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For the past 20+ years, there has been a belief that private business will take care of these issues and federal government involvement is bad. This has become institutionalized in the federal government and must be changed before any other change can occur.		
It is impossible to have any serious conversation with ATSDR about public health and the environment without first addressing ATSDR's track record in evaluating health problems in communities.	Trust. There's a tremendous lack of trust of ATSDR in communities that has resulted from years of poor studies lack of response to comments, questions, and concerns about health. Until this is addressed, there cannot be a national conversation about public health and the environment.	
1.) Appropriate budget for federal agencies to support community environmental public health issues. 2.) Capacity/skill building of community residents and researchers. 3.) Interagency working/collaborations on environmental public health.		
1.) Chemicals are "regulated" unevenly at best, in response to different legislative acts over many years and political regimes. A) review of structure of regulatory framework with enforcement in mind. B) Review of enabling legislation. C) Collect available data into one place. 4) Prioritize and coordinate agencies <u>action plans</u> . 5) Fund 6) Apply personnel to ENFORCE existing laws. 2.) Industry has a free hand to advertise and push products with toxic ingredients (i.e. pesticides) and are not monitored or regulated in that the effort to "educate" consumers about safer choices is too little too late.	Need to start from a vision of where we want to be, then develop action plan to get there. 1.) Chemicals will be actively regulated, cradle to grave, with public health in mind. 2.) Communities affected by chemicals will: A) have access to information on toxins in a format/language that relates to their environment. B) have a voice in and access to decisions made. 3). Centralized, coordinated information and referral system on chemical issues exists. 4). Mechanisms for remediation of chemical exposures/pollution exist and are easily accessed. 5). Mechanisms for proper disposal of household chemicals will be easily accessible to all, on a regular basis. 6) Poison Control Centers will be A) adequately funded. B) Expanded to include targeted education and outreach programming. C) data will be <u>USED</u> to influence policy.	

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Identify efforts that are duplicative or conflicting in the federal government that may present road blocks to our efforts. Identify people and roles of people in the community of environmental health professionals.	EPA currently has a collaboration MOU with CDC/ATSDR www.epa.gov/care . A team has been building a prototype of a website to improve the access of communities about environmental health issues across federal agencies. Can this effort also support this current initiative on public health and chemical exposure? I would like to hope so. The site could be a partnership like "Energy Star." As Dr. Frumkin stated- we have a "complex system."	
Multiple agency collaborate approach to solutions for communities.	Issues of funding for community based participatory work currently going on in the federal government, especially for the CARE program (community action for a renewed environment).	
Every community is different and unique, and it behooves us to work within the means of utilizing the right people at the table based on community-by-community needs. You have different types of sites, military, landfills, hog, poultry, catfish and other farming sites, petro industry sites, and etc. Site visits should have all the right people to address needs of the community.	Health care and housing needs are two of the greatest NEEDS that are needed to address based on the site visits with the right people. (Case studies) or studies collaboration.	
Education on a basic, elementary level in schools: 1) strengthening science in schools to be more community interactive. 2). Incorporating very basic toxicology principles/public health effects into curriculum (high school/ college level). 3). Expanding collaboration to educational sector, expansion to ensure public understanding of these issues (chemical exposures and ways to protect themselves.)		
The US needs to ratify the Stockholm Convention on Persistent Organic Pollutants (POPs) a global treaty to ban the most toxic chemicals on an international level. Residents of Alaska and Arctic Indigenous peoples in particular have the highest levels of these chemicals in their bodies. Even POPs that have been banned for over 30 years are still accumulating in the Arctic food chain and in humans. It is time for the US to take a stand in support and solidarity with Arctic Indigenous Peoples on this critical issue.	For communities of low population size, the scientific methods to "prove" what counts as public health importance are inadequate. There needs to be a better way of validating communities' concerns beyond statistical significance- see Nelta Edwards' article in the sociological journal "Contexts" for an explanation of why statistical significance doesn't work in small populations. For these communities, the rates of disease need to be tens or hundreds of times higher in order for the agencies such as CDC to investigate- this is a serious injustice that must be remedied.	

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<p>Current chemical manufacturing based on market driven process- science often biased by company research or no research at all. Need to change entire process to require science (unbiased) to precede manufacture and release of new chemicals- like EU. 1.) Similar to workers "right to know" rule under OSHA- enact a community "right to know" law that mandate businesses and manufacturers provide list of chemicals in case- create database for public record- could also be useful for emergency response and research purposes. 2.) Require superfund sites, hazardous waste sites, large chemical manufacturers and supply routes to be disclosed on real estate transactions. 3.) There is no safety net to provide health care for all the people that are environmentally exposed- support universal health care coverage. 4.) We don't know the real effect of environmental exposure because we don't ask the right questions in hospitals/clinics and MD offices- need to teach and nursing students how to "connect the dots" for environmental and occupational exposures.</p>	<p>General population is not aware of the exposure they have in daily life. We need to incorporate this awareness into the general media that reach the greatest amount of people- TV, internet, newspapers, etc., like was done in the 1970s to introduce the concept of "ecology" awareness.</p>	
<p>1). Health Economist to help with the discussion. 2.) Health Care reform --> health <u>department</u> reform. 3). Risk Assessment of CDC and EPA should be aligned. 4) One health! Human, veterinary, and environmental health work in concert.</p>	<p>1.) Support of States' Public Health. 2.) Support environmental public health medicine that is evidence based.</p>	
<p>Protecting children- idea of cabinet level office- must also include pregnant women so that children are protected in their most vulnerable stage of development. Interagency Office of the Protection of Children, Pregnant Women and other susceptible populations.</p>	<p>Grants for <u>community environmental health promoters</u> as a way of supporting communities and promoting education.</p>	

