

The Food Safety Educator

Volume 9, No. 1, 2004

■ Tools for Multi-Taskers

“Making good use of resources is more important today than ever before,” according to Susan Conley, director of food safety education for the Food Safety and Inspection Service, (FSIS).

“Throughout the world, today’s educators are ‘multi-tasking.’ Their time is short, their tasks are many, and money is tight.”

This conclusion is the result of data analyzed from information provided by more than 600 educators at the 2002 national conference: *Thinking Globally—Working Locally: A Conference on Food Safety Education*.

Food safety educators confirmed that their time is short.

- Over 30 percent of educators spend less than 25 percent of their time on food safety education, with the remainder devoted to a variety of other health and education activities.
- About 25 percent devote 25 to 50 percent of their time to food safety education.
- Only 15 percent spend 50 to 75 percent of their time on food safety education.

Educators also made it clear that money is an issue.

- Twenty percent of educators had annual budgets for food safety education of less than \$5,000.

- Approximately 40 percent had budgets over \$25,000.
- Slightly over 10 percent had annual budgets over \$1 million—primarily federal agencies.

Many conference educators said they were compensating for time and money limitations by making good use of partnerships.

Sixty-five percent of educators reported they were members of food safety partnerships. A significant percentage—38 percent—were organized at the state level. “There is no question that partnerships are working and making a difference. They are the one tool we all need,” Conley said.

For information on partnerships, go to: <http://peaches.nal.usda.gov/foodborne/fbindex/Partnerships.asp>

Educators reported their top four goals.

In spite of money and time limitations, food safety educators have a full “to do” list. Their top four goals were:

- training for food service,
- teaching handwashing,
- educating children/using Fight BAC!® messages, and
- educating people about specific pathogens.

Under Secretary of Food Safety Dr. Elsa A. Murano has pledged her commitment to helping food safety

educators throughout the country and supporting them in meeting their goals.

As a result, the FSIS education staff teamed with the USDA/FDA Foodborne Illness Education Information Center to identify key educational programs to help educators reach their goals. This special issue of *The Food Safety Educator* profiles these programs.

In reviewing educational programs, Conley said, “there are wonderful education tools out there. They’re interactive, they’re dynamic, and they make learning fun. As readers will see, there is also room for new work. Educational programs need to change as our audiences change, circumstances change—and as science sheds more light on foodborne illness.”

Help for Educators

To help educators link to resources mentioned in this issue, as well as additional resources, the USDA/FDA Foodborne Illness Education Information Center has developed *The Food Safety Educator’s Companion Web Page* at: <http://www.nal.usda.gov/foodborne/FoodSafetyEducator/Educator2004.htm>

Food Service Food Safety

Training for food service employees was selected as the highest priority goal by the national conference educators.

Over 52 percent of attendees indicated that food service workers were their first or second highest priority target audience. Many educators noted that they needed multi-cultural training programs for entry-level employees.

DEMAND FOR FOOD SERVICE TRAINING GROWS

There are many good reasons why training for the food service industry is a high priority, according to Angie Fraser, associate professor at North Carolina State University.

Fraser has recently launched a new Web site, <http://www.foodsafetysite.com>, specifically targeting educators who work with food service workers in North Carolina.

This site provides educators with activities for training programs, practice tests, fact sheets, and links to other sites.

“Part of the new demand for training,” Fraser noted, “is generated by the fact that more and more states are requiring food service certification—

but not all of them have the resources to provide the training.”

Fraser points out that many restaurants are small, independent operations (also known as mom and pop establishments) and not part of a franchised chain. Chain restaurants are more likely to have access to in-house resources and staff to conduct food safety training. Small independents are less likely to have access to these resources, Fraser said.

As a result, she said, “they need training that is available at the local level. In North Carolina, many coun-

“...today's educators are looking for training that takes education to a new level. Instead of just providing facts on the page—or screen—they are looking for materials that are interactive!”

ties offer this training as a joint effort between environmental health specialists from the local health department and cooperative extension educators. The benefit of training at the local level is that it is less expensive and enables the food service operators to access local resources, such as the county extension center. It also enables them to see their inspector in a different role.”

In addition, Fraser pointed out, today’s educators are looking for training that “takes education to a new level. Instead of just providing facts on the page—or screen—they are looking for materials that are interactive.”

In order for training programs to affect behavior change, educators

need to move away from just pure lecture, according to Fraser. They need to incorporate exercises, activities, and demonstrations into their training programs.

“Program participants need a chance to apply what they are learning so that they feel more confident going back to the work place and making changes,” Fraser said.

