



sbrp

S U P E R F U N D B A S I C R E S E A R C H P R O G R A M

Stakeholder Input

Responses from
Community and Program
Representatives

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Community and Program Representatives' Input to the SBRP External Advisory Panel

Introduction

Since the beginning of the SBRP, NIEHS has encouraged the multi-project grantees to develop outreach and educational activities directed to communities affected by hazardous waste sites. Most recently NIEHS has required each multi-project grant to include a Research Translation Core to ensure that all research advances are being optimized. As this is an important part of the program, staff sought input from community representatives that have some association with the program, either through the Community Outreach (COC) activities or the Research Translation Cores (RTC). A series of questions were provided to over two dozen community representatives and to all of the SBRP COC and RTC leaders.

The responses from the community are compiled (by question) below. They are followed by the responses from the COC and RTC leaders.

Community Input to SBRP EAP

Question 1

**Where do the public, advocacy groups, etc. obtain information regarding environmental contamination issues?
How and in what form do you personally receive such information?**

Usually from EPA – TechDirect listserve, Technology News and Trends newsletter, Clu-in website, conferences (such as the national Brownfields), and participating in EPA/ITRC sponsored web conferences – and discussions with state staff.

–Jennifer Griffith, NEWMOA

In my experience, the first place folks look for such information is online. Generally, people start with a google search and then may venture to EPA's website (or other websites) for additional information. TV and radio news is also a place where folks get information. In the communities that I serve, folks go to the local government representatives with questions and concerns.

–Leah Butler, EPA Region 9

From state and federal governmental agencies and the internet. I personally receive information from my academic colleagues, colleagues in state and federal government and in the form of peer-reviewed journals and the internet (e.g., websites and listservs)

-Rosemary Caron, University of New Hampshire

Community level: For the communities affected by contaminated sites, the best source of information is trusted community members, such as the extension service provided in all 120 counties in Kentucky. In Kentucky there are well-established partnerships with community health providers to provide research-based information. This relationship allows lifestyle and nutrition information to reach communities and often assists physicians with critical information and training on effecting community change.

Advocacy groups: The broader public and advocacy groups may obtain information from public health officials, the press and targeted publications from UK. The press sources are often "light" on factual information and thus greater efforts at regular, targeted communications to advocacy groups and the educated public would be helpful.

I receive reports directly from UK SBRP and all the sources mentioned above.

--Nancy Cox, University of Kentucky

The public receives such information from official public meetings, newspaper reports, site-specific advisory boards, and increasingly the World Wide Web. For the past few years, I have been contacted by many local activists who "Googled" their own sites and found articles that I had either written or circulated about those sites. I personally also learn information directly from government officials and from the various advisory bodies upon which I sit.

--Lenny Siegel, Center for Public Environmental Oversight

Some information is available online through the RI DEM web site. In addition, inventories, lists, and case files are all available as public records. Many people contact our staff via e-mail or telephone to inquire about sites.

As a regulatory agency, most instances of environmental contamination are reported to us as a result of requirements spelled out in applicable rules and regulations. Many instances are reported as a result of proposed property transfers and related transactions. Over time, the number of cases brought to our attention as a result of third party impacts (such as to neighbors), has decreased significantly.

--Terrence Gray, RI DEM

The Silver Valley Community Resource Center is a 20-year-old non-profit, grassroots organization that is the sole source of acquiring, disseminating and obtaining any information relating to pollution and contamination issues of the nation's largest lead Superfund site, 1,500 square miles and accumulation of more than a century of mine waste.

The acquisition of information is basically gotten through numerous sources mainly by our board and members and other environmental groups that we network with nationally and regionally such as the Northwest Toxic Community Coalition. Agencies due to the special interest negotiation and power in Idaho are for the most part reluctant overall to give the community any information or means to help themselves. EPA and Idaho Dept. of Environmental Quality are the main sources of information, as well as the internet.

--Barbara Miller, SVCRC

Scientific journals, including Environmental Health Perspectives; media for relevant stories and then follow-up with journal articles (www.environmentalhealthnews.org playing an increasingly important role); PubMed searches for topics of interest; various listservs.

I regularly read a number of published studies from various journals; often summarize findings and disseminate to NGOs/others; NIEHS Superfund research briefs.

--Ted Schettler, SEHN

The public and advocacy groups get their information primarily from websites, other groups, in person from town depts., and phone calls to state depts. I personally receive information mainly from websites and listservs

--Catherine Maas, City of Chelsea Board of Health

Question 2

Do you think it is important to communicate federally-funded research findings?

If so, what type of finding should be communicated?

YES – very important – but for my purposes, and for practitioners in the field – it needs to be in plain English and directly connected to how it is useful – what it helps us understand or how it can be used in a practical way.

-Jennifer Griffith, NEWMOA

Yes! As long as the research is peer-reviewed and validated, I think it makes sense to communicate all findings.

-Leah Butler, EPA Region 9

Yes. I think the following should be communicated to the public:

- Science behind the findings needs to be translated into language that is understood by the public.
- How the findings impact communities/public.
- Interventions or prevention methods in the control of the public who is exposed or potentially exposed to environmental health risks.

-Rosemary Caron, University of New Hampshire

For many reasons it is not only an important but an essential obligation of a program like SBRP to communicate findings at many levels ranging from citizens to state agencies, NGO's and elected officials (local, state and national). This requires a coordinated communications effort with messages crafted appropriately, depending on the audience. The value of emphasizing basic research must be regularly articulated to Congress, but the impact of this research on communities should be communicated clearly and at all levels of the targeted audiences.

-Nancy Cox, University of Kentucky

Yes. People want to know, in non-technical summaries, what are the advantages and disadvantages of emerging response strategies. This applies not only to characterization and cleanup technologies, but to long-term management approaches designed to protect the public where cleanup is incomplete.

--Lenny Siegel, Center for Public Environmental Oversight

Yes. I believe findings should be communicated through as many means as possible: web sites, newsletters, listserv/e-mail updates, etc. In addition, it has been my experience that most laymen want this type of information communicated in the context of some local issue or site that they are tracking. It has been difficult to hold the interest of, and get feedback from, laymen on broad policy issues that are not tied to some local challenge they are facing.

--Terrence Gray, RI DEM

Absolutely it is important to communicate research findings. In the Silver Valley/nations largest lead Superfund site, a second-rate cleanup was negotiated by EPA; mining and tourism interests of Idaho are NOT even taking place. The only reason there is any cleanup going on at all is because of the accountability that SVCRC demands from the agencies involved with the cleanup. No effort for more than a hundred years was ever made to inform the community of the vast devastation of lead and heavy metal exposure, the end result is five generations of families living with chronic lead poisoning health issues. The findings that need to be communicated are basic linkage of the pollution and health conditions and how to diagnose and prevent exposure.

