

Resources and Tools

Resources of all kinds serve as the “infrastructure” for this Initiative. The five resource components are designed to identify, create, and disseminate the necessary tools to support change in both educational and practice settings. Key concerns are to avoid duplication of existing resources by inventorying the current stock of resources available, and to ensure the scientific credibility and usefulness of resources by establishing a national review board to evaluate them.

Component A: Inventory existing resources – Determine what educational and information programs and materials for health care providers exist currently in education and practice settings and what gaps should be filled.

Component B: Establish a national review board – Create a national body to determine assessment criteria and evaluate existing resources, with the goal of identifying, selecting, and assessing the ideal resources that primary health care providers use in both educational and practice settings for prevention, diagnosis, treatment, and referral of pesticide-related health conditions.

Component C: Create an information gateway – Establish a print, telephone, and web-based gateway through which primary health care providers can access information and educational resources.

Component D: Develop teaching/learning resources for educational settings – Identify and develop new content resources, tools, and methods for faculty in educational settings.

Component E: Develop new resources for practice settings – Identify and develop new content resources, tools, and methods for health care providers in practice settings.

Inventory Existing Resources

Statement

Determine what educational and information programs and materials for health care providers exist in education and practice settings and what gaps should be filled.

Expected Outcomes

An inventory of pesticide resources based upon information from health care providers in education and practice settings.

Target Audience

Readiness for Change: This strategy will target health care providers who have already developed model tools, resources, and programs so as to create a centralized inventory of what exists and what gaps need to be filled.

Proposed Activities

Activity #1

Develop and document the inventory methodology to be used in collecting resources, including documentation for the study instrument and an announcement requesting resources and materials.

Activity #2

Conduct the resources inventory. Key questions to be asked of organizations include:

- What resources do you use to diagnose pesticide exposures?
- What resources do you use to treat pesticide exposures?
- What resources do you use to refer pesticide-exposed patients?
- How useful are current resources?
- What “stage of change” is the resource targeting?
- For which target discipline is the resource designed?
- For what practice settings is the resource designed?

- For what characteristics of patient/community populations are the resources designed?
- What resources are needed that are not readily available?

Stakeholders

- Federal Interagency Planning Committee for this Initiative
- Organization conducting the inventory

Evaluation of Outcomes/Indicators of Success

- Inventory completed and available.
- Feedback from website users indicating additional resources and/or identifying gaps.
- Acknowledgment of a thorough inventory by the national review board.

Background

In order to evaluate the existing resources and to effectively disseminate what is available, an inventory of available resources needs to be created. Such an inventory is already underway and will be completed as part of this Initiative. The inventory will be available online.

Establish National Review Board to Evaluate Resources

Statement

Create a national body to determine assessment criteria and evaluate existing resources, with the goal of identifying, selecting, and assessing the ideal resources that primary health care providers use in both educational and practice settings for prevention, diagnosis, treatment, and referral of pesticide-related health conditions.

Expected Outcomes

- An established board available for ongoing consultation and review.
- A published document with a list of evaluated and recommended pesticide resources that primary health care providers can use in both educational and practice settings for prevention, diagnosis, treatment, and referral of pesticide exposures.

Proposed Activities

- Establish selection criteria for national review board membership.
- Establish a multidisciplinary national review board to conduct the evaluation of existing resources.
- Refine the list of suggested evaluation criteria:
 - Pilot tested
 - Demonstrated level of success
 - Regional applicability
 - Significant number of participants
 - Cost-effectiveness
 - Peer review of resources
 - Significant relevance
 - Related to at least one competency/practice behavior
 - Developed by credentialed sources/authors
 - Accessibility

- Credibility of information/sound science
- Convenience
- Endorsement by appropriate professional association
- Approved programs for CE credits
- Built-in incentives to use the resources.
- Convene the national review board to evaluate the existing inventory of resources (Resource Component A) using the evaluation process.
- Publish recommended resource document online and in print format.
- Assess the usefulness of the resource document to health care providers.

Stakeholders

- Federal Interagency Planning Committee
- National review board members

Evaluation of Outcomes/Indicators of Success

- Published resources document, online and in print format.
- Feedback from health care providers on the usefulness of the resource list.

Background

The concept of a national review board came out of the Resources Workgroup's focus on how pesticide-related resources used in education and practice settings could be evaluated, in the interests of using the highest quality materials. The national review board will be composed of leaders in the areas of pesticides and primary health care.

Create an Information Gateway

Statement

Establish a print, telephone, and web-based gateway through which primary health care providers can access information and educational resources.

Expected Outcomes

A fully functional, interactive, information gateway that provides primary health care providers with access to readily available and useful pesticide resources.

Target Audience

Readiness to Change, Maintenance: This component targets individuals and organizations who are looking for models and resources for how to address health effects from pesticides, as well as individuals and organizations who have become part of the cadre of health care providers involved in this issue.

