscal resources to ensure adequate staffing and efficient delivery of food safety services. Additionally, attention should be given to the*

recommendations contained in this report to assure that necessary resources, including equipment, laboratory support and training, are available to implement the assigned action items.

- *The Illinois Food Safety Task Force recommends that the appropriations of the Illinois departments of Agriculture and Public Health be carefully reviewed to assure that they are adequate to meet all current and future fiscal needs related to ensuring a safe food supply for Illinois' citizens.*

Recommendation VII

Recruit and maintain adequate numbers of trained food safety inspectors.

An effective food safety system must have sufficient numbers of trained personnel to carry out its regulatory functions. The Illinois Food Safety Task Force identified the need for both state agencies to encourage and fund training and development of their current employees and to initiate plans for the recruitment and retention of new high-quality staff with the skills and knowledge to respond to the ever changing system.

Proposed actions

- *IDA and IDPH are urged to work closely with the Illinois Department of Central Management Services to review and upgrade the current job series in which all food safety personnel are employed, so that standards, along with training, wages and promotional opportunities, are comparable with those of other professionals in the field.*

- *The departments of Agriculture and Public Health are encouraged to recruit entry-level food safety staff from the pool of students graduating from Illinois colleges and universities with baccalaureate degrees in science .*

- *Both agencies should consider equivalency of work experience for academic preparation in regulatory hiring.*

- *The Illinois General Assembly is urged to increase funding to the departments of Public Health and Agriculture to ensure the hiring and training of qualified staff to address Illinois' food safety needs.*

Recommendation VIII

Enhance the food safety education of Illinois residents by targeting specific populations such as farmers, processors, transportation industry staff, consumers, food service and retail employees, schoolchildren, the elderly, pregnant women and regulators.

Lack of knowledge of safe food preparation and handling practices can contribute to the risk of foodborne illness. With the approach of the 21st century, there is growing acknowledgment that traditional rules regarding safe food handling techniques are outdated with respect to some new hazards, such as the risks of eating raw or under-cooked eggs or a rare hamburger. Additionally, Illinois' population is changing. Increasing numbers of people have immune systems that are compromised because of age, illness or medical treatment. Therefore, public awareness of food risks and knowledge about recommended food safety practices should be enhanced. This can be achieved by conducting research into factors that motivate people to follow good food safety practices and by developing effective educational campaigns that build on those motivators.

Proposed actions

- *The Interagency Food Safety Task Force and the ad hoc food safety committee should be charged with coordinating food safety educational initiatives. Prior to initiating any food safety educational activities, attention should be given to the cost-benefit and cost-effectiveness of those activities. The task force and committee should take advantage of the latest information technology to effectively communicate food safety information.*

- *A variety of methods should be employed by state and local regulatory agencies, as well as food safety stakeholders, to make food safety educational materials available to members of the general public, as well as to industry personnel. These methods may include, but are not limited to, newsletters, establishment of a food safety information hotline, or the use of point-of-purchase awareness campaigns using "bag stuffers," messages on grocery bags, signs and placards. Food safety education can be targeted to vulnerable populations by enlisting the involvement of stakeholders and interested parties such as the American Association of Retired Persons, Illinois Beef Association, Illinois Pork Producers, Illinois Dairy Producers Association, Midwest Egg Producers, Illinois Restaurant Association, Illinois Retail Merchants Association, Illinois Food Retailers Association, Cooperative Extension Service and other state agencies such as the departments of Public Aid and Human Services and the State Board of Education.*

- *IDPH and IDA should establish a centralized clearinghouse for food safety educational materials that is available to persons involved with all aspects of food from producers to consumers.*

- *Food safety education for children should be encouraged by providing educational resources to schools and by promoting inclusion of this material in teacher training.*

- *IDA and IDPH should develop an active educational campaign for consumers that explains the food safety risks of direct marketing of agricultural products (i.e., community supported agriculture).*

Recommendation IX

Charge the University of Illinois, the Illinois Department of Public Health and the Illinois Department of Agriculture with continued vigorous fundamental and applied research efforts into the use of antibiotics in food producing animals and the resistance of bacteria to antibiotics.

The problem of foodborne illness is increasing, in part, because foodborne infections are becoming more serious. Foodborne pathogens are becoming more virulent because they are acquiring resistance to antimicrobial agents and becoming more difficult to treat.

Proposed actions

- *The University of Illinois should continue vigorous fundamental and applied research into the use of antibiotics in food producing animals.*

- *IDA and IDPH, along with the University of Illinois Cooperative Extension Service, should be encouraged to develop and disseminate information, as appropriate, promoting the prudent use of antimicrobials and discussing the role antibiotics have in good animal husbandry practices as a therapeutic regimen rather than a maintenance program.*

Recommendation X

Promote research on new techniques and application of existing technologies to reduce or eliminate pathogenic microorganisms in the food supply throughout the food production and distribution system.