MEETING THE NEEDS OF ENTRY-LEVEL EMPLOYEES

While a number of certification and training programs are available for food service managers (<http://www.fstea.org/resources/certify.html>), programs for entry-level employees are more limited.

A good starting point for those looking for training materials is *Taking Care of Business, Resources for Retail and Foodservice Establishments*, <http://www.fstea.org/resources/fsteabrochure.txt>

The publication provides links to some of the major national organizations, which are a valuable source of training materials.

TRAINING MATERIAL HIGHLIGHTS

- **The Food Safety Training and Education Alliance (FSTEA)**, <http://www.fstea.org>: This is a “must-visit” Web site, according to Cindy Roberts of the USDA/FDA Foodborne Illness Education Information Center.

“FSTEA is a key clearinghouse for training materials for food service. The Web site also provides a direct link to the Food and Drug Administration’s *Food Code*, as well as state and local regulations and codes.

“To help in training employees, there are foreign language signs and posters, information on state-approved training programs, and sources of food safety education funding,” Roberts said.



- **The USDA/FDA Foodborne Illness Education Information Center**, <http://www.nal.usda.gov/foodborne>: The Center's database lists hundreds of training tools and educational programs, including a special database for Hazard Analysis and Critical Control Point (HACCP).

Many programs are available through the Center's Web site, or contact information is provided.

One particularly useful tool for multi-cultural audiences, Roberts noted, is the *Handwashing for Life Video* (\$40). "The video crosses language barriers by using imagery and sound. It's very good and very effective," she said.



The Center is also an especially rich resource for foreign language materials, Roberts noted: <http://peaches.nal.usda.gov/foodborne/fbindex/NonEnglishResources.asp>

"You'll find tons in Spanish and a good number in Chinese, Vietnamese, and Russian," she said.

But the Center also has resources in less familiar languages, including Bengali, Hmong, Punjabi, Urdu, and Tagalog.

- **The National Environmental Health Association (NEHA)**,

<http://www.neha.org>: NEHA has resources that are targeted to food handlers, as well as food managers.

A key tool for entry-level employees is *Food Safety First Principles*, a 49-page, full-color book that provides food handlers access to essential knowledge and understanding of fundamental food safety practices that they need to carry out their work safely. The book, which costs \$9.50, is noted as a tool for employees to use in meeting state or local employee training requirements.

NEHA also offers a *Trainer Resource* pack that includes an *Activity Book* with 36 participatory exercises for student groups or individual students, including hazard-spotting exercises, case studies, word searches, quizzes, crosswords, picture matching, and HACCP plan preparation.

Also of interest from NEHA is a special Web page that provides reviews of training materials, noting their pros and cons—and most importantly—their adherence to the FDA *Food Code*.

- **Educational Foundation of the National Restaurant Association (NRA)**, <http://www.nraef.org>: The NRA is the originator of *ServeSafe*[®], a benchmark training program used by educators nationwide. The Education Foundation Web site provides links to training resources for managers as well as food handlers, an online course for manager certification, scholarship and mentoring programs for high school students, and information on state restaurant associations and regulatory requirements.

- **The Food Marketing Institute (FMI)**, <http://fmi.org/foodsafety/>: For employees in supermarkets, FMI offers *SuperSafeMark*[®], a safety and sanitation training program. It is based on supermarket specific-job analysis and is designed for everyone from new hires to managers seeking certification.

- **International Association for**



Food Protection, <http://www.food-protection.org>: This organization has produced *International Food Safety Icons*. These 11 "wordless" icons symbolize a variety of food safety "do's and don'ts."

LEARNING FROM A LOCAL PROGRAM

- **Public Health of Seattle & King County, Washington**, has had requirements for food worker training and certification since the 1950's.

As a result, they have some hands-on Web-based materials. Go to:

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More Training Requirements

A study conducted by the Food Policy Institute at Rutgers University found that 16 states have state-mandated food safety certification requirements for restaurants. Thirty-four states have some kind of voluntary food safety certification program.

To read more, go to: <http://www.foodpolicyinstitute.org/publications.html>

<http://www.metrokc.gov/health/> and click on “Food Safety.”

The site’s resources include:

- *Food Safety Basics for Working Healthy*: This 17-page manual is available online or it can be ordered for \$1.50 a copy. It is available in seven languages: English, Chinese, Russian, Korean, Tagalog, Vietnamese, and Spanish.
- *Food Safety, You Make A Difference*: This package includes two videos (\$25 a piece). Both are available in all seven languages. One 7-minute video illustrates the importance of when to wash hands and the use of gloves, tongs, etc. A second 30-minute video covers food safety basics such as preventing cross-contamination, food temperatures, and sanitizing. They can be ordered or downloaded from the Web site, or e-mail: rona.smart@metrokc.gov.
- *A Mock Inspection*: Available through the Seattle & King County Web site, this page lets restaurants do a “dry run” and see exactly what inspectors will be looking for.