--Barbara Miller, SVCRC

Yes. I think most types of findings should be communicated. There is considerable interest in many groups. Exposure, effect, fate and transport data are all important. But even highly technical mechanistic data can be of interest to many if it is presented in a way that explains what it means and why it is useful. Studies that explore research methods may be of less interest to a broader audience, but I wouldn't assume that they are of no interest.

--Ted Schettler, SEHN

Absolutely mandatory. The alternative sources of information are industry funded and marketing campaigns, which are inherently biased. Science-based findings that are relevant to consumer health and consumer choice should be communicated.

--Catherine Maas, City of Chelsea Board of Health

Question 3

In your opinion, who should be the SBRP's target audiences?

That is, are the SBRP's constituents communities near Superfund sites and other regulated hazardous waste sites; standing advocacy groups; policy makers; other non-government environmental organizations; etc.?

I think primarily it should be policy makers (government) and those who work in the field (consultants and PRPs). Standing advocacy groups and NGOs would be second and the general public (communities near Superfund sites) third.

-Jennifer Griffith, NEWMOA

First and foremost, the target audience should be the constituents near Superfund Sites/hazardous waste sites. Policy makers and NGOs should also be targeted as these groups are often the conduits through which change occurs.

-Leah Butler, EPA Region 9

All of the above, including state governmental agencies.

-Rosemary Caron, University of New Hampshire

As stated above, all of these are tremendously important but require quite different communications strategies. Additional key communities that are currently targeted by the UK SBRP are health professionals and industry partners. With UK SBRP's emphasis on health and nutrition, there are opportunities for industries to change practices and products. It is perhaps important to note here that Kentucky is home to the world's largest fast food industry, with home offices for Yum Brands (Kentucky Fried Chicken, A&W, Taco Bell, and Long John Silver's). The UK SBRP's outreach and translation program is positioning itself for stronger partnerships with both industry and advocacy groups and is effectively employing UK's base of established state networks.

--Nancy Cox, University of Kentucky

While anyone living near or otherwise impacted by a hazardous waste site needs access to this information, people can best use it if they are part of a local advisory board, and environmental advocacy group, or another entity receiving a technical assistance grant. Of course, the Web provides a vehicle for providing information to individuals who are not part of an organization.

--Lenny Siegel, Center for Public Environmental Oversight

I believe the best audience for the SBRP is the technical professional or technically informed community representative, who can understand the implications of the research being conducted in the context of overall program development and implementation.

--Terrence Sigel, RI DEM

In my opinion with more than 20 years of experience in progressing the cleanup of the nations largest Superfund site, I believe that targeted audiences should be the community overall, especially low income families with children, pregnant moms, and former workers. Standing advocacy groups and policy makers often have their own agendas that do not interface or address the real concerns that are the core of the pollution and hazardous waste. Invested non-profit organizations are a primary targeted audience as well. These groups can often be identified with their time invested in the issue.

--Barbara Miller, SVCRC

The reality today is that many advocacy groups, medical and public health professionals, people with illnesses, and policy makers are increasingly interested in environmental health as relates to contaminants whether they live near a Superfund/hazardous waste site or not. Many realize that contaminants are often not confined and that exposures can be widespread through various environmental media and pathways. NIEHS should not underestimate the interest in these topics in diverse constituencies.

--Ted Schettler, SEHN

Local boards of health, doctors and nurses, Consumer Union, environmental and health NGOs, and housewives should be the target audiences.

--Catherine Maas, City of Chelsea Board of Health

Question 4

We believe that publishing research papers in the peer-reviewed literature is only one essential mechanism for communicating research findings. What do you perceive to be the most effective communication tools? E.g., seminars, fact sheets, web pages, community meetings, etc. The least effective?

Peer-reviewed literature and technical publications are good – but as I mentioned above, I strongly feel that the research and results also need to be written up in Plain English and directly linked with how the results are useful – what it helps us know and/or how it can be used in a practical way at a site. Presentations at large national professional conferences would be good – but also through meetings of interstate associations (government) such as ASTSWMO and the ITRC (and NEWMOA!). EPA and the ITRC sponsor web-seminars that are well attended by government and professionals. EPA also has the TechDirect listserv which is a very good method to get info out – and their Clu-in website – fact sheets and web pages would be good for those. In general I would think a community meeting would be a very difficult way to translate research information – unless the research was directly related to a specific site in the community.

-Jennifer Griffith, NEWMOA

Factsheets and pamphlets are very effective tools are can be used by many different audiences. I utilize SBRP's outreach materials all the time at my Superfund Sites and have found them to contain a good mix of technical and easy-to-understand information. Also, depending on the topic, such publications can vary in length and detail.

I'm not sure what the least effective mechanism is. I believe that each of the listed options serve a purpose and should be used in combination.

-Leah Butler, EPA Region 9

We believe that publishing research papers in the peer-reviewed literature is only one essential mechanism for communicating research findings. What do you perceive to be the most effective communication tools? E.g., seminars, fact sheets, web pages, community meetings, etc. I agree with these communication tools being effective because of their interactive nature.

-Rosemary Caron, University of New Hampshire

Excellence in the peer-reviewed science world is the basis for the SBRP and should never be minimized. However, in my opinion the objective of SBRP is to create opportunities for improving health and welfare of citizens. Affected citizens

are the most important group and often are low-income. To reach them, as noted above, trusted community-based resources are best. From my experience within our College of Agriculture, the Cooperative Extension Service can provide a most comprehensive outreach and engagement opportunity for communities linked to national grants programs such as the SBRP. Furthermore, the diverse network of advocacy groups, state agencies and health professionals that affect those communities must be encouraged to provide factual information. For affected citizens of low educational level, community meetings and word-of-mouth are useful. For more educated groups, social networking and other web-based means are very effective. As far as least effective, fact sheets and print media are not dynamic enough to be relevant to non-academic audiences.

--Nancy Cox, University of Kentucky

CPEO has found that our Web-based Technology Tree is the type of tool that can present research in a form that people can understand. At most sites, there are a limited number of community members who are willing and able to delve deeply into the science of hazardous waste. Therefore, I recommend regional or national workshops that bring those people together. This requires travel support for community participants, along with schedules that don't require participants to take too much time off work.

--Lenny Siegel, Center for Public Environmental Oversight

From my position, the best avenues for publicizing progress and results are newsletters, e-mail/listserv updates, web pages, seminars, and fact sheets. Research papers are important for peer review and communication within the academic/research community but are not significant first sources of information for many regulatory agencies. Community meetings are not good sources of information for us because usually the level of presentation for a general, layman audience does not convey the technical detail or specificity that our staff need.

