

Children's Health Protection Advisory Committee

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November 14, 2013

Administrator McCarthy
United States Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

RE: Social Determinants of Health

Dear Administrator McCarthy:

The Children's Health Protection Advisory Committee (CHPAC) applauds efforts of the Environmental Protection Agency (EPA) and other federal agencies to place children's health at the forefront of public health protection. While environmental exposures have been EPA's major focus, CHPAC calls your attention to social determinants of health (SDH). SDH may increase both environmental exposures and adverse effects of such exposures. Consequently, SDH should be explicitly considered in assessing exposure impacts on all populations, particularly children and other vulnerable populations. Children have unique vulnerabilities to adverse environments. We recommend that EPA incorporate the body of work in SDH into its current and future endeavors.

The World Health Organization defines SDH as "the conditions in which people are born, grow, live, work, and age. These circumstances are shaped by the distribution of money, power and resources at global, national, and local levels".¹ SDH refers to social and contextual factors that affect individuals, families and communities and include such factors as:

- quality education,
- access to health care providers and a payment system,
- access to healthy food (grocery stores),
- support for breast feeding,
- safe and active transportation (safe routes to school, bike paths),
- options for public transportation,
- quality of the built environment (parks, buildings, green spaces),
- housing conditions (density and crowding, tenancy and stability),
- neighborhood crime,
- segregation,
- employment and income,
- community investment, and
- civic engagement.

These factors result in inequities in disease burdens, poorer health and quality of life.

¹ World Health Organization, May 2013. www.who.int/social_determinants/sdh_definition/en/index.html

It is important to clarify the relationship between environmental justice and SDH. Environmental justice, which is described in Executive Order 12898,² addresses inequities in the distribution of environmental hazards.³ The body of work in environmental justice advances health equity in response to the disproportionate environmental exposures faced by communities that differ because of race, color, national origin or income. In contrast, the broader SDH framework considers nonchemical stressors⁴ that affect communities. The SDH of a specific community may drive the need for alternative, proactive strategies when implementing actions to reduce environmental exposures. EPA could increase its effectiveness in reducing adverse environmental health impacts by incorporating SDH in assessing environmental health risks and outcomes.

This letter offers recommendations to EPA to broaden its approach in all activities, including environmental justice, by considering SDH in EPA decisions and actions. This new approach will require greater levels of inter-agency collaboration because agencies other than EPA may have data and knowledge of social hazards (i.e., nonchemical stressors), and may have greater understanding and ability to recommend and implement effective interventions. This new approach will also require greater community involvement. Engaged communities are critical to increasing the impact and effectiveness of EPA's work on SDH and environmental exposures. For more detailed information please see *Appendix A: The Importance of Social Determinants of Health for Children*.

The CHPAC was asked by EPA Office of Children's Health Protection (OCHP) to address the following charges:

1. What approaches must EPA take in order to ensure that currently existing environmental interventions and children's health messages yield the greatest benefits for communities struggling under multiple stressors of social determinants of health?
2. What kinds of steps can we take to maximize community reception and to better meet children's community environmental health needs constructively?
3. EPA is looking for lessons from the local level, based on experiences of CHPAC members, to help EPA to build an effective and useful approach to integrate protective measures for children's health into communities experiencing a disparate burden of asthma, lead poisoning, pesticide and chemical exposures.

² Presidential Executive Order 12898 on Environmental Justice, February 1994.
http://www.epa.gov/fedfac/documents/executive_order_12898.htm

³ Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work. Available at: www.epa.gov/environmentaljustice

⁴ EPA's cumulative risk framework includes among nonchemical stressors community level factors (such as the built environment and the social environment) as well as individual level factors (stressors and buffers including social support, psychosocial stressors, reproductive events, health behaviors and many others). The framework and references and links to additional resources on which the framework is based can be accessed at: http://www.epa.gov/ncer/rfa/2009/2009_star_cumulative_risk.html.

CHPAC consulted with experts in the fields of environmental justice and SDH within and outside of EPA to learn more about the effects of SDH on environmental health outcomes among children as we considered these charges. Those consultations, a review of the scientific literature, and a review of relevant national policies and strategies informed and affirmed CHPAC's conviction that SDH plays a critical role in determining the impact of the environment on children's health and that SDH needs to be considered in agency deliberations and decision-making.

Charge 1: What approaches must EPA take in order to ensure that currently existing environmental interventions and children's health messages yield the greatest benefits for communities struggling under multiple stressors of social determinants of health?