OTHER PROGRAMS OF INTEREST

Cooperative extension and public health are working hard to meet training needs of food handlers, as well as food managers.

- With a focus on “What Inspectors Need You to Know,” some innovative training is available in Kansas through the *Focus on Food Safety Toolkit* developed by the **Kansas Department of Health and Environment**. It is available at: <http://www.kdhe.state.ks.us/fofs>

Free training programs for food service employees are sponsored by the Kansas Department of Health and Environment in partnership with restaurants such as Hanover Pancake House.

- **Oregon’s Department of Environmental Health** has developed an online *Food Safety Training Manual* to help food service employees train themselves and meet state certification requirements.

In addition to English, the *Manual* is available in Spanish, Vietnamese, Chinese, Russian, and Korean. Go to: <http://www.ohtd.hr.state.or.us>

- *Food Safety Works*, produced by **Colorado State University**, is a more traditional program, utilizing a trainer and classroom setting with many interactive training activities. It covers all the basics: personal hygiene, preventing cross-contamination, preparing/serving food safely (including the 2001 FDA *Food Code* temperatures), and cleaning/sanitizing. Training may be conducted in 1 to 3 hours.

Materials are available in English, Spanish, or Chinese.

Leader materials may be downloaded free from the Web site or purchased on CD-ROM or hard copy for \$20.00 each, plus shipping. Participant handbooks may be downloaded from the Web site or purchased ready-made in any quantity desired for \$3.50 each, plus shipping. Materials include a 10-minute video, instructor outline, master activity forms, master participant handbook, two evaluation components, and a sample participant certificate of completion. Go to: <http://www.colostate.edu/orgs/safefood>

- *Food Safety and Sanitation: A Distance Education Course* has been developed by the **University of Connecticut**. The comprehensive course is available for \$95 in English, Spanish, and Vietnamese.

The course comes on a CD-ROM. The user also receives an accompanying interactive Internet component with personal access to instructors and others taking the course. Each lesson also comes with an audio component, which can be turned on or off. Go to:

http://www.team.uconn.edu/foodsafety_course

- *The Food Safety Toolkit*, developed by **Purdue University**, has a focus on HACCP and includes a presentation called “Is There HACCP in the House? Training Your Staff to Get Involved.” The *Toolkit* also offers activities related to handwashing, using food thermometers, sanitation, and HACCP. Go to: <http://www.cfs.purdue.edu/RHIT/foodsafety/>

A GOOD COMMERCIAL PROGRAM

- One very useful tool for multicultural/low-literacy audiences is a wordless video, “Great Food, Safe Food,” produced by Marriott, Inc. The completely wordless program is specifically designed to meet the needs of an international workforce. It teaches the essentials of food safety via an animated video and pictorial workbook. For ordering information, call 703/245-9860.

FOR A “BOOK” IN HAND

For folks who like their information “honed down” to the essentials, check out the 22-page pocket-size guide on the FDA *Food Code*. Produced by the Food Marketing Institute, it is—amazingly—both concise and comprehensive. It’s only \$5. To order, go to: <http://www.fmi.org> or call 202/452-8444.

For more resources, go to *The Food Safety Educator’s Companion* Web Page: <http://www.nal.usda.gov/foodborne/FoodSafetyEducator/Educator2004.htm>

■ Training for School Food Service

A wide variety of food safety education training materials are available for school food service personnel.

USDA's Food and Nutrition Service (FNS) has partnered with the Food Safety and Inspection Service to distribute training materials from the Fight BAC!® campaign, as well as the campaign to increase the use of food thermometers (Thermy™).

The outreach has been significant. For instance, more than 700,000 copies of a laminated pocket card featuring the Fight BAC!® messages have been distributed to schools and child care centers. The card can be used as a training tool and also a daily reminder of basic, safe-food preparation techniques.

Many other training programs have been developed with the specific needs of schools in mind by FNS in conjunction with the National Food Service Management Institute (NFSMI).

NSFMI provides a multitude of resources for school food service/child nutrition professionals. Resources include Web-based teleconferences,



publications, and educational programs, many of which can be used throughout the school community. Go to: <http://www.nfsmi.org> and click on Resource Guide. (Many of the Web resources are available at no charge.)