Proposed Activities

Activity #1

Build the gateway using resources gathered through the inventory process and evaluated by the national review board.

- Identify existing resource centers that could develop the gateway, under direction of the Federal Interagency Planning Committee.
- Develop or enhance a resource center infrastructure and address logistical issues including a toll-free number and website.
- Assign priority access to primary health care providers.
- Link to regional and geographical specific information, coordinated industry websites, and other resources, universities, associations, etc.

Activity #2

Market the gateway and its information/education resources through dissemination channels to reach primary health care providers in education and practice settings.

- *To build awareness among health care providers:* Disseminate persuasive case statements (see Education Component A, page 41, Practice Component A, page 67, for development of case statements) through professional associations, journals, and peers that address the main issues, why primary care providers should be concerned, and how to access the gateway.
- *To provide tools/resources to health care providers ready to make changes:* Disseminate curricular packages to educational settings and training packages to practice settings. Packages may be defined as lectures, slides, case studies, exercises, assignment/project ideas, ideas on how to involve experts, access to gateway, etc. Packages would be combined from existing resources and/or new resources that have undergone peer-review and pilot testing.
- *To help health care providers learn of the latest resources:* Disseminate concise information on how to access the gateway, especially the network of expertise. Dissemination methods include posters, flyers at conferences, NPIC clearinghouse, and links on websites.
- Convene one or more focus groups to evaluate the effectiveness of the dissemination efforts.

Stakeholders

- Federal Interagency Planning Committee
- Organization to manage the gateway

Evaluation of Outcomes/Indicators of Success

- Number of requests for information.
- Number of pageviews and downloads from the website.
- Number of calls.
- Customer satisfaction feedback on the website.
- Feedback from focus groups.
- Degree to which the dissemination efforts are nationwide.
- Degree to which dissemination efforts and resources address primary health care providers at varying stages of change.

Background

A centralized gateway to information can be an efficient way to provide comprehensive access to evaluated, pesticide-related resources. This centralized resource should include

emergency information and contacts, educational materials, and other resources, and be accessible by a toll-free number and via a website. The gateway must be able to provide real-time answers to short-term questions as well as larger educational resources. Access must be multi-pronged; phone, web, print, email, listservs. It should contain geographic linkages to local providers, researchers, and sources of local information (e.g., local health departments). The gateway will build on existing resource networks, such as the National Pesticide Information Center (NPIC — see box below) and will require a multi-stakeholder partnership for effective implementation. The gateway will need extensive marketing in order to ensure that it is widely used.

NATIONAL PESTICIDE INFORMATION CENTER

A cooperative effort between Oregon State University and EPA, the National Pesticide Information Center (NPIC) provides objective, science-based, and plain-language pesticide information to the general public, and medical and veterinary communities. It handles over 23,000 calls a year on topics ranging from toxicology to pesticide poisonings. NPIC's staff of pesticide professionals includes toxicologists and a physician trained to:

- help callers interpret and understand health and environmental information about pesticides
- answer questions about pesticide labels
- supply general information on the regulation of pesticides in the United States
- access over 300 pesticide resources
- direct callers for pesticide incident investigation, emergency human and animal treatment, safety practices, clean-up and disposal, laboratory analyses
- confer with private physicians to determine an appropriate treatment plan in the event of poisonings
- provide information regarding safety practices for field/farmworkers and handlers
- provide callers with information about anti-microbial pesticides

(1-800-447-6349) (Monday-Friday).

Toll-free tel: 1-800-858-7378 daily, 6:30 a.m. - 4:30 p.m. (Pacific time);

Fax: 541-737-0761; e-mail: npic@ace.orst.edu; website: <http://npic.orst.edu>

RESOURCE COMPONENT D:

Develop Teaching/Learning Resources for Educational Settings

Statement

Identify and develop new content resources, tools, and methods for faculty to use in educational settings.

Expected Outcomes

- Teaching modules
- Network of experts and organizations nationwide

Target Audience

Readiness to Change: This component targets faculty in educational settings who are ready to integrate the issue into their curriculum.

Proposed Activities

Create teaching modules for faculty that address pesticides/environmental health and that respond to the National Guidelines, and the assessment of educational institutions.

- Review existing teaching modules collected and evaluated by the national review board and review the assessment of educational institutions to determine the type of teaching modules still needed by faculty.
- Identify key experts and/or organizations to develop teaching modules and create contractual agreements for the development of specific modules.
- Develop pesticide-teaching modules with flexibility for use by different schools, departments, etc.
- Establish a peer review and pilot testing process for the modules developed.
- Distribute teaching modules to all academic health centers and nursing schools.
- Make modules available online (via gateway and/or published resources document).