CHPAC's response to this charge is twofold; interagency strategies and research needs.

Interagency strategies and interdisciplinary approaches will yield the greatest benefits

SDH affect the health and welfare of our nation, especially our children. Interagency strategies to address children's health, such as the asthma work undertaken by the President's Task Force on Environmental Health Risks and Safety Risks to Children, demonstrate the importance of collaborative approaches in the protection of the health of children. While these national activities are promising, CHPAC finds that even more attention to SDH is needed so that there is greater understanding of the extent to which non-chemical stressors increase children's vulnerability to harmful exposures (see *Appendix A*).

Recommendation 1

EPA should:

- Incorporate SDH in all programs, policies and regulatory efforts across all offices of the agency.
- Issue guidance for incorporating SDH into the development of environmental assessments and environmental impact statements under National Environmental Policy Act of 1969 (Public Law 91-190).⁵
- Use an interagency approach to assure that environmental interventions yield the greatest benefits for all communities that are burdened with multiple stressors.
- Promote consistent children's health and safety messages across federal, state and local agencies among communities with multiple stressors.
- Develop, recommend, or adopt metrics that groups could use to link SDH and health outcomes (e.g., Association of Maternal and Child Health Programs Life Course Indicators⁶).

Recommendation 2

EPA should promote models and best practices for incorporating SDH in environmental assessments (e.g., environmental impact statements). CHPAC recommends Health Impact

⁵ National Environmental Policy Act of 1969, December 31, 2000. Available at: <http://www.epw.senate.gov/nepa69.pdf>

⁶ Association of Maternal & Child Health Programs. Available at: <http://www.amchp.org/programsandtopics/data-assessment/Lists/LifeCourseIndicators/AllItems.aspx>

Assessment (HIA) as one tool that specifically incorporates SDH (See *Appendix B: Research Addressing Social Determinants of Children's Health*).

Specific recommendations for the HIA tool include the following:

- Improve and enhance the use of HIAs by clearly defining the social determinants of health that can be included in an HIA.
- Provide data for decision makers on the links between SDH and environmental health impacts.
- Promote population-or community-specific HIAs to promote dialog and provide direction for identifying non-chemical stressors and the ways in which communities incorporate this information into exposure and risk management decisions.
- Strongly support, at the community level⁷, the use of HIA techniques to better address the cumulative impact of SDH and environmental hazards that will inform risk management decision-makers.

Research needs to address interactions among critical environmental and social determinants of health

CHPAC sees a need for continued research in the combined effect of stresses related to children's physical/social conditions and chemical/immunological/pathogenic environmental hazards (see *Appendix B*). However, CHPAC does not anticipate that every hazard can be or should be studied in combination with every SDH. Instead, CHPAC considers that the most practical steps for EPA may include: identifying a few, broad categories of stress (both social and environmental); developing and testing hypotheses that demonstrate the cumulative (additive or synergistic) effects of environmental and social stresses; and proposing and implementing methods to account for the combined effects of social stressors and environmental exposures when definitive studies are not yet available to accurately describe cumulative effects. With respect to cumulative risk assessment (CRA), there is a need for EPA to consider the contribution that non-chemical stressors exert on adverse outcome pathways (AOP), because high-throughput screening and AOP models will likely be a key component of future research on CRA. As these new methods evolve, other methods to combine chemical and non-chemical stressors in risk management decision-making are needed.

Recommendation 3

EPA should:

- Conduct and/or support research to expand understanding of categories of stress, cumulative impacts of stressors, and incorporate non-chemical stress into adverse outcome pathway (AOP) models.
- Integrate an SDH focus into the Office of Research and Development (ORD) strategic research plans.
- Require EPA applicants to explicitly describe their approach to incorporating SDH into their research or explain why SDH is not applicable to their work.

⁷ From EPA: "Community refers to a group of people that share a common characteristic or characteristics, for example, ethnicity, socioeconomic status, or geographic location." See: http://www.epa.gov/ncer/rfa/2009/2009_star_cumulative_risk.html.

Charge 2: What kinds of steps can we take to maximize community reception and to better meet children's community environmental health needs constructively?

Community engagement will maximize change

Disadvantaged communities are most affected by environmental hazards and stressors. Although EPA has given guidance in the past to communities and industry through its website, webinars and documents, this often does not reach those who are most vulnerable. CHPAC encourages EPA to take a more active role through its leadership at the regional level to meaningfully engage communities in order to increase their awareness and preparedness for potential harmful exposures to pollutants and toxicants. EPA's funding mechanisms should identify opportunities for grantees to address SDH through community engagement at the local, regional and national level.