FNS and NFSMI have developed and distributed several key training resources developed for schools:

- **Food Safety Mini-posters in English and Spanish:** Fourteen food safety posters address handwashing, cross-contamination, temperature danger zone, and other food safety topics. Go to: <http://www.nfsmi.org/Information/postindx.htm>
- **Serving It Safe: 2nd Edition:** First distributed in 1996, this resource has been revised to reflect the 2001 *Food Code*. The program includes a manual, leader guide, and poster. The American School Food Service Association uses *Serving It Safe* for certification and specialized training. Go to: <http://www.nfsmi.org/Information/sisindex.html>
- **Manager's Self-Inspection Tear-off Tablet:** Many managers wonder how to implement HACCP in their own school kitchens. This tear-off tablet includes check points that correspond to HACCP principles. It's designed to be used once a week to identify areas requiring corrective action.
- **HACCP in Recipes:** Critical control points (CCPs) have been

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■ In the Works for School Food Service

The National Food Service Management Institute is currently working on a number of innovative food safety projects.

AVAILABLE IN 2004

- **Handwashing:** NSFMI has teamed with other partners to produce an educational resource kit for child nutrition professionals to use throughout the school community. The teaching package will include a wordless video, activities, and instructional materials. The resource is due to be available in late 2004.
- **Food Safety Standard Operating Procedures:** This Web-based project will allow individuals to generate

customized standard operating procedures (SOPs) for their facility. This tool will assist school food service directors and managers in overcoming documentation challenges and help optimize the way information and technology work together. Examples of food safety SOPs will begin to appear on the NFSMI Web site in late 2004.

- **Serving It Safe: 2nd Edition:** The leader guide and reference manual will be translated into Spanish.
- **Serving It Safe Interactive CD-ROM:** This will support the information included in *Serving It Safe* and will contain creative interactive activities.

AVAILABLE IN 2005

- **Thermometer Information Resource Kit:** The manual will have four chapters: thermometer use and tools of the trade, purchasing thermometers, calibrating thermometers, and documenting temperatures.

Each lesson will be coordinated with a video segment to reinforce key concepts in the lessons. The complete package will include a manual, time and temperature charts, temperature log templates, a video, and a CD-ROM that contains all print material in pdf format.

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added to USDA's *Quantity Recipes for School Food Service* and *A Tool Kit for Healthy School Meals*. These recipes are also currently available on the Internet: http://www.nfsmi.org/Information/recipe_index_alpha.html

• **Instructor Network and Training Materials:** Responding to interest in HACCP, the NFSMI developed training materials on HACCP as well as created a national network of food safety/HACCP instructors. The training materials include an instructor's manual, a CD-ROM with presentations and forms, a video, and participant manuals for food service directors and employees.

Over 300 instructors from 48 states have attended the orientation held at NFSMI. Instructor materials are provided at the orientation; participant materials are available for purchase from NFSMI.

■ Taking Food Safety *Beyond* the School Cafeteria

The Centers for Disease Control and Prevention (CDC), in cooperative with the National Coalition for Food Safe Schools, has developed a new program to teach food safety to the *entire* school community.

The Food Safe Schools Action Guide has educational components for everyone—administrators, teachers, nurses, students, and school food service.

According to David Delozier of CDC, "we saw this as an opportunity to make food safety part of the whole learning environment in schools.

"The *Action Guide* is unique because it demonstrates how everyone in the school community has a role in food safety.

"It is also unique because it gives schools the ability to assess their own problems, and come up with their own solutions."

The Food Safe Schools Action Guide has been pilot tested and been extremely successful, Delozier reports.

"In fact, word-of-mouth interest has been so great, we've generated 'buzz.' People are waiting with bated breath for the program's release. They are geared up and ready to go," he said.



The *Action Guide* will be available in late 2004 through the National Coalition for Food Safe Schools Web site: <http://foodsafeschools.org>

The Web site serves as a one-stop gateway to Internet-based school food safety information and resources. Information is provided for children, parents, educators, school nurses, administrators, local health departments, and school food service staff.

Handwashing

Our mothers always told us “Wash your hands!”

Now, the Centers for Disease Control and Prevention (CDC) and the Soap and Detergent Association (SDA) have joined forces to help us pay more attention to mom’s advice.

According to CDC, the single most important thing we can do to keep from getting sick and spreading illness is to wash our hands.

The problem is—we just don’t do it. According to one study, only 58 percent of girls and 48 percent of boys in middle and high schools wash their hands after using the bathroom.

And of those who *did* wash, only 33 percent of the girls and 8 percent of the boys used soap! What’s a mother, or a school, to do?

There are a lot of reasons why kids in schools don’t wash hands:

- sinks don’t work,
- no soap or paper towels,
- no time in the school day to wash before meals, and
- vandalism in the washrooms.

But, obstacles are there to be overcome—or gone around. The question was, how?