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	<p>I am concerned that the precautionary principle has such overwhelming support. This is because it can be an oversimplification of the issues. From the scientific standpoint, it is not always clear whether something is "safe" or not. The potential hazard of chemical exposure is clearly important but we also need to weigh the benefits of some chemical use or new material uses, or we cannot get anywhere. Especially in the case of emerging technologies, i.e. nanotechnology, the intelligent use of caution in handling practices, etc. is obviously critical. <u>But</u> the methodology to characterize exposures, characterization, etc. is ongoing and should not shut down the use of some of these materials to <u>improve</u> and <u>save</u> lives.</p>	
<p>1). Reiterate the need for the US to set an example for other nations- others are already working off our flawed model with even fewer safeguards. 2.) Transparency and the willingness of agencies to come forward and admit their weaknesses and publicly ask for resources, authority as needed- to gain public will.</p>	<p>Use policies to internalize the externalities.</p>	
<p>Unfortunately I had to leave early, but I would like to include somewhere in the conversation the topic of reproductive health- ensuring that men and women are able to have healthy children and maintain fertility. Some ideas are to ensure in biomonitoring efforts reproductive health is considered, scientific research focus on impact of chemicals, and chemical reform identify reproductive toxicants as an issue of concern.</p>		
	<p>Precautionary principle (PP) is considered to be a flawed policy/principle by the FDA and other regulatory agencies. Implementing the PP in the US may require an act from congress to overcome the existing inconsideration of PP.</p>	

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		<p>1) Scientific understanding: U.S. FDA narrowly focuses on public health mostly from regulated product use exposure. FDA collects volumes of safety information which is used only for that narrow focus. The collected information could provide valuable data to fill data gaps. Broadening FDA's vision and authority to consider the data for other exposures or increase ability and interest in sharing the available data. 2.) Policy: The Federal Food Drug and Cosmetic Act was passed in 1938. It does not include any direct authority for FDA to consider public and ecological health of the many products it regulates. TSCA exempts drugs, FQPA does not apply to FDA. FDA need direct authority to cover environmental exposure and a change in its institutional interest to address environmental exposures.</p>
<p>1.) Resources to provide independent advocate for affected communities- e.g. who knows ATSDR process, but not influenced by them - to assist effectiveness and level of knowledge of citizens. 2.) Review the approaches of the NIEHS centers of excellence on children's health- they have been required to have community at the table and to report to them- and translate science- How has the worked? Lessons learned? - especially, how do the involved communities find this process? How can this experience help communities protect themselves.</p>		
<p>Focus- public education- on <u>what we don't know</u> - people don't realize how little we know and the difference between "no evidence of harm" and "this is safe". (White house garden example).</p>	<p>Short-term: Government should announce what we don't know and clarify the difference between "we don't know" and "there is evidence of safety".</p>	

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<p>1.) Have U.S. agencies responsible for international environmental policy work- such as through aid actions of USAID, PMI, CDC --> Be included in this process of the national conversations. 2.) U.S. policy related to overseas aid needs to <u>at least</u> reflect health and environmental impact standards from U.S. onto international aid.</p>	<p>1.) Corporate responsibility to prove no-harm, not victims proving harm. 2.) Precautionary principle as basis of legislation. 3.) Testing of all chemicals (rigorous testing) <u>before</u> anything gets commercial release.</p>	
<p>Communities no longer are 'naturally occurring' phenomena- incorporate rule of law, mediation, civility principles to: 1.) Identify appropriate consensus (i.e. reconcile disparate voices). 2.) Facilitate interdisciplinary conversation. "Triage"/ prioritize a national/global strategy.</p>	<p>Literacy- health, science, risk: shared vocabulary (e.g. "what is a chemical"). Limits- What can a "law" do? What can society control? Expectations and responsibility.</p>	
<p><u>Burden of Proof</u>--> shift to sources. <u>Burden of avoidance</u>--> should not be on children. <u>Burden of intervention to remediate</u>--> should not fall to parents and communities. Federal actions <u>must</u> be coordinated and reach those who <u>own/operate</u> facilities as well as those impacted. *Children's exposures where they <u>learn and play</u> must be understood and avoided. *<u>Safer products</u> where children <u>learn and play</u> rapidly deployed today not post TSCA reform.</p>	<p>Children's exposures to hazardous/toxic chemicals occur everyday in child-care centers and schools- crosses every part of the national conversation- ignored by federal agencies, not addressed by National Children's Study, not addressed by NIOSH. <u>No data ≠ No problem</u> --> EPA needs authority to regulate environments in schools- e.g. <u>PCBs CCA, pesticides, toxic products</u>, mercury, lead, D/W, IAQ and molds.</p>	
<p>Identify chemicals of concern; hazard over risk approach/reverse onus; prevention, i.e. precaution.</p>	<p>Database and testing protocol for substitutes for "bad actors"- to assure that the "cure" is not worse than the "disease." <u>Incentives</u> for developing alternatives using green chemistry- which is a tool- so... Develop a toolbox of approaches including precautionary principle, green chemistry, and others; a practical policy- encourage/require all primary physicians to take and <u>environmental</u> H&P at intake of ALL patients- standardized as policy, this would be especially useful in <u>pediatrics</u>.</p>	
<p>Short term: Indoor Air- EPA has terrific guidance and NIOSH has a research agenda. Needs strategic, cohesive focus from agencies; accelerate use of safer products in child care and schools. Medium term: Intervening when children are in harm's way in schools and childcare centers- administratively/or by policy/ broader ability of NIOSH to evaluate kids, in addition to employees.</p>	<p>Short term: Combine/synergize selected agency research; root out conflicts of interest in federal agency programs and advisory boards; green and healthy are not the same. Long term: Force state interagency coordination between state health and environment agencies to prevent harm to children. Models in NYS, MD.</p>	