--Terrence Gray, RI DEM

All of the above are effective means for communicating pollution and health concerns to the community at large. SVCRC believes in transparency and in our experience the best means is to reach the community, individual contact and finding ways to mobilize the affected citizens. In our community the media has galvanized new findings, our staff and board then find a way to get the word out. Usually public meetings are sabotaged by the few special interests; for example, the local newspaper is owned by a rich and powerful polluter who also monopolizes the tourism industry. We have found that listing research and findings on our website is also an effective means to educate. Overall, having funding to continue our own emphasis of educating and elimination of health problems is a critical and successful means of communication. SVCRC has built a constituency of medical doctors, including the nations leading lead experts,

Headstart, a church who wants to host a Health Fair in the community to share information and technology pertaining to the health issues of lead exposure and other heavy metals. We need funding to make this happen.

The least effective means of communication is still a polluter-controlled media in Idaho and Eastern Washington and the public agencies such as the Panhandle Health District.

--Barbara Miller, SVCRC

I think that the research briefs are effective because they not only describe findings but also what they mean and how they advance what was previously known. This format could be used for diverse audiences. I regularly distribute the RBs to diverse listservs.

See also www.ourstolenfuture.org for descriptions of scientific findings that are user-friendly. (e.g. <http://www.ourstolenfuture.org/NewScience/obesity/2006/2006-0715leeetal.html>) This works well. What did they do, what did they find, what does it mean?

These kinds of summaries can be distributed widely via internet and in community groups.

--Ted Schettler, SEHN

Fact sheets online, community meetings via local organizations who bring in Federal experts are effective.

--Catherine Maas, City of Chelsea Board of Health

Question 5

What interfaces or structure would be helpful for facilitating on-going, two-way communication between the SBRP and its constituents? E.g., are community-academic partnerships an important way to support communities? If so, how should these be formulated?

Stronger links within EPA; also ASTSWMO and the ITRC (and NEWMOA!) – and perhaps the Air and Waste Management Association, and other professional groups. The vapor intrusion workshops that NEWMOA has co-sponsored with the SBRP at Brown University have been a particularly effective method for that SBRP to communicate with state governments, EPA Region 1, and professionals in the Northeast.

—*Jennifer Griffith, NEWMOA*

SBRP presence at community meetings is integral to developing these partnerships. One-on-one communication with community members is important and can lead to connections with larger community groups or local non-profits. In my experience, it has also been helpful for SBRP to be present at EPA sponsored community meetings yet the group can have its own table, booth, or presentation to communicate and get community interest in collaborative projects.

—*Leah Butler, EPA Region 9*

I have professional experience with the NIEHS SBRP as a community partner. Nancy Serrell and I have worked on childhood lead poisoning in an urban community in New Hampshire. We have witnessed the resources and results that such a partnership can bring to a community experiencing a persistent public health and environmental health issue. Without this community-academic partnership, we would not have been able to improve childhood screening rates for lead exposure in the community; provide education to community stakeholders, including property managers, clinicians, residents, etc. and work with policymakers to affect legislation on the issue. In my opinion, this relationship has proven to be invaluable to a community struggling with many public health and environmental issues and this partnership allowed for the community to make improvements in this area. Please note though that these partnerships take time to develop but the effort is well worth it.

--*Rosemary Caron, University of New Hampshire*

Academic-community partnerships are of critical importance. As stated above, using outreach professionals, such as the statewide network of county extension agents working in their own communities, is a key strategy for reaching citizens.

Another level that could perhaps benefit from more formal partnerships with the university would be NGO's and state government agencies with responsibility for environmental remediation as well as health and well-being. The UK SBRP is very well positioned for these kinds of communications.

--Nancy Cox, University of Kentucky

At the local level, it would be helpful for academic experts to participate regularly in community group meetings. Regional or national workshops would also be useful.

--Lenny Siegel, Center for Public Environmental Oversight

In the Brown SBRP, the RI DEM and RI Department of Health both participate in the management meetings for the program. This mechanism, and the networks and relationships that grew out of it, is an excellent opportunity to communicate on the projects and "real-life" challenges we are facing. This works extremely well and I would recommend other SBRP's explore using this approach.

Yes, community-academic partnerships are important. As I stated earlier, the most effective way to create such a partnership is when the research going on in the SBRP is directly related to a challenge facing the community group. The academic professionals can provide a support network for the community and enhance communications between the regulatory agencies and the public.

--Terrence Gray, RI DEM

Having speakers, for example Drs. Gilbert, Burbacher and Rosen came to the community and had the opportunity to speak to a large segment of the affected residents. For this to be successful a chunk of time and substantial funds would be necessary for the community groups to work to do turn out. In addition the professionals and their relationships to other facilities, universities and colleagues could be asked to participate. The NWTCC that SVCRC is one of the co-founder groups has already provided some excellent advocacy in partnership and support that we feel is important to continue and grow.

--Barbara Miller, SVCRC

Probably depends on the community and issue. If there is a community organization then regular in-person presentations/discussions or even regular listserv postings would be useful. One problem that sometimes exists is a perceived lack of transparency in communicating about a Superfund site when the responsible party (e.g. a corporation) is part of the dynamic.

--Ted Schettler, SEHN

A great example is Collaborative on Health and the Environment where a person can sign up for a listserv where they get summaries of new science sent as it is available on topics of their choice. The material is also available on their website. Absolutely, see CHE model above.

--Catherine Maas, City of Chelsea Board of Health

Question 6

What do you believe to be the major science concerns that communities face relative to hazardous waste and environmental contamination that should be research priority?

Beyond issues related to specific chemical toxicity studies, are there broader research topics that affect the health of communities, e.g., toxicity of mixtures, sensitive populations, etc., that you think should be investigated. Please consider both existing challenges as well as new, emerging issues.

Risk communication is key for dealing with the public/communities – translating into Plain English and linking to what it means in practical terms. Vapor intrusion is an issue of high concern. Personally, I feel there should be more emphasis on the use of hazardous products in the home (things that are legal to purchase but a big problem – like air fresheners and various cleaners) – probably a much higher risk than outside environmental contamination! And also how disposal of these products creates contamination (such as over-the-counter and prescription drugs, and laundry detergents). Other concerns should be small businesses that cause big problems – when operational and also after closed – auto body shops, dry cleaners, etc. – helping them find/use less problematic products.

-Jennifer Griffith, NEWMOA

It's always a challenge to parse out health effects from exposure to environmental hazards from health effects from other issues (genetic conditions, lifestyle, etc.) More research should be done in this area.

-Leah Butler, EPA Region 9

One of the issues that I am working on now is the area of environmental communication. Regardless of the environmental issue, I think it is important that the community, who knows the issue best, should be included in the development of resolutions for the problem. Conducting research is important but if the community is not part of the process then it makes it difficult to effect change with their support if they are not invited to be part of the solution. How to do this, however, can be problematic.