CREATING A PROGRAM

The answer that CDC and SDA came up with was simple in concept—shine a light on the problem and then motivate and reward the students for answers.

To do this, CDC and the SDA developed a program called *It’s a SNAP—School Network for Absenteeism Prevention*.

According to Erica Odom, of CDC, the SNAP program “relies on the creativity of students and staff to prioritize and promote clean hands throughout the school environment. CDC and SDA created a toolkit to provide students and school staff with information on why hand hygiene is important, offer some solutions—and task them to create their own clean hands success stories.”



The SNAP program is now entering its third year—and it’s making an impact throughout the country. Middle schools across the nation have adopted the program, which integrates national standards-based education about handwashing into existing curriculums, including math, science, social studies, and language arts.

According to Nancy Bock with SDA, the SNAP program “is a win-win for the entire school community. It motivates students to create projects that will keep them healthy and in school and learning.”

In the science portion of the curriculum, kids conduct a “germ investigation.” They swab commonly touched surfaces like doorknobs, water fountains, bathroom sinks, cafeteria tables, and classroom materials. Then they use agar plates to cultivate the bacteria.

But that’s just the start. Once they see where the “bugs” are, then they need to figure out how to get rid of them!

A LITTLE “YUCK” GOES A LONG WAY

In 2003, Goodrich Middle School in Lincoln, Nebraska, received the first National Recognition award for its SNAP campaign.

Seventh grade science students at Goodrich became very interested in the SNAP project, especially after they had seen the live cultures of handborne “yuck” they had collected from around the school.

They were motivated to change things and they got people’s attention: “Want to see something gross?”

they asked their classmates and school community.

They developed a school-wide campaign to raise awareness. The students developed vibrant posters in a variety of languages: English, Spanish, Serbo-Croatian, Vietnamese, and Arabic. They didn’t want anyone to miss this message.

They did a presentation on germs and how to get rid of them. They posted “germ facts” on bathroom walls and developed eye-catching bookmarks.

With the support of the school principal, they even put a new hand hygiene station in the cafeteria.

Now, among the seventh graders, nearly 100 percent wash hands, according to school principal Bess Scott.

The SNAP program materials can be downloaded from:
<http://www.itsasnap.org>

Handwashing Resources

For more resources, go to *The Food Safety Educator’s Companion* Web Page: <http://www.nal.usda.gov/foodborne/FoodSafetyEducator/Educator2004.htm>

Or go to:
<http://peaches.nal.usda.gov/foodborne/fbindex/Handwashing.asp>

Numerous handwashing campaigns have been developed and new initiatives utilizing new research are currently being developed. So stay tuned for updates.

Here are some links you’ll find through the Web pages:

- *Clean Hands Campaign*, from the American Society for Microbiology,
- *Hand Hygiene in Retail and Food Service Establishments*, from the Food and Drug Administration.

Just for Kids

For years, experts have agreed that the best way to teach consumers about safe food handling was to start with the kids.

TAKING IT TO THE KIDS

The USDA Food Safety Mobile was launched in 2003 to take food safety education to towns and communities throughout America.

According to Susan Conley, “Traveling with the USDA Food Safety Mobile, we’ve seen first hand what great learners kids can be.

“When we start teaching kids visiting the Mobile, they are generally all hanging back. But as we talk, they keep inching forward. By the time we start quizzing them on what we’ve taught, they are right on top of us, jumping and shouting, holding up their hands!”

In response to the children’s enthusiasm, the staff traveling with the USDA Food Safety Mobile developed an interactive game to play with kids: The USDA Food Safety Mobile Game. A wheel spins and lands on a



question. The kids shout out the answers and win educational prizes.

Another new tool is the *USDA Food Safety Mobile Coloring Book*. “Kids love the USDA Food Safety Mobile,” Conley said. “It’s so colorful and fun. With the book, they can color in the icons depicted on the Mobile: clean, separate, cook, and chill. And while they color, they learn!”

The USDA Food Safety Mobile Game, *Coloring Book*, and other tools for kids are available by going to the Web site: <http://www.fsis.usda.gov/foodsafetymobile/>

At this site, kids can also track the Mobile’s travels and see when it is coming to their community.

EXTENDING OUR REACH

“In addition to using innovative programs, like mobile marketing,” Conley said, “we are also using mass media—including public service announcements (PSAs). We’ve found that they work for us and I’m convinced that they can work for local educators as well.”

FSIS developed a new PSA in 2003 featuring former Miss America Heather Whitestone McCallum talk-

ing about safe food handling with her own children and others in a child care setting.