Stakeholders

- Faculty who have already developed resources
- Key professional associations for faculty
- Cooperative extension pesticide safety educators
- State lead agency pesticide educators

Evaluation of Outcomes/Indicators of Success

- New resources are approved and endorsed by the national review board.
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Background

Guiding principles for developing new resources include:

- Easy to implement
- Interdisciplinary
- Culturally and geographically relevant
- Measurable outcomes
- Usable in both urban and rural communities.

RESOURCE COMPONENT E:

Develop New Resources for Practice Settings

Statement

Identify and develop new content resources, tools, and methods for health care providers in practice settings.

Expected Outcomes

Increased access to and availability of relevant information and resources including experts in the field, content materials and available data within communities.

Target Audience

Readiness to Change: This component targets practitioners who are ready to integrate the issue into their clinical practice and prevention activities.

Proposed Activities

Activity #1

Develop a variety of resources, including:

- Training package for a one-day workshop on *Health Care Providers and Pesticides*. This package could be used to train health care providers in continuing education, covering the breadth of topics related to pesticides.
- User-friendly materials:
 1. Accessible print- and web-based guides for physicians and nurses. Ensure that guides are dated so that revisions can be made and distributed, and that they contain return cards for new information and comments.
 - Guide I: Highlights of symptoms, treatments, and reference.
 - Guide II: How to take an occupational and environmental history.
 2. “ABCs of environmental health” — a simple tool, similar to the CAGE screening tool for alcoholism, that will indicate signs and symptoms for screening purposes.
 3. Wall posters on pesticides for health care providers to post in their clinical practices
 4. Audio cassettes/CDs to listen to in transport to and from a practice setting.
- Outreach: Use of radio to serve patients and primary care providers whose first language is not English.

- Certification of training: Some type of recognition that a primary care provider has completed a certain level of training.
- Journal articles in the literature: Encourage researchers to produce professional journal articles on the subject of pesticide-related health concerns.
- Internet/web-based materials and training, including video-conferencing, satellite training.
- Encourage creation of a centralized industry website on pesticide/health data.

Activity #2

Increase the participation of professional associations in the support, use, and promotion of educational materials and resources.

- Develop model policy statement that can be tailored and adopted by professional associations.
- Coordinate with national organizations to develop policy statements on educating health care providers about pesticides (along the lines of those developed by the American Academy of Pediatrics).
- Encourage development of environmental health committees in professional organizations and local chapters.
- Coordinate with professional associations to secure more continuing education (CE) opportunities at national and regional meetings.
- Build pesticide/environmental health CE into internet-based offerings by professional associations.

Activity #3

Establish a national network of experts and organizations that can answer questions and serve as resources to health care providers nationwide.

- Identify existing organizations that have the capability to establish and/or expand a database of individuals and organizations.
- Identify areas of expertise to be included.
- Identify experienced professionals and define the parameters of their responsibility.
- Solicit availability for consultation, teaching, guidance, etc.
- Develop a Pesticide Poisoning Orientation Training program to build “practice champions” or motivate providers to become champions. Training could be web-based, via audio cassettes, CDs, or in-person. Short courses (half or full day) could be held in conjunction with other professional conferences, and should be integrated with other disciplines.

Stakeholders

- Faculty who have already developed resources
- Key professional associations for faculty
- Cooperative extension pesticide safety educators
- State lead agency pesticide educators
- Network of pesticide and pest management experts in land grant colleges and universities throughout the US.

Evaluation of Outcomes/Indicators of Success

- Increased utilization of community resources.
- Increased number of customized educational programs/materials.
- Increased number of resource collaborations.
- Number of RFPs related to new and innovative ways to get information to primary care providers.
- Increased number and frequency of pesticide practice related publications.
- Increased number of CE courses.
- Increased number of presentations in practice settings.
- Numbers of policy statements.
- Numbers of re-certification exams.
- Numbers of questions on exams.
- Increased availability of reimbursement mechanisms.
- Number of people applying for Certificate of Recognition.
- Number of requests made of experienced professionals.
- Number of professionals who agree to participate.
- Diversity of professional background.

Background

A wide range of credible, convenient, and easy to use materials need to be developed. Examples include “cheat sheets,” cassette tapes or CDs that can be listened to in the car, web-based instruction (depending on how recently the providers graduated and how comfortable they are with technology). Providers are overburdened and need quick help — either in the form of checklists or a person at the other end of a line.

To the extent that primary care providers keep up with their professional journal literature and to the extent that there is a sufficient stream of articles in the literature on pesticide diagnosis and treatment, it can be expected that providers will encounter pesticide-related information in the course of their reading. However, there may well be a gap in articles on pesticide poisoning prevention and diagnosis in the journals that are generally read, a gap that could be remedied by encouraging researchers to prepare and submit such articles.