-Rosemary Caron, University of New Hampshire

Communities request practical information on avoiding current toxicity problems and preventing them in the future. The complexity of health effects is quite daunting, so careful attention should be given to communication strategies. One of the unique and exciting features of the UK SBRP is that it explores the role of

nutrition in health as a modulation paradigm for toxic exposure. Ongoing basic research studies are aimed at ultimate use of nutritional strategies to help exposed individuals and communities. The land-grant system is well positioned for appropriate translation and outreach for such research.

Certainly mixtures are an important area to study and should be the subject of increased research. Sensitive populations are especially important targets for educational efforts. An addition to the list above would come under the category of lifestyle and would involve nutrition as a critical component but also information on exercise and other strategies to promote health. Again, the Cooperative Extension Service already has these networks and health information is a substantial part of their outreach efforts.

--Nancy Cox, University of Kentucky

How can cleanup be accelerated, particularly where there are extant pathways such as vapor intrusion or fish consumption? How can cleanup be conducted sustainably? How can long-term site management be put in place for the life of the contamination? Are there ways to provide health services (monitoring, health care, etc.) without having to prove that individuals are ill because of specific exposures. The toxicity of mixtures and vulnerability of sensitive populations are both key areas of concern.

--Lenny Siegel, Center for Public Environmental Oversight

Vapor intrusion and sediment investigation and clean up are major technical issues. In addition, cumulative risk assessment, quantitation and decision-making models are a big need. Finally, regulatory clean up standards are typically set on a chemical-by-chemical basis, without regard for the interaction between chemicals. These interactions and the appropriate methodology for considering them in a regulatory decision-making context should be explored further.

--Terrence Gray, RI DEM

Major science concerns in the epicenter of the nation's largest lead Superfund site is the lack of cooperation from the local and state health agencies who are responsible for protection of health and environment. It is a challenge for invested independent community action groups to have the ability to employ technical advisors who will reinforce the scientific data relating to lead exposure and proper disposal.

--Barbara Miller, SVCRC

My sense is that much work on chemical contaminants is conducted in a contextual vacuum. In part this is due to a strong emphasis on wanting to understand mechanisms and the impacts of single factors. But people and wildlife are exposed to mixtures of contaminants and their contextual “backgrounds” differ considerably. For example, even the “average” human diet is far from optimal and nutritional variables can clearly influence the impacts of chemical exposures.

We need more research into impacts of combinations of chemical exposures with various relevant nutritional deficiencies or human-typical diets. For example, many women of reproductive age are zinc deficient. Some data show that zinc deficiency increases the risk of birth defects resulting from exposure to a teratogen. This is a very practical concern deserving more investigation. Similarly: Vitamin D deficiency is common in the general population. How does that affect the carcinogenicity of environmental chemicals? Or: How does the typical dietary fatty acid profile influence chemical toxicity? I realize that NIEHS does little or no work on nutrition per se. But the nutritional context is highly relevant to the impacts of chemical exposures addressed in the Superfund program, and it seems to me that this shortcoming should be addressed.

--Ted Schettler, SEHN

Not only specific toxicity of chemicals, but how to give the consumer choice and power to control what they are exposed to.

--Catherine Maas, City of Chelsea Board of Health

Question 7

SBRP works closely with its federal environmental partners, the Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR). Do you have recommendations for how SBRP could strengthen these partnerships?

Make sure you are plugged into TechDirect and Clu-in and other outreach that EPA already does to government and non-government professionals – and also ASTSWMO and ITRC which EPA dollars help support.

-Jennifer Griffith, NEWMOA

It is important to make sure that project managers/staff for EPA and ATSDR know what resources and opportunities the SBRP offers. Otherwise, these folks may miss out on developing the mutually beneficial and collaborative projects that SBRP offers. To this end, SBRP should consider doing regular outreach to staff-level people at both the EPA and ATSDR.

-Leah Butler, EPA Region 9

I would suggest, if not doing so already, to incorporate these organizations into any community-based environmental projects, not only from the research/technical expertise standpoint but also from the communication factor. Both of these organizations have tremendous experience in working with impacted communities and their populations.

-Rosemary Caron, University of New Hampshire

I am not very familiar with the nature of these partnerships but do understand that they are critical to the success of the program. Certainly both agencies objectives would be met by sharing credit for the real changes that can be implemented in individual targeted communities. Correspondingly, communication to Congress on the success of this unique partnership would be very useful.

--Nancy Cox, University of Kentucky

They can jointly sponsor workshops such as I have recommended above. They should share their public contact lists.

--Lenny Siegel, Center for Public Environmental Oversight

There should be higher level communication between the SBRP, State officials, and the LOCAL leadership of the EPA and ATSDR through the Regional offices.

--Terrence Gray, RI DEM

Over the course of twenty-plus years SVCRC has provided information to and cooperated with EPA on numerous occasions. Specific collaborations relate to cleanup, community involvement, human health issues, funding requests for cleanup and help from Congress (with repeated success). In return the agency undermines our work, deceives us and continues to placate the special interests. The people of the Silver Valley need a lead health clinic and EPA needs to realize this and that they are there as a protection agency. Any assistance from NIH/NIEHS to bridge this void and development of the lead health clinic would be appreciated. In a community health survey of 2003, one of the largest ever conducted in the Superfund site, 80% of the participants stated they would make use of an environmental health clinic. In 2005 the National Academy of Sciences conducted another study resulting in 450 pages of data stating that more cleanup needed to be done and specifically much more was needing to be done for human health concerns.

--Barbara Miller, SVCRC

I have no idea what this relationship is.

--Catherine Maas, City of Chelsea Board of Health

Research Translation Core Input to EAP

RTC Responses to Individual Questions

Question 1

Where do the public, advocacy groups, etc. obtain information regarding environmental contamination issues? How and in what form do you personally receive such information?

Locally, the public gets much information from local/regional toxics groups (e.g. in New England, Toxics Action Center), environmental justice groups (e.g. in California, Communities for a Better Environment), and statewide environmental groups (e.g. in MA, the Alliance for a Healthy Tomorrow). At the national level, Above the Fold is a very common source of info across the board. Rachel's Democracy and Health News is also very popular. Websites of major environmental groups like Environmental Working Group are important too. Collaborative on Health and the Environment is another major source, and its frequent teleconferences are a great source of information with participation with a wide range of parties. How and in what form do you personally receive such information? Above the Fold is my single most regular source on a daily basis. Collaborative on Health and the Environment is the second most common source for me. Environmental Health Perspectives is another important source.

—Phil Brown, Brown University

- from agency communications (both hazard and site-related); examples include newsletters, public meetings, or call for comments (Depts of Health and Ecology; ATSDR; EPA; CDC; etc.).
- via direct communication with agencies about a hazardous site related to actions and concerns about steps taken/not taken. Sometimes this communication includes EPA Community Involvement Coordinators
- via mainstream news media articles and publications about site activities and actions.
- from issue-related health and environmental publications and websites (including topics on diseases and disorders that have implications of environ. associations).
- through both scientific peer journals and science journals for lay audiences related to health hazards, environmental/eco hazards. Including current research on diseases- causes and treatments.
- it is relevant to note that many of the community organizations we work with produce their own informational communiqués (web, print, hosting/presenting at community events). This informs their community but also translated across communities (this is part of the mission of the Northwest Toxic Communities Coalition).