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	Echoing comments by others--> prioritize chemicals in commerce for further review based on both hazard and potential exposure based on used. Another comment--> It would be nice if a credible, unbiased group of health statisticians and economists could actually tell us about some of the allegations of chemicals and health. No one trusts industry, NGOs, or academics closely aligned with either. Someone needs to be definitive about trends, statistics, research needs, etc.	
1.) Identify and prioritize chemicals of high concern. 2.) Compile agenda for health and environment. 2.) Get the word out about use to communities. 4.) State health departments need to be supported by U.S. government agencies. 5.) 16 million blood components are transferred each year. Blood is not tested for heavy metals or other toxins. Infants that weigh less than a pound are regularly transfused. Lead and mercury in the blood is very dangerous for their future development.		
There needs to be better infrastructure in state departments of environmental health to respond to community concerns. There needs to be experts in indoor air assessment, water resources, soil contamination These persons need to partner with health care providers to provide accurate, knowledgeable information		
To solve these problems we need a regulatory framework/ and or agencies (EPA) need to be empowered. We need broad based reform with involvement of industry to move towards safer chemicals.		
I would like to see a common agreement on what amount of evidence defines a "safe" or "unsafe" compound(s). Would this be two separate studies with rodents, at a defined number of animals to define the NOAEL and then generally agreed upon safety margin?	In addition- agreement on how multiple exposure to different compounds (e.g. phthalates) would be factored in.	

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<p>The breakout group has largely focused on reforming Federal agencies/changing policies with regard to transparency and honesty about data/knowledge gaps, lack of authority, etc ... however, this seems like the slow route, granted, still critical to bring about long-term, broad-based change. But, I think our breakout session has largely dismissed some of the "low hanging fruit" of voluntary hazard management programs. Industries or companies can often be guided by a carrot more readily than by a stick. For this to work, however, agencies and the public may need to cajole/ridicule a company until it chooses a more sustainable/less hazardous approach.</p>		<p>(comments, cont'd.) Please do not misinterpret this as being against the EPA having beefed up regulatory authority. But, I do think it will be a while before congress will let the EPA embrace the precautionary principle. In the meantime, I think there are a number of "carrot"-type approaches to take with regards to certain chemicals (esp. consumer use/exposed to chemicals) (i.e.. this approach can get around proving harm). Also, I think there should be federal/state grants available to small (chemical-intensive) businesses to green themselves. For example- grants to drycleaners to change equipment to non-perchloroethylene, non-siloxane dry-cleaning or wet cleaning.</p>
<p>How federal agencies can increase transparency <u>but</u> also translate info to policy makers so that they are informed to make public health protective actions. Establish a framework. GAO --> outlined failures of TSCA --> couldn't EPA or ATSDR to this. Identify : Short term results/ long term results</p>	<p>How would be the best-way for agencies to incorporate the precautionary principle into agency practice and communication so that it can drive the shift to precautionary principle regulation and rule setting.</p>	

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		<p>There needs to be more <u>upstream</u> conversations about reducing hazard in every aspect of this conversation rather than management- and the policies to make that happen. Right to know needs to be a major focus of this effort, related not only to chemical components and hazards but also on the limits of science. We need a research agenda to make the case that a prevention approach is viable and economical. How do we evaluate the whole health of a human in a typical day, a person engages in activities regulated by many agencies but who is looking at the whole? University funding and conflict of interest must be addressed; too much research is directed by industry funding. ACOE must adhere to environmental regulations. The practice of <u>science in the public interest</u> should be a focus of this effort. Fed. gov't <u>must</u> use its bully pulpit on env. health matters. We must explore tax policies and other policies to make it hard to do the bad thing and easy to do the good thing. It is critical to support chemical use and health endpoint disclosure requirements as a fundamental step to all else.</p>

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<p>1.) Integrate public health into "healthcare reform." - otherwise the latter is only regarding insurance mandate or individual medical intervention. 2.) Integrate environmental public health and occupational health into public health- some of my biggest fights are within public health (epidemiology and communicable diseases, e.g..) 3.) Bring in all federal agencies- don't make states try to stitch together siloed funding, often with competing/confusing foci. 4.) Don't allow public health to get (stay) swamped by other agencies purporting to protect public health. Public health must be the 'go-to' leader regarding public health. 5.) Federal grants must be integrated regarding pesticides/ occupational health/ environmental protection/ endangered species protection. Funding must include resources for public health.</p>	<p>1.) Queriable/ integrated database to pull together the myriad databases already there- stop making it impossible to get info. It's only nominally "available." 2.) In pursuit of inclusiveness and welcoming/encouraging participation: offering meetings via streaming video is great- but it was 5:30 AM on the entire west coast to say nothing of HI and AK, who have even greater challenges to travel and otherwise participate in the "national" conversation.</p>	
<p>We need to revise our protocols for decision-making (by agencies, governments) from our present risk assessment model to one that encompasses prevention, precaution and community input. Occupational, environmental and public health agencies should work together on this.</p>	<p>Mandate environmental/occupational health training in medical, nursing and other health care worker education.</p>	
<p>There is a vast lack of understanding on what the agencies can and cannot do. The Health Agencies (state, local, or federal) cannot do cleanups, any more than the environmental agencies can conduct a health study. Each agency has its authority and responsibility, as does the community. It would be useful for all involved to understand roles and responsibilities upfront to avoid a lot of disappointment and negative feelings all around.</p>	<p>Funding for environmental health activities is declining, particularly at the state level. Additionally, funding is often tied to outcomes, most of which are not within our purview (for example- our job is to provide health-protective recommendations to the state/federal regulatory agency- the outcome is often risk reduction through cleaning up of sites- we don't actually clean up the site, but we do make recommendations). At any rate- funding is a real issue at the state and local levels. In terms of the precautionary principle, what is the "ok" level- i.e.- is there no such thing as "no-risk"- so where do you draw the line when you do live in a chemical world? I like the idea of the precautionary principle, but the devil appears to be in the details.</p>	