Food safety research is critical to developing the means to identify and characterize more rapidly and accurately foodborne hazards, to provide the tools for regulation and to develop effective and appropriate interventions that can prevent hazards along the route from production to consumption. Research also contributes to improving traditional food safety techniques and to developing new

interventions.

Proposed actions:

- *The state regulatory agencies should support a food safety research agenda that includes efforts in the following areas:*
  - *Methods to eliminate microbial contamination of fresh cut produce, fruits and vegetables;*
  - *Alternative methods to achieve a five-log reduction in microbial contamination of fruit juices;*
  - *Intervention controls and technologies, including irradiation, ozonation, carbon dioxide, etc.; and*
  - *Development of a simple, affordable micro-testing kit for small plant operators, restaurants, food stores and others that, when used, will show early warning indicators for food spoilage and contamination.*
- *Inoculation of animal carcasses with lactic acid bacteria should be considered as a method of reintroducing competitive organisms to combat any pathogens present.*
- *Develop a pilot program focused on enhanced collaborative testing in cooperation with the appropriate industry.*
- *Promote research designed to determine how microorganisms associated with foodborne disease in humans become tolerant to various types of antimicrobials and to traditional food safety safeguards.*
- *IDA and IDPH should establish a forum for collaboration on priorities in food safety research among public and private stakeholders.*
- *State funded research efforts should be coordinated with the Illinois Council on Food and Agricultural Research (C-FAR) Board, industry, academia, the National Center for Food Safety and Technology and other interested research bodies.*
- *The Illinois Food Safety Task Force should support the funding of C-FAR for continued research and education outreach in food safety.*

Recommendation XI

Develop organic food standards in uniformity with proposed federal standards when they are finalized.

Current federal organic food standards do not address all issues of concern from the viewpoint of both consumers and the organic food industry.

Proposed action

- *Review proposed U.S. Department of Agriculture standards prior to developing state standards.*

Recommendation XII

Evaluate the outcomes of those Illinois Food Safety Task Force recommendations implemented by the state regulatory agencies.

Evaluation of the outcomes of recommendations proposed by the Illinois Food Safety Task Force is considered necessary to promote informed decision making in the group's future deliberations.

Proposed actions

- *IDPH and IDA should consider risk assessment and cost-benefit analysis when implementing recommendations proposed in this report.*

- *The two agencies, plus their academic partners, should develop an evaluation component with measurable outcomes for each recommendation contained within this report and accepted for implementation.*

Recommendation XIII

Improve the foodborne illness surveillance system in Illinois.

Surveillance and investigation are powerful tools to detect new foodborne disease challenges, to determine what specific food sources are implicated in foodborne illness and to determine how

food contamination can be prevented. Enhancing the state's capacity for monitoring foodborne disease and for investigating and controlling outbreaks will help to identify foodborne disease challenges at earlier stages and prevent illness and premature deaths related to those outbreaks.

Proposed actions

- *The state of Illinois is strongly encouraged to seek opportunities to participate in the U.S. Centers For Disease Control and Prevention's Foodborne Disease Active Surveillance Network (FoodNet).*

- *Physicians and other providers in the medical care delivery system should be requested to increase the frequency of testing for foodborne pathogens in suspected cases of foodborne illness.*

- *IDA and IDPH, along with food safety stakeholders, should increase efforts to educate consumers about the symptoms of foodborne illness.*

- *Summarize and disseminate epidemiologic and food safety data from Illinois investigations for use by other program areas as necessary.*

- *Expand the use of information technology to connect all stakeholders and to share foodborne illness surveillance data.*

- *IDPH should work in collaboration with the Illinois State Medical Society and other associations representing physicians to increase awareness of the benefits of testing for foodborne pathogens. Medical providers should be trained in foodborne illness investigation.*

Conclusion

The task force deliberations resulted in immediate and long-term plans to improve the food safety system in Illinois. In order to promote a new food safety environment, a wider application of science-based safety strategies is needed along with an understanding that contamination may occur early in the process and have "downstream" consequences. Fundamental and applied research into unresolved questions must be conducted to improve the tools available for public health and food safety activities. Both the departments of Agriculture and Public Health must continue to support their respective missions with broader interagency collaboration and consultation in emergencies, coupled with greater use of epidemiologic data to make regulatory decisions. Outbreak investigations should go beyond simply defining the food vehicle to learning how to prevent the next outbreak through new prevention strategies. It is critical that this information is communicated to the appropriate segment of the food chain.

Education and training can be one of the least costly yet most effective means to protect consumers against foodborne illness. Increasing individual awareness of food safety matters all through the food chain and motivating consumers to adopt simple, yet important sanitation and food handling behaviors can be effective in improving food safety. These educational messages must utilize messages that target a specific audience and are communicated through the use of a wide variety of informational channels. There is a need to expand the current educational efforts of government agencies to include the media, religious and community groups, industry and trade organizations.