—Katie Frevert, UW

In my experience most advocacy groups obtain information at regulatory agency meetings that are open to the public (i.e., regional water quality control board meetings) from presentations by government officials, researchers and other NGOs. However, online information resources are becoming more important (e.g., government reports, PRTR database).

See: <http://www.cec.org/takingstock/>

I personally obtain information from literature searches, government reports and also receive information from NGO newsletters. I think EHP has the potential to become an important environmental health information resource for the public, advocacy groups and decision makers but more work needs to be done to communicate complex scientific concepts and information to the lay person. Given that EHP serves a different audience and purpose, perhaps a supplement could be added that focuses on research findings with the potential to have a high impact on the environment and human health. Such a supplement could include educational material on the major scientific concepts being discussed so that it also serves as a public education tool.

--Hiram Sarabia, University of California, San Diego

The media (including TV, radio, web sites, and blogs) has become an essential source of information for many people. We get information from various sources on the web (including government agency sites), radio, scientific journals, popular press articles and listservs operated by organizations in the public and private sectors.

--Kathleen Gray, University of North Carolina-Chapel Hill

Public: TV, local news, from neighbors, as a result of their own medical problems, from advocacy groups

Advocacy groups: they seem to pay more attention to EPA, ATSDR, agency-related newsletters, websites, health-related articles and publications.

Personally: newspaper, websites, local and national news on TV

--Lisa Gaetke, University of Kentucky

a) *News media: push technologies:* All groups are exposed to “news stories” about environmental contamination through newspapers, radio and television through both national and local channels. So the traditional news media (the “push” technologies) often play an agenda-setting role in putting issues into the public forum. But some environmental contamination issues of interest to our SBRP program lack news values — for example, they are ongoing, have long time horizons, are complex, are difficult to capture in simple anecdotes, or lack clear villains and heroes (e.g. accumulation of

mercury in our food web; drinking-water arsenic.) It is more difficult for these issues to get into the traditional media marketplace, and when they do these stories tend to lack depth and nuance (“Jeremy Piven has mercury poisoning from eating too much sushi...”). Stakeholders who need or want information on these issues outside of the news cycle and the news format need alternatives.

b) *New media: pull technologies*: Increasingly, the news media as well as advocacy groups, government agencies and other political players and the general population use web sites and web publishing sites such as YouTube, FaceBook, and SciVee to communicate. Those “pull technologies” depend on users seeking out topics in those formats. Users who do express interest can then subscribe to Web 2.0 technologies (RSS feeds, listservs, Twitter) to receive relevant “news” on those topics.

c) *People they know and trust*. Being exposed to information regarding environmental contamination is not the same thing as attending to those messages, believing they are relevant or trusting the messenger or medium. In our focus groups exploring where women of childbearing age get information about the value/risk of eating fish, we learned that women in all income and education levels had searched the web for this information at some time or other. However, the information that was *believed and acted upon* had been verified or offered by trusted personal sources — often family members but sometimes personal physicians. This is consistent with the literature on communication of environmental risk.

I “hear about” these topics largely through traditional news media (public radio primarily) and through email or web news (subscriptions or through Google or Yahoo news feeds.) I “get information” by web searches, including web searches of peer reviewed literature. But often by interpersonal communication.

--Nancy Serrell, Dartmouth University

Our research on this shows that larger non-governmental organizations (NGOs) conduct their own research and may consult the primary literature and with experts. Smaller non-governmental organizations and community-based organizations seldom or never do this. Rather, they rely on information that is distilled by others, including larger NGOs, government agencies, academic organizations, and intermediary organizations, such as the Pacific Institute in Oakland.

--Amy D. Kyle, University of California, Berkeley

Advocacy groups are typically more well-informed about environmental contamination issues. Often they have staff (ranging from legal staff to

environmental policy staff to scientific staff) that follows particular topics. This typically entails following regulatory efforts, permits, and other actions that may be announced to the public. Often, advocacy groups will share this info with other groups via listservs. Most groups have active websites and other means of communicating electronically e.g., online forums. Advocacy groups are also frequently contacted by concerned citizens who are asking for help about specific contamination issues.

The general public is more likely to learn about issues from the news media, frequently television. Other sources of information are community groups and environmental advocacy groups.

--Martha Keating, Duke University

Question 2

Do you think it is important to communicate federally funded research findings? If so, what type of finding should be communicated?

Yes. I think many community groups hold a belief that federal funding brings with it a responsibility to give the public access to the results of that funding. Findings that relate to common exposures should be highest on the list for communication, especially if those exposures can be limited by education, feasible purchasing options, and regulation.

—Phil Brown, Brown University

Yes, community members are very interested to learn about current scientific research and consider themselves to be valuable stakeholders.

- the 'state of the science' information with relevance (current or potential value) made clear.
- not only our program's research but also that of other grantees; the interdisciplinary mission of SBRP allows us to cast a wide net and provide information to broad audiences. This opens the opportunity to promote public awareness of the value and relevance of the research being done across SBRP university-grantee programs.

—Katie Frevert, University of Washington

I think that accountability for spent public funds will increase and it will become more and more important to be able to communicate how research helps the country to protect its natural resources and the health of its citizens. Those findings that have the potential to revolutionize our thinking about the relationship between human health and the environment and serve as the foundation for new knowledge and technologies that will help protect the environment and human health are particularly important.

--Hiram Sarabia, University of California, San Diego

Yes, it's important to communicate the findings, assuming that relevance outside the laboratory can be demonstrated and clearly and succinctly communicated.

--Kathleen Gray, University of North Carolina-Chapel Hill

Yes, it is important to communicate findings particularly if the findings impact individuals/community members.

The findings need to be reasonable and scientifically substantiated. It is particularly important if the findings impact health. The communication must be

communicated in an understandable format from trusted individuals. It would help to have an overall SBRP communication plan and share findings among all SBRPs.

Affected community members are interested in health. It has been helpful in our SBRP to provide nutrition information that has been shown to be helpful (and safe) in relation to environmentally-associated conditions/diseases. Nutrition and lifestyle changes are something affected individuals can do something about (gives them control), even as a preventive measure.

--Lisa Gaetke, University of Kentucky

“Communicate” is a broad word! To ensure that people can find out about us when they do a web search we should publish lay language abstracts or summaries of all findings and their relevance to current environmental and public health concerns on websites that are easy to access. But seeking wide media coverage for every finding does not make sense. Two decades ago a journal publication was a good proxy for a news hook. Today, the proliferation of journals reporting on incremental gains means that much of what is published is not of broad interest or relevance to anyone outside of a scientist’s immediate colleagues. At the same time, options for dispersing information of interest and relevance to smaller audiences and subgroups have mushroomed. This puts the onus on individual programs to identify end users for the knowledge produced by that program, and to find the best way to connect with that group.