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<p>2 of the main overarching issues from the state perspective: 1.) Occupational and environmental health has not been well incorporated into mainstream public health- this affects both funding from CDC as well as the respect this field is given in the state health dept and gov't. Related to this issue, physicians are not well trained in occupational and environmental issues and are at a loss at how to assess problems in individuals or the community. 2.) Public health and regulatory agencies are separated- They should be forced to work together on issues such as pesticides, chemicals in communities; fee-based funding of public health should be considered. Currently, regulatory agencies are funded by fees levied on industry- but these regulatory agencies are not trusted by communities or workers. These fees should also go to public health. A good example of how public health and regulatory agencies have worked together is in Washington State. 3.) Another issue- when considering safer alternatives, need to consider effects on humans (workers, other susceptible populations) and the environment, not just one or the other.</p>		<p>(Comments, cont'd.) Need to have info on where chemicals are transported, stored and used. This info has implications on public health, for example, finding out where to reach affected populations who work with certain chemicals found to have newly discovered adverse health effects.</p>
<p>Open dialogue in which a discussion about policy alternatives. If risk assessments is a blunted tool and inappropriately claims safety (ex lead, dioxin, phthalates, BPA) or something is safe enough, then what policy alternative might guide more protective decision making. Allow for different approaches (example: alternatives assessment) prioritizing chemicals based on attributes (persistence, bioaccumulation, toxicity) and exposure data (biomonitoring) that accelerated phase out of chemical classes that share these attributes. Avoids a chemical by chemical regulator approach- allows for quick action to protect most vulnerable and susceptible to disease development.</p>		

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Interagency <u>Child Health</u> protection office needs to be created-cabinet level.	1.) Last week the Endocrine Society, which is an international medical society of 14,000 members in 100 countries, released a seminal research report that emphasized the <u>precautionary principle</u> and the need for chemical policy reform. This is the first major health-related society to take this kind of stance. Should leverage this with other mainstream professional societies. 2.) There are many <u>databases</u> on toxicants connected to health issues that could be consolidated/linked. 3.) Common Agenda for Health and the environment (Lowell Center for Sustainable Development.)	
The session I attended Policies and Practices did not focus on theme as described in the brochure. Instead it spent an extensive period of time on communities. For future meetings, the discussion should focus on the agenda at hand.	The need for research to address lack of information. Thus establish and fund research priorities.	
	One the issue of safe alternatives: use existing models: 1.) Green chemistry as a solution for safer alternatives a) Use models- MI has a model Green Chemistry Executive Directive. B) support Green Chemistry by federal bill. 2.) Support alternative assessment work currently being done at a state level; prioritization of chemicals of concern in Maine and Washington. 3.) Design for environment in the EPA is a respected program by agencies, states and industry as well as non-profits which needs support as a way of developing safer alternatives.	
Where are the people who testified at the capitol to improve the ATSDR in March? Where are the community leaders who have been working in the trenches who already knows what change is needed?	Please release this statement: "The ATSDR Health Consult and Assessment will not longer be implemented in its present form. We will work to devise a mechanism that no longer puts the burden of proof on the community."	

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<p>1.) Please don't forget policies and practices to empower people to change behaviors, since this can be difficult. Why not public service announcements that are precautionary: if you don't know what's in the product- why are you putting it on your child? There are 2 challenges- the industries who would feel this would impact profit negatively and attitudes about the public institutionalized in federal agencies- that people aren't smart enough to rely on their own knowledge. 2.) We'll want to back Safe and green- not just green. Perhaps say "green and healthy." 3.) A conversation requires a back-and-forth- a response. Given what is going on today- listening to everyone's disparate comments is fine- but at some point we'll need a real conversation.</p>		
<p>Alternatives Assessment: Need to standardize methods for the evaluation and identification of safer alternatives to chemicals of high concern based on comparative hazard and availability, effectiveness and affordability of alternatives.</p>	<p>State models: For good chemical policy reform models, look at the safer chemical comprehensive policies recently passed into law in Maine, Washington and California (2008) and Minnesota (2009), and pending in Michigan, Massachusetts and Oregon. These state laws begin to fix our broken chemical safety system at the state level and are informing the upcoming debate on federal reform of the Toxic Substances Control Act of 1976.</p>	
<p>Prioritization of chemicals for reduced uses or bans. Develop a framework that focuses on prevention of exposure that framework should consider: 1) reduction of threats based on the hazard and exposure. 2) evaluate across multiple health endpoints that consider reproductive, developmental, cancer, and systematic concerns. 3) Include and emphasize susceptible populations.</p>	<p>Position the precautionary principle to create a framework for transparency: 1) divulge what we know. 2) Clearly state what we don't know. 3) if decision of inaction are made- tell public what data are needed.</p>	

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<p>1) Establish/mandate that each state have an Environmental Health Coordination Program (office) within the respective state departments of health, that operates under national standards, policies and procedures- each office is staffed primarily with medical doctors with training/education in environmental public health. 2) Establish a regional framework for dialogue on environmental public health issues and actions among the regional representation by federal agencies involved in public health and environmental matters and invite state departments of health and the environment to be part of the regional framework. Invite community dialogues in this process/regional framework.</p>		
<p>State-Level Public Health agencies are starting to build connections to state-level environmental agencies where they are not co-located in the same department within a state. This should be encouraged at the federal level- idea: can HHS and EPA fund a grant to states to encourage more of the intra-department collaboration?</p>		