The departments of Agriculture and Public Health have been asked to provide a status report on the progress made toward implementation of recommendations contained in this report to the Illinois Food Safety Task Force in 12 to 18 months. Task force members also have been invited to participate on the ad hoc food safety committee, which will work in conjunction with the Interagency Food Safety Task Force.

The future of Illinois' food safety system is replete with complex problems encompassing a wide spectrum of issues – not only foodborne pathogens, chemical toxic agents and physical hazards, but also issues such as nutrition, food quality, labeling and education. The recommendations contained within this report, along with increased collaboration between the departments of Agriculture and Public Health and their stakeholders, lay the foundation for an effective and efficient food safety system, one that is able to manage the risks associated with the changing nature of the food supply, controls food risks and ensures the health of the public.

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Glossary

Centers for Disease Control and Prevention (CDC)
The U.S. Centers for Disease Control and Prevention, based in Atlanta, Georgia, is a federal agency charged with protecting the nation's public health by providing direction in the prevention and control of communicable and other diseases and by responding to public health emergencies.

***Escherichia coli (E. coli)* O157:H7**
A bacterial pathogen that can infect humans and cause severe bloody diarrhea (hemorrhagic colitis) and serious renal disease (hemolytic uremic syndrome).

cost-benefit analysis
An analysis in which a program's cost is compared to its benefits for a period of time, expressed in dollars, as an aid in determining the best investment of resources.

foodborne illness surveillance
Activities that seek to identify cases of illness, to determine their sources and to control sporadic instances or outbreaks where food has been determined to be the principle vehicle or agent. Surveillance monitoring is necessary for evaluating the food safety system, for identifying emerging issues and new trends and for assessing risk in the food chain from farm or sea to table. Monitoring foodborne diseases and related hazards allows early and rapid detection of risks and illnesses. Thorough investigations of the sources and causes of outbreaks can identify crucial weaknesses in the food safety system.

Hazard analysis critical control point (HACCP)
Concepts to enhance food safety are based on hazard identification and process control. This is a science-based program to control or prevent the dissemination of pathogens and other hazards through food. The National Advisory Committee on Microbiological Criteria for Foods has outlined seven steps for the establishment of any HACCP system:

1. Assessment of internal risks
2. Determination of the critical control points (CCP)
3. Determination of the critical limits for each CCP
4. Establishment of procedures to monitor the CCP(s)
5. Establishment of corrective actions when limits of the CCP(s) are exceeded
6. Establishment of procedures to verify that the HACCP plan or system is working
7. Establishment of a system of effective documentation/record keeping

high-risk populations
Segments of the population that have an increased risk of foodborne disease. Many factors influence susceptibility to infection and the severity of the disease including age, the use of immuno-

suppressive drugs and certain disease states. Young children and the elderly are particularly susceptible to foodborne disease. As the population ages, the incidence of cancer and other chronic diseases is likely to increase. These diseases will require the increased use of chemotherapeutic regimens, drugs to deal with rejection of organ transplants and antimicrobial drugs that effect the normal bacterial flora in the intestine. These factors predispose people to the occurrence and seriousness of foodborne disease.

Illinois Council on Food and Agricultural Research (C-FAR)
A statewide coalition supporting the food agricultural systems through the active participation of member organizations that represent environmental, consumer, sustainable, and traditional agriculture organizations. C-FAR, through a state appropriation, promotes a wide spectrum of food and agricultural research needs, particularly through a current strategic research initiative on food safety and functional foods. The research focuses on the improvement of nutrition, food quality, food safety and health of humans, among other topics. C-FAR seeks public participation in planning and evaluating the process and impact of research activities. Working with the Illinois Food Safety Task Force is one way of accomplishing this goal.

pathogen
Any disease-causing agent.

risk assessment
The process of determining the relationship between exposure to a hazard, such as a foodborne pathogen at a specific magnitude, and the likelihood of an adverse event or disease. More generally, it is a system that identifies risks that have the most important consequences for human health and shows where the most progress can be made with available resources. Risk assessment, risk management and risk communication are all components of risk analysis, which identifies resource allocation, determines where public and private efforts should be directed and provides information for cost-benefit analyses. Scientific risk assessment should identify the risks associated with one or more possible actions, or the risk associated with taking no action.

science-based
A system whose elements improve the ability to identify, reduce and manage risks; minimize occurrence of foodborne hazards; gather and utilize information; enhance knowledge; and improve overall food safety. Several examples of science-based actions that have been implemented in the food safety system include–

- low-acid canned food processing technology to reduce the risk of botulism
- implementation of HACCP systems in meat, poultry and fish processing
- use of labeling as a device to inform consumers who are sensitive to potential food allergens of the content of the food product

This science-based system strongly emphasizes the use of scientifically determined data and, although responsive to food safety crises, is designed to stress prevention and detection of emerging pathogens.

Appendix A

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