--Nancy Serrell, Dartmouth University

I think that this depends a bit on the kinds of research. It is more important for research in a program like SBRP, which was contemplated to contribute to solving problems, than in a field such as basic physics. However, for the applied fields such as environmental health and engineering, or medicine, translation of research would seem to be part of the core mission.

However, this needs to go beyond “research findings.” For the most part, findings from individual studies are not significant, taken alone. Rather, it is the body of research that produces important insights and knowledge that should be available to the public and to those engaged in defining the agenda for policy attention and devising solutions. The current approach to translating findings does not do this very well because it mostly focused on individual study results.

--Amy D. Kyle, University of California, Berkeley

Yes. Research findings must be communicated or the public will question the utility of such research. To the extent that they are relevant to public or community health, all findings should be communicated in such a way that is publicly available (e.g., web-based). Some findings, of course, with direct

relevance to the community should be translated and communicated directly with the affected community.

--Martha Keating, Duke University

Question 3

In your opinion, who should be the SBRP's target audiences? That is, are the SBRP's constituents communities near Superfund sites and other regulated hazardous waste sites; standing advocacy groups; policy makers; other non-government environmental organizations; etc.?

SBRP should address all those audiences. While basic science is very central to SBRP, scientists have many other venues for communicating their findings to the scientific world. But communication to policymakers, community groups, and affected communities (e.g. near Superfund and other hazardous sites) is an area in which we can make a real contribution. Also, because a number of universities with SBRPs also collaborate directly with community groups through the NIEHS EJ program, as well as other federal and non-federal funding sources, we are well-positioned to do better communication than some federal agencies.

—Phil Brown, Brown University

Target audiences- the involved agencies, local policy makers, advocacy groups, NGOs and respective community members- the SBRP can promote communication and education by working as a liaison and bridge builder. Target audiences are also health clinics, pediatricians, doctors, public health nurses, schools (locations that serve the community and offer access to health information).

—Katie Frevert, University of Washington

Those making decisions about Superfund sites (e.g., EPA managers, Advocacy Groups, other researchers), as well as vulnerable populations and policy makers.

-Hiram Sarabia, University of California, San Diego

EPA, state environmental agencies, CDC, state health agencies, impacted communities (those with hazardous contamination), especially vulnerable populations. Also the media (reporters, editors, online sources). Maybe even remediation contractors and PRPs.

--Kathleen Gray, University of North Carolina-Chapel Hill

Community members who are affected by or could be affected by the information; those members who would be affected by prevention information or remediation information. Along with that, community advocacy groups depending on the community support for those groups. Health care professionals (who serve affected populations), health industry connections, local/state policy makers and partnership organizations.

As a side note, our SBRP's COC has had a good experience with attorneys (I know this word strikes fear in many) connected with a community group. The

attorneys were very helpful in encouraging their clients (community members) to attend our nutrition education programs, but also helped us know what would not be good for their clients' cases.

--Lisa Gaetke, University of Kentucky

(Not journalists? Not science writers?)

The target audience for any story or message depends on the goal of communication. The old broadcast days, where new information was transmitted from a limited number of sources to huge audiences are over, and we now bombarded by a surfeit rather than a dearth of "news" from multiple sources. There is more distrust of those sources, as well as all institutional sources of information. Ideally, our program would be an online presence that is a trusted resource of record – which means our website would need to reflect the needs, interests, language and framing of end users. (NSF recently revised its web site to be more oriented to its users.) We would drive or invite different people to that site at different times, depending on the purpose.

At the same time, individual programs need to develop relationships with stakeholders who need and want knowledge produced by the program – and that means face-to-face contact.

--Nancy Serrell, Dartmouth University

This will probably depend on the program. SBRP has programs and strengths in some areas but not in others and cannot address every area or type of issue. Unless the program became much bigger, it will need to target audiences that are reachable and this will vary.

Much of the research and knowledge in the SBRP is applicable to questions beyond site contamination, so the audiences would extend also beyond organizations working at individual sites in some or many cases.

To effectively translate research for policy audiences and stakeholders requires the development of relationships over time. This is well-documented in the policy literature. Policy discussions occur at a much faster pace and in completely different venues than research. To bring scientific findings and insights into those discussions requires personal contacts and interactions that occur primarily in the policy venues. You have to go to them; they generally do not have time to come to you, other than perhaps for a major event. This means that SBRP needs to provide for the investment of time that it takes to build such contacts.

--Amy D. Kyle, University of California, Berkeley

Communities, environmental and community advocacy groups, policy makers (local, state, and federal), other non-government organizations, other government agencies, other researchers.

--Martha Keating, Duke University

Question 4

We believe that publishing research papers in the peer-reviewed literature is only one essential mechanism for communicating research findings. What do you perceive to be the most effective communication tools? E.g., seminars, fact sheets, web pages, community meetings, etc. The least effective?

It would be worth considering a format such as Cornell's program on Breast Cancer and Environmental Risk Factors, which provides public education sessions and a very readable newsletter. A dedicated web page for public communication would be a great project.

—Phil Brown, Brown University

Fact sheets and related health publications, SBRP involvement in community meetings, providing opportunity for a community to interface with research investigators and learn about current research. What is most effective? Helping community with actual monetary support to meet their communication needs; to serve to access scientific information that is requested; and interact directly with involved agencies on occasional questions or concerns.

—Katie Frevert, University of Washington

As the staff of advocacy groups grows more sophisticated in their knowledge level (e.g., many MDs and PhDs work for advocacy groups), online journals will become increasingly important sources of information. However, I think all of the means of communication listed above can be good information resources if the information is organized and easy to access. An organized repository where the information is publicly available and includes contact information would be very useful.

--Hiram Sarabia, University of California, San Diego

Depends on the audience. Academics are the primary audience for peer-reviewed literature, so if you want to reach academics, then journals and conferences are the best avenue. We have had success with seminars for state agencies, and community meetings and web pages for community-based organizations. We are also learning more about the effectiveness of video with state agencies (results so far are promising). Note that educational activities for grades 8-12 are an effective way to communicate basic research findings as well as introduce the processes of scientific inquiry and discovery. Because teachers and students are actively learning about science, they seem well positioned to digest higher level scientific findings than many general public audiences.

SBRP faces a challenge in that it is grounded in Superfund, a concept that the average person doesn't know much about. When you first have to define basic terms, before moving to the sharing of complicated research findings, you have more opportunities to lose people along the way. If community-based organizations (CBOs) are a target audience, then thinking about how to market the program to the average person would be useful.