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	<p>1.) Government spends lots of money doing risk assessments and health evaluations- yet does not put that into publicly available (plain language format) [simpler than ATSDR FAQ] <u>and</u> does not weigh in during media controversy. <u>Speak up!</u> If an agency has a science advisory committee that has reported an opinion, it is baffling why this information is missing from public dialogue. 2.) The conversation has started with the notion of there is a problem without any conversation about <u>what</u> is the problem. Maybe there is a perception of a problem but nothing to it, e.g. notion of uncertainty. 3.) Within all of the conversation, one needs to clarify where chemicals are, and what value they bring. e.g. we each are a bunch of chemicals. We need selenium (a small amount) for health but too much is health detrimental. e.g. We need to talk about what exposures and levels are of concern. This is a more complex than just get rid of it.</p>	
<p>1.) Integration of environmental health into health professional training. 2.) Clearing house of environmental health information.</p>		
<p>There is a crucial need that federal/state/local agencies to comply with federal as it relates to I.D.E.A (Parts B and C section 504 of the rehabilitation ACT and ARRA) so that children who are impaired due to lead poisoning receive timely and appropriate early intervention and related services rightful due them.</p>		
<p>1.) <u>Basic research</u> in perception, beliefs, who is trusted, where people get info. 2.) Availability of risk communication training. 3.) Address the perception that chemicals are the cause of all/many diseases- lifestyle choices are much more common sources of major illnesses- maybe that goes into managing expectations.</p>	<p>1.) Early community involvement. 2.) Some <u>REAL USABLE</u> tools would be great. 3.) Cultural issues need to be factored into any communication efforts. 4.) Develop some best practices. 5.) Develop a list on what's already there.</p>	

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<p>1.) Culture in federal government of deciding- announcing- defending- public is not involved in discussions before decisions that affect them are made. 2.) Finding common ground of what "good, acceptable science" is between technical community and layperson. 3.) Develop communication tools to help public discern/process risk more "appropriately." 4.) Develop training for agency leaders to increase recognition/practice of two-way dialogue, integration of risk communication. 5.) Develop risk communication certification programs to standardize skill set across agencies.</p>	<p>How to persuade leaders that interactive communication is vital? Need qualitative research: 1) To better inform risk management decisions. 2.) To identify stakeholder preferences. 3.) To characterize stakeholder beliefs/perceptions. 4.) To identify risk communication practices, approaches, standard resources. Establish "peer" counsel of risk communication SMEs to provide guidance, oversight. Dedicate adequate funds/resources to risk communication across agencies.</p>	
<p>1.) Infuse environmental health at practical opportunities with no-cost activities (e.g. within a nursing research class, give students an environmental health article to read and analyze) vs. try to be a guest lecture in an already crowded curriculum. Theme/thought: Small and repeated activities will eventually put environmental health higher on the totem pole. 2.) Everyone (including professionals) don't understand what is environmental health (i.e., the non-ecological aspect of environmental). Need for campaign to educate on environmental health principles to professionals and community.</p>	<p>Establishing a non-governmental entity that would serve as a clearinghouse/central point for environmental health information for professional (e.g. continuing education for school teachers certification). For the general public, a one-stop toll <u>free telephone number</u> (not solely internet). Caller explains need and <u>connected</u> (not given another phone number to call) to appropriate governmental or non-governmental agency.</p>	

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<p>Integration into curricula; lead agency (federal); interrelationships between established programs; continuing replenishment of pool of experts; EH as core component of professional development for multiple disciplines; sufficient time, people, money; pragmatic approach. Create environmental health track in medical schools to create pathway for specialization. Infuse environmental health into curricula (assigned readings). Incorporate funding for chemical education into TSCA reform. Gather models/inventory of effective practice --> identify opportunities to replicate: peer reviewed and published: assessment conducted by clearinghouse. Provide overview of EH health openings so people know what exists. Brand/label through popular culture: what is environmental medicine? Obtain buy-in from professional organizations for their ongoing engagement. Create venues for dialogue --> action oriented and results producing. Find neutral/nonpolarizing groups--> establish clearinghouse of resources. Usage of new technology.</p>	<p>Continuing education professional course offerings on the environment (health, legal, etc- any professional who needs CES)--> especially web-based credits that are free. Have credential for environment that professionals can get: lifelong learning (from federal agencies). Accessible and culturally competent information; risk assessment (plain language). Capacity to act on information received. Engage public at beginning for engagement and buy in early. National initiative for public understanding of science. Coordinated effort in federal agencies and consistency. Listen, hear, and respect community perspective and needs. Be as specific as possible, assume good will, build trust (silence and generalities are dangerous). Integrity is important = true informed consent and full disclosure and risk/benefit with actionable healthy alternatives in unbiased way (no value judgments/morality police).</p>	
<p>1.) The two problem statements of this group can not be addressed independent of the other. Shaping public knowledge and attitudes toward chemical safety has to be addressed in a systematic focused matter. Providers must be prepared to address the knowledge and expectations of the public thus to advise and counsel patients on prevention and <u>mitigation</u> of chemical health effects. 2.) Develop a federal/state tool for communities that explains roles and responsibilities for each agency so that communities know what to expect and how to access help from appropriate agencies.</p>	<p>1.) Form a counsel of federal/state/local agencies and organizations involved in environmental health education for both public and professional education. 2.) Outside of education of health professionals, attention should be focused on ICD-codes that address environmental healthcare services.</p>	
<p>Problem: Fragmented, redundant, inefficient local efforts. Solution: 1.) Facilitate local groups sharing stories, successes, strategies, tools. 2.) Provide grants for issue specific groups from around the country to meet in "facilitated" settings.</p>		