“It’s a fabulous PSA. It’s perfect for kids as well as their parents. And we are making it available for free to educators throughout the country. In the first 3 months of its release, it was broadcast more than 14,000 times. In fact, in January of 2004, it was in the top 3 percent of all PSAs aired in the country,” Conley said.

Educators can request a copy by e-mailing: fsis.outreach@usda.gov.

KEY PROGRAMS FOR KIDS

One of the advantages of traveling with the USDA Food Safety Mobile is that it has brought federal educators in contact with partners throughout the country.

Educators are sharing how they are using key programs for kids, as well as the new programs they are working on. There is no question that today’s educators are breaking new ground making learning fun *and* integrating food safety lessons with standards of learning.

So, what are some key tools?



PROVEN WINNERS FOR KIDS IN K THROUGH THIRD GRADE

- **Smart Kids Fight BAC!**[®] is an award-winning program developed by the University of Georgia. It comes with a teaching guide, activity book, an animated video, and a story book. The complete package is only \$40. For more information, go to: <http://www.fcs.uga.edu/extension/fightbac.pdf>.

- The Partnership for Food Safety Education has produced **Fight BAC!**[®] **Presenter's Guide**. It comes with a teaching guide and activities for young children. It can be downloaded for free at: http://www.fightbac.org/grades_K_3.cfm

FOR KIDS IN FOURTH THROUGH SIXTH GRADES

- **Teachers Fight BAC!**[®]: **Your Game Plan for Food Safety** was also developed by the Partnership for Food Safety Education. This curriculum package has been enormously popu-

lar. Since its 1999 release, more than 30,000 copies have been distributed.

The kit includes an award-winning video, teacher's activity and experiment guide, color poster, and a game. It can be downloaded from: http://www.fightbac.org/grades_4_8.cfm

FOR MIDDLE AND HIGH SCHOOL CHILDREN

- **Science and Our Food Supply** was developed jointly by the Food and Drug Administration and the National Science Teachers Association. This is another award-winning program that features an action-packed, suspenseful video, curriculum guides for middle and high school teachers, and the comprehensive "Food Safety A to Z Reference Guide." Its content is geared to the national science education standards. It's free to science teachers. Ordering information can be found at: <http://www.foodsafety.gov/~fsg/teach.html>

FOR KIDS AT HOME AND IN AFTER-SCHOOL PROGRAMS

- <http://www.fooddetectives.com> was developed under a cooperative extension grant. It offers games and activities kids can use on their own.
- **Thermy**[™] **For Kids** Web page is part of the FSIS campaign to encourage the use of food thermometers. Thorough cooking is one of the most important safe food handling messages. The Web page includes fun materials, like coloring pages and puzzles. They are available in Spanish, as well as English. Go to: <http://www.fsis.usda.gov/oa/thermy/forkids.htm>

For more resources, go to *The Food Safety Educator's Companion* Web Page: <http://www.nal.usda.gov/foodborne/FoodSafetyEducator/Educator2004.htm>

■ In the Works for Kids

A number of exciting projects for kids are in the works.

Many are being developed under grants from USDA's Cooperative State Research, Education, and Extension Service by educators who have developed some of the key programs already in use. For instance:

- Judy Harrison, from the **University of Georgia**, is finishing a 3-year project to develop computer games for children in kindergarten through third grade. The games are based on the *Smart Kids Fight BAC!*[®] program, which Harrison also developed. The games teach food safety, but also science, math, and language arts.

In testing, Harrison found the games so popular, "we literally had to take the mouse away from them—the

kids just wanted to keep playing!" Estimated release date: Fall 2004.

- Barbara Chamberlin, from **New Mexico State University**, is one of the developers of [fooddetectives.com](http://www.fooddetectives.com). She is partnering with others to develop a *Fight BAC!*[®] *Interactive Project* for fourth and fifth graders.

According to Chamberlin, the program builds on their experiences with [fooddetectives.com](http://www.fooddetectives.com), as well as research concerning *how* children learn.

The program is also being developed with a goal of reaching minority audiences. Materials will be available in Spanish and English, and some materials will be available in Navajo.

Estimated release date: Fall 2004.

- Janet Anderson, from **Utah State University**, is working with the Partnership for Food Safety Education and others to develop computer simulation programs to teach children the *science* underlying the *Fight BAC!*[®] recommendations.

Featuring a character named Alex Montero, the computer simulations will delve deeply into the world of bacteria, via animations.

The program will include classroom activities and group projects. It will be available through the *Fight BAC!*[®] Web site.

Estimated release date: September 2005.

■ Taking Care of Baby

Epidemiologists and educators are focusing new attention on safe food handling and infants.