--Kathleen Gray, University of North Carolina, Chapel Hill

Direct contact with affected individuals/community members. This may also include the community members' own advocacy groups, group representatives, etc. We have found that individuals and people affected are often under-served and limited in income. In some cases they are intimidated and afraid of academics/universities. They respond best to local people whom they trust. One example for our group is Cooperative Extension Service (CES) personnel (land grant institutions). CES agents are trained in translating university research to the public. They also live in affected communities and are trusted.

Also: community group meetings (similar to a town hall meeting), generally more effective if local, trusted individuals (we have used CES agents) are part of the meetings, We have found that health/nutrition education programs have been an effective way to encourage group meetings (free food samples and small gifts of food work well for building trust). In Kentucky, unfortunately, we find that many of the people affected by hazardous waste sites do not read the newspaper, do not use computers, and are more likely to watch TV as their source of information.

Least effective would be proving handouts, printed materials without direct contact.

--Lisa Gaetke, University of Kentucky

Most effective: Scientific information needs interpretation to be useful in practice. So it's important that science be interpreted, and that investigators in our program value and are valued for doing this. It is also important that interpretations of scientific knowledge be available or delivered "just in time." It doesn't matter whether this is a fact sheet that produced quickly after the stakeholder need is identified – which happens when Program personnel have ongoing contact with stakeholders – or a phone conversation, or a visit to a Legislative Study Group or a community meeting, as long as the information is there when people are interested in acting on it. A standing solution to that need is reliable information presented in clear, accessible language on a website. Also: face-to-face relationships are really important for communicating the tacit knowledge that is essential to effective research translation – that is, knowledge of the culture, values, priorities and day-to-day needs of different stakeholder groups.

Least effective: Communication tools that don't reflect the needs and interests of users — such as web sites that reflect the bureaucratic organization and language of their organizational hosts or glitzy publications that don't reflect relationships with external constituents.

--Nancy Serrell, Dartmouth University

The process is more interactive than this. It can be helpful to have fact sheets and web sites, but they still need to be introduced to audiences at the right time, when the audiences are focused on the issue of interest. The products need to be more about the state of knowledge than about individual research findings. But you can invest a lot of time and money in such products without having much impact if they are not about questions that your audiences are focused on at the time.

--Amy D. Kyle, University of California, Berkeley

The most effective communication tool should be tailored to the audience. In some cases (e.g., for other researchers) a web page may suffice. In others, a community meeting may be essential. Probably the least effective mechanism for community groups is the peer-reviewed literature — unless it is translated and communicated in such a way that the community can understand and use it. The lay person most likely gets most information from watching TV. Community meetings are effective for active members of the community. Listservs seem effective for notifying advocacy groups of issues and findings. Policy makers need direct contact with simplified materials (e.g., fact sheets, glossy reports).

--Martha Keating, Duke University

Question 5

What interfaces or structure would be helpful for facilitating on-going, two-way communication between the SBRP and its constituents? E.g., are community-academic partnerships an important way to support communities? If so, how should these be formulated?

If the new PEPH develops cross-program meetings of all NIEHS grantees involved in outreach, that would be an ideal tool. Until such time as that is underway, SBRP by itself might call on those of its COC and RTC people who have prior experience with academic-community partnerships, in order to explore how those partnerships can benefit SBRP.

—Phil Brown, Brown University

The community-academic partnership is valuable to all constituents. It is the responsibility of the academic side of the partnership to communicate wealth of resources and knowledge within it. It is part of a university's mission to serve the community. How should these be formulated? As a collaboration from the bottom, finding a way to be invited in. Our relationship with the Northwest Toxic Communities Coalition has been effective in this regard.

—Katie Frevert, University of Washington

Most of our partnerships are problem-driven; we identify priority environmental health issues where we can have a positive impact and actively seek to build relationships that allow us to develop collaborative projects. At a regional or local level, I think the uniqueness of each case needs to be recognized. However, at a national and international level on-going annual RTC meetings that take place in different parts of the country could serve as important forums to showcase the overall impact of individual efforts by SBRPs.

--Hiram Sarabia, University of California, San Diego

Interactive web sites. Newsletters (or other directed marketing efforts) tailored to specific audiences. Again assuming CBOs are determined to be one of SBRP's key constituents, there is real value in community-academic partnerships to bridge the distinct worlds of NIH-funded research and concerns of communities. We assume a CBO would have a role in defining any partnerships it participated in and would receive (or at least be offered) some form of compensation.

--Kathleen Gray, University of North Carolina-Chapel Hill

Academic – community partnerships as described in Question 4. It is part of a land grant university's mission to use engagement/outreach to translate research

to the public. In Kentucky, we have found that identifying community members, building trust and then taking education programs (in our case, using the subject of food/nutrition and Superfund) directly to those affected is most effective. We have partnered with Cooperative Extension agents (to a lesser extent, EPA community personnel) which have facilitated our acceptance into an affected community. It is a fine art of getting the community to tell you what they want to hear and initiating programs to introduce them to the idea that you have something to tell them. This includes a long process of building trust.

Communities seem most interested in their families/children's health. Food and physical activity, and other lifestyle changes are something they can do (without tremendous expense) in their own lives, although it does take encouragement and motivation.

--Lisa Gaetke, University of Kentucky

SBRP's Community Outreach cores are an excellent mechanism for supporting community-academic partnerships that are not driven by research goals, such as theory development and/or data collection (or market share, for medical center outreach). The traditional relationship of academic researchers with communities is instrumental, not mutual. Historically, this fosters cynicism among communities about whether academic partners are "doing to" or "doing with" community partners. SBRP has a rare opportunity to build on a strong track record in Community Outreach, and a network of people who know how to translate scientific knowledge based on community interests and how to engage in capacity building efforts grounded in evidence-based practices. Most of those people are applying the values of Community-Based Participatory Research -- without the research. This fosters a shared agenda for academic-community partnerships, and supports the goal of the SBRP.

--Nancy Serrell, Dartmouth University

We don't have a problem with this and in fact have far more opportunities to assist than we have resources.

Organizing partnerships can be beneficial but also can take a lot of time, so they have to be flexible to fit the needs of the audiences. There are fundamental challenges with this because the speed at which academics work is slow compared to the speed at which community groups and others tend to address issues. Community groups and legislators, for example, want answers to their questions in hours or days, and academics tend to produce answers in months or years. Some form of a knowledge broker is needed to bridge this, and if this is part of the partnership that can work well.

--Amy D. Kyle, University of California, Berkeley

According to EPA staff, projects with a community-academic partnership are more successful than projects that community groups tackle alone. Encouraging SBRP investigators to publicly present their research to target audiences is the best way to have this “bi-directional” dialogue.

--Martha Keating, Duke University

Question 6

What do you believe to be the major science concerns that communities face relative to hazardous waste and environmental contamination that should be research priority?