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<p>1.) ATSDR's Health Assessments are excellent scientific documents, but ineffective as a public communication/community relations tool. <u>Solution recommended</u>: Retain the Health Assessment as a scientific document; add a community focused assessment that responds to the people in the community's question: "How have we been affected" Perhaps the community could author sections of ATSDR documents? 2.) Some historic ATSDR documents are out of date scientifically and because of "scientific illiteracy" among the populace, (<u>solution</u>) ATSDR should issue updates to historic documents as scientific understanding of the chemical (or site) evolves. (Resources will be a constraint). Alternatively, ATSDR should clearly cross-reference historic documents as new documents (re: sites or chemicals) are produced.</p>		
<p>More money for programs that educate and engage exposed communities (worker and public) to be part of the action to prevent illness from chemical exposure.</p>	<p>This needs to be <u>grant</u> programs to exposed communities that build capacity for those organizations to participate in this issue- need to democratize chemical issues- less hierarchy.</p>	<p>Workshops might try to have <u>smaller</u> groups to brainstorm and then have group pick out the main point from the group.</p>
	<p>The best use of this workgroup's resources would be spending dedicated periods of time in communities particularly affected by chemical exposures (e.g. those subject to recent ATSDR health consultations) to hear their concerns about chemical exposures, limits of science, and limits of our existing laws and regulations. Ultimately, the process should help communities develop their own capacity to understand existing chemicals policy and empower them to advocate for change. Use participatory research methods to identify the problem statement- "democratize science."</p>	
<p>I participated in the "public education" subgroup--> and I feel like we've still failed to address the inconsistency in current messages/declaration from government agencies. Example: BPA. FDA says "safe" with lots of controversy. NTP says "some concern." Part of it has to do with the transparency/better analysis (less industry reliance) on agency determinations, but in the mean time what do we tell the public about conflicting messages??</p>	<p>Education about the current situation/risks/etc, is clearly important, but the elephant in the room is that <u>we can avoid the problem to begin with!</u> Chemicals/products don't need to be toxic, and we've failed to address the ability to eliminate the need for band-aids by moving upstream. Part of this has to do with policy (requiring safer chemicals, better testing, etc) but also education consumers to demand better and not accept being a victim.</p>	

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Children <u>must</u> be included in all aspects of the "conversation". They are often overlooked and yet are the most vulnerable.		
Technology challenges: How to allow access and sharing to multiple agencies. Upgrades to IT systems within agencies?	Better collaboration and coordination among agencies for data collection efforts to reduce redundancy.	
	Nanomaterials is a growing concern for some of our members and it seems there could be a role for governmental public health (federal, state, and local). Some of these nanomaterials are largely unregulated and have the potential to have lasting effects on the public's health. What is the role of public health? How can we better engage manufacturers and private industry?	
Tracking of chemicals and substances from the import into the market. Raw products come into U.S., are incorporated into products and structures by worker populations, then placed into community, workplace, and home settings. Example: Chinese sheetrock is placed by construction workers into U.S. buildings and homes → both workers and residents of contaminated homes are sick.	We talked about feeding health data up the chain and feeding data from MD's into databases. I think that electronic health records must be tapped from the quick flow of information back and forth to public health agencies including CDC.	
One of the things that <u>can be done quickly</u> (1-2 years) is to build carefully designed and well managed human sample banks (blood, milk, tissues such as placenta) and environmental sample banks (fish, tree barks, etc.) These Banks will be very helpful in 1.) establishing chronology of pollution, 2.) identification of new pollutants, 3.) tracing back to sources. 4.) archiving samples for future analysis with better technology than we have today. 5.) exploring regional differences, 6.) longitudinal studies.		
1.) Where do people live who have multiple chemical sensitivities (MCS)? One needs hard data demonstrating need in order to get development funding to develop safe housing? 2.) Put call out for people to self-identify through effects-media/medical providers, social security ... help. 3.) Make common course with the green movement.	1.) Scent-free policy at these meetings. 2.) Promote off-gassed products (aired out). 3.) H.U.D. should be at this conference. USDA-rural development and state housing finance agencies should be here. Insurance companies should be here- they have data and an interest.	
	USDOT and CDC/HSEES are trying to put together a portal for incident data. The portal idea could be guide solution and get data next to each other --> would help begin the standardization process.	

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Fundamental reform of TSCA to correct long-standing <u>data gaps</u> in chemical hazard and exposure information; <u>safety gaps</u> in the ability of <u>government</u> to take action on potential chemical hazards; and <u>technology gaps</u> that are occurring in green chemistry research and development. Study REACH and make it stronger, more effective to protect health and motivate investment in Green Chemistry.	There is a critical need to greatly improve and <u>fund</u> occupational health protection from chemical exposure. Occupational disease claims about 60,000 lives of workers every year in the U.S. This enormous burden of disease warrants a concentrated comprehensive approach to chemical policy reform.	
1.) Need better chemical use <u>information</u> especially relating to chemicals in consumer products. 2.) Such information is often <u>C.B.I.</u> 3.) Government public health officials need to serve as <u>translators</u> for communicating health risks of chemicals in consumer products to the public- "right to know" need and "transparency" need.		
1.) Encourage/facilitate common data bank of environmental and health data from <u>all</u> sources; e.g.: medical (serology, hematology) biometrics, disease incidence, occupational, environmental, industrial data sources- private, academic government. Someone mentioned NIOSH or CDC tracking system? Syndromic surveillance?- need to expand and <u>share</u> data. 2.) Better use of real-time, direct reading information to investigate in a timely manner, e.g.: nanosensors to LIDAR; satellite data.		
1.) Underrepresented groups e.g. Asian Americans need better representation in surveillance. State HANES may help. 2.) Need information on the individual's social context, beyond income, e.g. the level of "community stress," level of disorder, etc. There is emerging evidence that the response for some environmental hazards is higher for some groups with higher allostatic load or who are resident in "chaotic" environments.	Assure/build on collecting data that is linked to place. For many EJ communities, it is about where they live. To be able to define a profile of what a "vulnerable" community looks like will require input from looking at data and mining for relationships. Importantly, we should not collect these data only for community that we have identified as having a problem. Rather, we should be able to identify these communities under reasonable certainty if we have enough information on what "they* look like". Tracking non-chemical attributes of community and the individual is important to develop this knowledge.	
NIOSH-workplace research; we need similar research agency for <u>children's</u> exposure in schools and daycare facilities where many children spend at least 6 hours of their day. No baseline data currently exists. With this research then can establish standards of acceptable exposures. Currently no protection for children at schools.		