The Centers for Disease Control and Prevention (CDC) has found that infants and very young children have the highest incidence of foodborne illness. Children under 1 year old have dramatically higher rates of illness from *Salmonella*.

As a result, CDC has initiated case control studies to better understand causes and preventions.

Educators nationwide are also more aware of the importance of safe food handling for babies.

Survey results from more than 200 directors of the Women, Infants, and Children (WIC) program confirmed that they are looking for safe food handling information for their clients.

The survey, conducted by Texas Woman's University, found that the highest priority topics for food safety education were:

- handwashing, noted by 81 percent of respondents;
- infant formula handling, noted by 80 percent of respondents;



- leftover baby food, 68 percent of respondents;
- cross-contamination, 63 percent of respondents; and
- food preparation practices, 57 percent of respondents.

RESOURCES FOR EDUCATORS

The Food and Nutrition Service, which administers the WIC program, has compiled a special Web page that

provides resources that address many of the topics noted by WIC directors.

They can be found through:
<http://www.nal.usda.gov/wicworks>

Click on "Food Safety" under "Topics A to Z," or search the database.

In addition, for educators working with parents, there are a number of useful resources:

- **Food Safety for Moms-to-Be:** This new program developed by the Food and Drug Administration revolves around an information-packed Web site developed specifically for women who are pregnant or considering pregnancy.

It covers how mothers-to-be can avoid foodborne illness that might affect them or their unborn child. And, it is a rich resource concerning safe food handling after the child's birth. Estimated release date: Fall 2004. Go to: <http://www.foodsafety.gov/~dms/fs-toc.html>

- **Food Safety for Families:** Produced by Texas Woman's University, this videotape, in English and Span-

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■ Child Care

The Food and Nutrition Service, which administers the Child and Adult Care Food Programs, has also compiled resources for child care.

These can be accessed on the Web at: <http://www.nal.usda.gov/childcare/Safety/index.html>

Some examples from this site include:

- **Child Care Fight BAC!**[®] poster (in Spanish and English)
- **Keeping Kids Safe, A Guide for Safe Food Handling and Sanitation for Child Care Providers:** Originally developed by the Food Safety and Inspection Service, this 24-page publication covers safe handling of baby bottles, breast milk, and baby food,

as well as special issues, such as safe diapering. It also provides instruction on the basics of safe food handling.

Some key tools from the National Food Service Management Institute, <http://www.nfsmi.org>, include:

- **Safe Food for Healthy Children:** This is a workshop guide for individuals working with young children in group child care settings.

It addresses sanitation and food safety concerns and includes a workshop trainer's guide, two videotapes, and a "sanitation pack" with a chef's thermometer. Cost: \$37.75.

Also of interest: New Mexico State University's Cooperative Extension has developed a unique program

called **Home Child Care Providers' Food Safety Program**. This program targets Spanish-speaking home child care providers. It includes a 33-minute telenovela-style video and a bilingual book. It is designed to be presented in a 1- or 2- hour workshop. It includes information on safe diaper changing and safe handling of bottles and baby food. It can be purchased through <http://www.leadingobject.com> for \$45.

For more resources, go to *The Food Safety Educator's Companion Web Page*: <http://www.nal.usda.gov/foodborne/FoodSafetyEducator/Educator2004.htm>

■ Pathogens

Food safety educators are always looking for the latest information on pathogens.

The Centers for Disease Control and Prevention (CDC) is the best source. Go to: <http://www.cdc.gov/foodsafety>

This Web page provides a wide variety of links with information on pathogens, as well as much more.

Some examples:

- diseases and pathogens,
- environmental hazards,
- foods and high-risk groups,
- environmental hazards,
- outbreak investigations, and
- food safety image library.

■ Pathogens and People

The key safe food handling messages—clean, separate, cook, and chill—have become almost rote messages. We hear them. But what do they really mean? How do these different behaviors relate to illnesses caused by foodborne pathogens? And what lessons might that hold for educators?

Val Hillers, an extension specialist from Washington State University, and a team of others from different universities, decided to tackle that problem.

In a 2003 article in the *Journal of Food Protection* (Vol. 66, No. 10, 2003, Pages 1893-1899), the authors detail additional insights to their pre-

viously published research concerning the relationship between consumer behaviors and foodborne illness.

Hillers and her colleagues utilized a panel of nationally recognized experts to rank the relationship between food handling and consumption behaviors and 13 major foodborne pathogens.

“Their key finding: using a food thermometer to cook foods adequately was ranked of primary importance in preventing illness from significant, and potentially deadly pathogens.”

Food safety education can be a difficult task, according to Hillers. The time available for food safety education is usually limited. Frequently, educators are hampered because people think they already know how to protect themselves from foodborne illness. In addition, to follow all the guidelines from experts, many different behaviors must be mastered.