Beyond issues related to specific chemical toxicity studies, are there broader research topics that affect the health of communities, e.g., toxicity of mixtures, sensitive populations, etc., that you think should be investigated. Please consider both existing challenges as well as new, emerging issues.

The public, and more specifically, activists/advocates, are alarmed at the length of time it takes to document hazards and exposures, and to clean up Superfund and other hazardous sites. Many community groups would like help with small-scale exposure studies and health surveys. There is a lot of concern over emerging contaminants such as halogenated flame retardants, phthalates, BPA, and PFOA, and with new technologies such as nanotechnology. Community groups are especially concerned with multiple exposures/cumulative exposures, which is not the same as mixtures. There is growing concern with school siting on hazardous sites.

—Phil Brown, Brown University

That scientists work more effectively at communicating research and data to policy makers AND back to the community stakeholders alike. This communication by research scientists is key to effecting change. Additionally, when community members are recognized as stakeholders they should be included in process of scientific research and not just as an endpoint for reporting

Yes, more scientific research around toxicity of mixtures, sensitive populations would be of interest to communities. SBRP actions in promoting education around these and other topics and others (e.g. exposure and risk) also have the capacity to improve human health in a tangible, valuable way

—Katie Frevert, University of Washington

I think one of the challenges that many advocacy groups face is being able to systematically and strategically identify, prioritize and address environmental health issues. Being able to compare and evaluate the environmental and human health risks presented by different issues is an important challenge as resources are often limited. Also, being able to identify wildlife and human exposures to hazardous chemicals is key assessing the true impact of contaminated sites, as is understanding the risks presented by mixtures and identifying those at greatest risk. To that end, work on reliable, fast, cost-effective and portable bioassays and biomarkers is very important.

--Hiram Sarabia, University of California, San Diego

Many of the communities that we've worked with are concerned about health and safety in their communities. And they are looking for science to inform whether they (or their water, etc.) are "safe". They are often also interested in how to protect themselves from potential contamination. Other concerns relate to accessing relevant scientific information and level of understanding of available information. Toxicity of mixtures and sensitive populations are both relevant in community settings.

--Kathleen Gray, University of North Carolina-Chapel Hill

Toxicity of mixtures, new chemicals and lack of information as to their safety or harm, health concerns appearing after years of exposure to things considered safe, sensitive populations (including tracking offspring of exposed individuals after the site is closed or remediated), nutrition and other health issues (prevention and something an individual can do to improve health).

--Lisa Gaetke, University of Kentucky

It depends on whether "major" means of most interest scientifically, which would produce different answers depending on the scientists consulted; or whether it means issues for which pending regulation or health advisories require a better understanding of the underlying science, which is a question for the regulators or the public health community; or whether it means issues that are of most concern to communities. Baylor University did an excellent analysis of the environmental health concerns of Houston-Galveston area residents. That strategy would be most consistent with the values of community-based participatory research, and it would probably engender more grassroots support for the program.

--Nancy Serrell, Dartmouth University

Some questions not currently being addressed are: what are practical ways to better test chemicals for their hazard and exposure traits? How can we verify whether products claimed to be "green chemistry" are in fact green? How can we assess and address the cumulative impacts of multiple environmental stressors and their interactions with other factors that affect health. How can new tools be used to devise monitoring systems that are faster, cheaper, better, and more immediately accessible to the people? How can we get information about hazard and exposure traits of chemicals to the public faster?

--Amy D. Kyle, University of California, Berkeley

This would depend on the specific community and what they perceive as risks in their community. In one local county alone one community is concerned about biosolid disposal, while another is concerned about increased traffic. It seems that is general, any community's overall priority for hazardous waste research will

be health effects, understanding causality, controlling risk, accountability, and clean-up. Ultimately people want to understand how their health will be affected by pollution.

A broader question is where do communities turn for information, whom do they trust and why? Do the people/Agencies/advocacy groups that communities turn to have access to research findings? Does the SBRP have relationships with these groups?

--Martha Keating, Duke University

Question 7

SBRP works closely with its federal environmental partners the Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR). Do you have recommendations for how SBRP could strengthen these partnerships?

EPA's CARE program works with many grassroots groups, and would be an ideal program to collaborate with. Although there is much public anger at EPA nationally over the last 8 years, some regions and some national programs have remained very supportive of community groups and environmental justice groups, so there is a basis for trust. There is a residual community distrust of ATSDR, and it will take a lot of effort to overcome that. It would definitely entail discussions with community groups about that history.

—Phil Brown, Brown University

As managing agencies, perception problems within communities may hamper both groups mentioned. The academic-agency partnerships and the community academic partnerships alike can be strengthened leveraging the goodwill of an academic institution as a resource for information and vehicle for communication.

--Katie Frevert, University of Washington

Perhaps the best means to do this is to continue to participate in national forums and promote collaborative projects.

--Hiram Sarabia, University of California, San Diego

Tailor small RFPs to issues that EPA identified as research needs.

--Kathleen Gray, University of North Carolina-Chapel Hill

More joint meetings with these partners, so we know with whom to interact. Perhaps this would be better at the local level (specific SBRP and local partners), although I understand it may be related to funding and specific personnel.

--Lisa Gaetke, University of Kentucky

Is the goal of our program to produce the science that enables EPA to make better regulations, and ATSDR to offer better health advice? If so, and if SBRP defines "research translation" narrowly – as putting specific *new findings* of our program into use by these two agencies – we will have a difficult time establishing sustainable partnerships for the simple reason that the time frame of research is rarely in sync with the time frame of regulation/health advising. Also, our research in SBRP is necessarily reductionist; the day-to-day issues that EPA

and ATSDR deal with are wholistic. Unless we abandon basic research and do applied research for these agencies we need to find a way to make program *expertise* as well as new findings available to those agencies – including program expertise in community outreach, environmental justices, science/risk communication and health promotion. The point: for partnerships to work, our program needs to find ways to adapt to the broader perspective (and more tightly constrained roles) of EPA and ATSDR.

Our very different cultures are also an issue. It may be a good idea to establish some means of placing program RTC or Outreach personnel in regional EPA or ATSDRs - or to place EPA or ATSDR individuals in a SBRP research group – for a specific period of time, in order to foster a better understanding of the mission, priorities and cultures of these respective groups. Ideally, personal relationships would develop that could lead to sustainable partnerships.

--Nancy Serrell, Dartmouth University

Others are better positioned to answer these questions than I am. I think that state agencies should also be considered as a close partner, in addition to the federal agencies. State agencies manage the majority of environmental protection activities in the nation, in cooperation with US EPA.

--Amy D. Kyle, University of California, Berkeley

Community groups are probably not in the position to answer this question. Interagency task forces set up to address similar issues may be one way to partner with other agencies, but the topics, goals and deadlines for each group would have to be clearly defined.

--Martha Keating, Duke University