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<p>In terms of biomonitoring, most biomarkers developed so far deal with or can capture recent exposure (days to weeks at best). While this is useful info for acute health effects, its applicability for chronic health effect is questionable at best. <u>Need</u> to focus on biomarker that can predict long term exposure which can be useful when dealing with chronic health effects.</p>		
<p>We need more complete and accurate database of toxic emission at facilities (and smaller area/mobile sources) in the U.S. It could help target monitoring and health studies if we had accurate model predictions of where risks are. <u>Solution</u>: Toxics emissions reported outside TRI, which has serious accuracy problems, is entirely voluntary ... it should be mandated like other emissions reporting (criteria, soon GHG).</p>		
<p>1. Lack of funding for testing after exposure- both environmental and biological. 2. Agencies do <u>not</u> know how to help measure individual exposures, they only run studies. 3. No doctor training on assessment of exposure to toxins.</p>	<p>1.) Public first, government last. 2.) Put public members on work group. 3.) To much emphasis on government justifying itself. 4.) Stop allowing attorneys to sign off on EPA studies that then prevent disclosure. 5.) Do NOT use word SAFE.</p>	
<p>Get data collection as part of electronic medical record.</p>	<p>Need to revise HIPAA, standardize IRB to be able to both collect and share data.</p>	
<p>A comprehensive system to track the flow and use of chemicals in commerce. Starting from manufacture/import, through to any manufacturing (use of the chemicals, in what form, under what conditions, e.g.. Temperature, pressure) and so on. The exposures in workplaces are almost universally greater, more easily measurable (technically) and more easily studied with a hope of getting useful findings. The obstacles to such studies are political, not primarily scientific or technical. Such a system would: 1.) permit quick follow-up of affected workers when a sentinel case appears. 2.) Permit quick testing of controls and monitoring of exposures. 3.) Direct dissemination of results, targeting of regulatory action.</p>	<p>A far greater emphasis on collection of data about worker exposures (and potential exposures) and effects. Workers are and have always been the "canaries" for chemicals later identified as "environmental toxins" (led, asbestos, arsenic, benzene, etc. etc.) Monitoring of community exposures and levels can be fine sometimes, but seldom sufficient to establish cause-effect relationships. Worker studies are the only ones with promise in this arena. The moral: workers as a population, worker representation, worker monitoring, etc. area huge missing gap in this effort.</p>	<p>1.) Flow of chemicals in commerce badly needed: we need to know where they go and how they are used and potential exposures.</p>

What unmet needs and/or solutions would you suggest be part of the dialogue, and why?	What other issues or ideas are important to you that you would like considered?	Additional Comments:
<p>1) Dealing with thousands of chemicals is an immense problem and we need attention to the necessary public health infrastructure. We need to assemble all relevant agencies a review their programs for gaps; deficiencies, etc. FDA, CPSC, USDA, EPA etc. ... Public Health Needs need to be included in plan for National Health Care. 2) We need appropriate rapid science assessment and decision-making, not just lengthy research science- science that utilizes available information to make appropriate recommendations for <i>action</i> based on knowledge, experience and good judgment. This is Public Health.</p>	<p>We don't need Risk Assessment. It has not served us well. We should use hazard information coupled with production amts. The 2nd law of thermodynamics tells us that if we produce millions of lbs. of a chemical and disperse it through the market and it is toxic in small quantities, millions of people will be exposed. We don't need to know more than that.</p>	<p>Science workgroup workshop was geared to Research, not Broader Science.</p>
<p>Data compilation or resource compiling.</p>	<p>Right to know and informing people about choices to reduce risk even when a full understanding of the chemical is unknown. Ex: choosing bottles that do not have BPA, before a full study is completed.</p>	
	<p>I reject the claims that the precautionary principle is the preferred paradigm. I reject the claims that government assessments are false or worthless. I reject the claims that science has failed, or that there is no role for risk assessment. I reject the suggestion that the presence of a chemical or a potential source of a chemical or the perceived presence of a chemical must be related to a person's illness- it's true that the government cannot always solve everyone's problems, it's important that decisions and actions be based on data and knowledge- high standards for evidence are required by law and affirmed by the courts.</p>	
<p>1) Awareness of the alternatives readily available to replace common household products that have known harmful effects on human health and environment (known toxic chemical constituents). 2) Biobased products, made, tested and inexpensive to purchase (expensive compared to mainstream products). 3) Additional oversight on federal agencies [FDA] that have tested and confirmed long-term health affects of products (Aspartame, Saccharin, PETE) but continue to mandate continued use, even when safer alternatives have been identified, and shut off from approval.</p>	<p>1) FDA continual approval of products proven to be less than satisfactory and closed door policy to accept materials, drugs, used worldwide and accepted as safer alternatives. 2) Additional research into toxins which have major bioaccumulation rates in humans and animals (chronic illness). 3) Lax standards when considering what is, and what is not considered organic: natural foods, drugs and any consumer products. 4) Personal behaviors, habits, are those exposed just sitting and waiting for a cure? Waiting for industry to say oops?</p>	