But which behaviors are the most important? The rankings from the expert panel provide a framework for educators to use in determining the focus of their educational programs.

Their key finding: using a food thermometer to cook foods adequately was ranked of primary importance in preventing illness from significant, and potentially deadly, pathogens: *Salmonella*, *E. coli* O157:H7, and *Toxoplasma gondii*.

Among foodborne pathogens, *Salmonella* is the leading cause of death. *E. coli* O157:H7 can cause devastating illness, especially among young children. *Toxoplasma gondii* can have significant impact on pregnant women, causing spontaneous abortion and birth defects.

The expert panel also ranked using a food thermometer of primary importance in preventing illness from less serious, but widespread, pathogens such as *Campylobacter jejuni* and *Yersinia enterocolitica*.

Avoiding cross-contamination was identified as being of secondary importance for most of these same pathogens.

The article notes that preventing illness from some pathogens—such as *E. coli* and *Salmonella*—can be complex.

“Food safety educators face the same dilemma the expert panel faced because they must decide how much attention should be focused on infrequent but very risky behaviors, and how much should be focused on less risky, more prevalent behaviors,” according to Hiller’s article.

[Editor’s note: For food thermometer resources, go to:

<http://www.fsis.usda.gov/thermy/>]

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ish, focuses on the basics of food safety for families. And it includes special sections covering safe handling of breast milk, infant formula, and baby food. The package also comes with a CD with background information, including food safety lesson plans, games, and activities.

A single videotape costs \$15 and the CD is \$3. Call 940/898-2637 to place an order.

• ***Handle with Care: Keeping Your Child’s Formula, Expressed Breast Milk, and Food Germ-Free:*** Developed by Rutgers Cooperative Extension, this curriculum program

includes two behaviorally focused lessons and activity sheets for groups or one-on-one counseling, multi-cultural fact sheets, and color posters. All components stress the Fight BAC!® messages. Go to: <http://www.rce.rutgers.edu/handle-withcare/default.asp>

■ New Research, New Needs, New Tools & Programs

New research and new educational programs constantly reshape the scene for food safety educators. To stay informed, the first “go-to” site is <http://www.foodsafety.gov>

You’ll find breaking news, resources, and links to all other key Web sites.

And now there is an entirely new—and user-friendly—Web site from the Food Safety and Inspection Service: <http://www.fsis.usda.gov>

Some other good sites to add to your “favorites”:

- Kansas State Research and Extension has a great Web site for keeping in touch with a *wide* variety of foodborne illness issues:

<http://www.oznet.ksu.edu/foodsafety/welcome.htm>

The site provides links to diverse subjects, including the latest publications from key national organizations. Other topics include programs targeted to special populations and

information keyed to specific foods and special circumstances, such as power outages.

- Another great site is run by the Food Safety Project, Iowa State University Extension:

<http://www.extension.iastate.edu/foodsafety/>

This site’s front page includes a daily summary of news stories related to food safety as well as an index of links to resources.

■ Summing Up—Tools We Could Use

After reviewing tools that are available to educators, Susan Conley, director of food safety education for FSIS, and Cindy Roberts of the USDA/FDA Foodborne Illness Education Information Center, agree that some critical gaps still face food safety educators searching for educational tools. They encourage educators to consider these needs when submitting future grant proposals.

- **Training programs for entry-level food service:** “While there are a lot of tools for food service,” Roberts said, “there is still a need for programs entry-level employees can use on their own. These programs should be entertaining and interactive so that employees can *apply* what they learn.”

- **Educational materials for parents of children under 10:** “Given that one-third of foodborne illnesses occur in children under the age of 10,” Conley said, “I think we could do more to help parents be aware of this fact.

“In addition, consumer studies show that parents are overconfident. They *think* they are taking the steps they need to take to keep children safe, when, in fact, they are not. We need to help them question their own competencies.

“Finally, we need to help them see exactly *how to* follow the key safe food handling messages—and how to deal with special issues such as diaper changing, handling of baby food, formula, and breast milk.”

- **At-risk audiences:** “While materials for at-risk audiences are not specifically addressed in this issue,” Conley noted, “new epidemiological and consumer research is telling us more about the educational needs of these most vulnerable groups: the very young; the very old; and people with immune systems weakened from a variety of factors including chemotherapy, organ transplant, liver disease, and even diabetes.

“We need to keep focused on these groups, because they are more likely to get sick—and once they are sick, the health consequences are very serious,” Conley said.



The *Food Safety Educator* is produced by the Food Safety Education Staff, Food Safety and Inspection Service, U.S. Department of Agriculture

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