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Short term: 1) NHANES data (improved) mining possible: pooling of analytical data for multiple chemicals found in a single sample. 2) Translational research to convert models in usable, easy to apply in assessments.	3) Computational tools needed for chemical mixtures. 4) Data generators and data users need to work together- use of validated methods will expedite this relationship (e.g.: use in TOXCAST and other high through put testing). 5) Cumulative risk assessment of chemicals of similar and dissimilar mode of action.	
Designated "upstream effects", such as hormone alterations, as distinct endpoints. (existing tools to increase understanding of chemical mixtures). - facilitates evaluation of dissimilar chemical compounds which act via different mechanisms on a single physiologic system/pathway (example: thyroid hormones). -permits evaluation. of populations-level shifts which may have public-health-level effects even where can't detect individual disease (such as shift in mean thyroxin levels which has potential to increase number of fetal hypothyroidism) - flags chemical-associated susceptibility factors (example: BPA increases susceptibility to subsequent hormone exposures related to breast/prostate cancer)	Collaborative research between those who understand needs of decision-makers and those who do basic/applied research. This permits communication not just of scientific results to policy-makers, but also then prioritization of research questions according to decision-making needs.	
It would be useful to augment biomonitoring studies (e.g. NHANES or state based programs) with more detailed health assessments (including biomarkers and specific organ system functions) that focus on the tails of the exposure distributions (esp. the 95th-99th percentiles). How were these people exposed? What is their health status? Can they be followed prospectively?	There is a key need to increase the training of health professionals in the area of environmental and occupational health and toxicology. Most do not receive adequate training in gathering and interpreting this data.	
Occupational- TSCA role, existing chemicals, unregulated known human carcinogens, PM 2.5 bioassay, diesel particulate matter, gasoline/petroleum hydrocarbons, examine impact of known examples of environmental and occupational risk situations.		
Take a page from the approach of the medical practitioners on how to deal with all the evidence from studies on treating illness x with drug/intervention Y - e.g. The Cochrane Collaboration is a good role model to use/apply to the evidence on chemicals (exposures) and illnesses. Develop a similar approach based on best practices of The Cochrane Collaboration.	Take advantage of all the cell phones and new technologies being developed and embedded in cell phones to enable communities to monitor and accumulate evidence to take action to prevent health problems.	
Community education on available resources.	Poor Discussion Arbitration.	

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<p>Reiterating much of what was said, but I'd like to offer a specific viewpoint to organize those needs, public needs-driven. There are some interesting mixtures data and some mixtures policies even- but they aren't the ones the community is interested or exposed to. They should be geographic and if possible even community specific. Things like Great Lakes fish exposure studies, Puget Sound watershed mixtures, etc. This set of priority mixtures are chosen by the public and the agencies and scientists determine which are most feasible and how to tackle. These can also serve as an organizing principle for research funding, where either a specific community must be a sponsor of a project to get funding, and/or a set of community science needs are defined and then scientists compete on those specific needs. The community should start the process and identify the priorities and then agencies can accumulate and summarize the data on exposures and toxicology information.</p>	<p>1) Mixtures- not as a stopping point but a way to direct activity that communities want to see enacted. 2) Improve the databases/update more quickly. Scientific databases are a great resource for scientists and various parts of the public as well. Update IRIS more quickly, take nominations from the public more nimbly. And include susceptible populations more readily- like children's health, such as the TEACH database and like it back to IRIS.</p>	<p>(Comments, cont'd.) This might be a reworking and synthesizing of existing information, but is cross agency to include as much data as possible and a synthesized public health assessment is delivered.</p>
<p>1) Individual assessment leading to suggestions for public health. 2) Make use of environmental medicine, integrative medicine assessment and treatment of mold and chemically exposed people. 3) Include in exposure- natural occurring substances, mold and mycotoxins, endotoxin and health effects. 4) Use existing human data and studies publicly published in health effects of exposure even if not peer reviewed. 5) Design study to confirm what environmental physicians find in patients with environmental illness, chemical sensitivity, so the complaints that it is controversial go away. Done with environmental physicians who have these patients.</p>	<p>Simple public statement- Lowering ones 'Toxic Load' is beneficial to health. This will drive the market. Clean air, food, water, indoor environments at home and work. Mold may/does predispose (precautionary) to chemical intolerance, depression, autoimmunity and should be controlled. This is prevention- is economical and essential. Education in medical school, doctors in practice (including psychiatrists and endocrinologists) about real health effects of exposure. From doctors who treat patients and researchers who do clinical research. ATSDR to advise AMA they need to learn from Env. and Occ. medicine and integrative medicine that they 1) have to acknowledge the environmental illness. 2) Teach students in school about exposure and treatment. 3) develop a treatment based environmental medicine field that is not considered alternative or help occ. med. have as separate board for Real env. medicine.</p>	

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<p>There are a number of regulatory and legislative entities and community and industry examples of storage, use and release of TICs/TIMs. What incentive of "best practice" model process can be brought forth with sufficient "carrot and stick" to gain attention?</p>		
<p>Recent studies have shown that living and working near major roadways can be hazardous to respiratory and cardiovascular health. A group at USC and other universities have studied this for years- now is the time to take action on eliminating toxic emissions from transportation. Most vehicles on the road today will remain there for many years to come. While newer engines are cleaner, existing vehicles are not being required to retrofit. We need to move quickly to get dirty vehicles off the road and create opportunities for low-cost, clean vehicles and public transportation (no more dirty diesel-powered vehicles!)</p>	<p>1.) Need a nationally recognized certification system for low-emitting, green furniture and furnishings (carpeting, etc.) like Greenguard. 2.) EPA's mandate should be extended to be able to regulate pollutants in indoor air as well as ambient air. 3.) Need a pool of scientists to respond to local community need for information and scientific expertise on environmental health issues.</p>	
<p>Better enforcement with inspection of facilities that contain hazardous materials.</p>	<p>1.) If feasible, tying in buildings or zoning permits at chemical facilities with requiring them to good process safety management. 2.) More stringent reporting requirements for chemical facilities to provide information to local fire departments and other local authorities.</p>	