Recommendation 4

EPA's funding mechanisms should identify opportunities for grantees to address SDH at the local, regional and national level.

EPA should:

- Require regional EPA partners to account for SDH in working with communities.
- Engage grass roots organizations that work with disadvantaged communities to address SDH.
- Require that all groups working under grants aimed at children and the environment (e.g., EPA/NIEHS Children's Environmental Health and Disease Prevention Research Centers (Children's Centers), Pediatric Environmental Health Specialty Units (PEHSUs)) partner with vulnerable communities and take into account the SDH for these communities.
- Require each grantee to report evidence of how social determinants are used to determine research and programming.
- Follow up with grantees to get feedback on successes and lessons learned.
- Make the findings and outcomes from each grant available on publically available websites.
- Compile the best evidence from past research to document the effectiveness of community interventions aimed at SDH.
- Optimize the use of PEHSUs as liaisons between the EPA, Children's Centers, and the community to aid in addressing SDH as they relate to children's health.

Recommendation 5

EPA should develop guidance to help communities use SDH as part of their efforts to reduce adverse environmental health outcomes among children. This guidance should be developed using processes similar to those used by EPA in developing its school siting guidance. This guidance should be based on examples of successful integration of SDH into community programs, projects and research, and should be developed in collaboration with community leaders.

The guidance should include or address the following:

- Training of EPA staff.
- Dissemination of health information to the public.

- Identification, engagement and education of leaders in vulnerable communities regarding environmental exposures and how to effectively advocate for enforcement of environmental laws utilizing innovative methods such as participatory photography (photovoice) and environmental health kiosks in community settings.
- Partnering with community agencies such as community-based organizations, faith-based organizations, and schools to disseminate information regarding potential environmental exposures.
- Monitoring the continuum of engagement of each community with the goal of advancing to shared leadership.
- Facilitating interaction between community members and private resources/agencies in order to expedite protection from exposures (e.g., removal of environmental toxicants).
- Measurement of results in communities and how interventions affect health outcomes in the long run.
- Development of resources for communities that showcase the most effective models to address environmental stressors in the home, school, workplace and community.

Charge 3: EPA is looking for lessons from the local level, based on experiences of CHPAC members, to help EPA to build an effective and useful approach to integrate protective measures for children's health into communities experiencing a disparate burden of asthma, lead poisoning, pesticide and chemical exposures.

Lessons learned will assist other communities

Lessons from the local level will help EPA determine core principles, recommendations for technical assistance, and other key resource allocation decisions to help protect vulnerable children and their families. CHPAC members have identified successful projects (*Appendix C: Examples of Local Communities that Addressed both Environmental and Social Determinants of Children's Health*) that have tailored environmental health interventions for disadvantaged or otherwise socially unique communities to address children's environmental exposures. Both the Harlem Children's Zone A.I.R. Harlem Project in New York City and Place Matters, a national initiative that engages cross-sector leaders, are grounded in SDH. The examples provided in *Appendix C* reflect the need for and nature of community leadership, organizational structures and capacity, effective partnerships, neighborhood mobilization and civic engagement strategies. All increase local capacity for effective action at the community level. Disparate burdens of asthma, lead poisoning, pesticide and chemical exposure are associated with poverty (urban and rural) and racial residential segregation, as well as with barriers to safe and healthy housing, good air quality, healthy affordable food, health care, and appropriate transportation. These social and environmental factors must be addressed within local power and resource contexts. As a result, most of the examples of effective models reflect core principles and methods for raising awareness, assessing impact, forming key partnerships, increasing citizen efficacy and empowerment, and are coupled with strategy and skill development.

CHPAC was involved in EPA's work on school siting guidance, and has been following EPA's development of environmental justice guidance. Both are valuable tools for communities and both are based heavily on lessons learned in communities.

November 14, 2013

Recommendation 6:

EPA should:

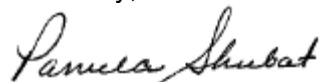
- Identify community metrics of success (e.g., Partnerships for Environmental Public Health programs developed by NIEHS⁸) that measure not only health outcomes (such as decrease in asthma hospital admissions) but also social capital such as community empowerment, voice in decision making, collaboration with policy makers, and engagement in environmental protection.
- Compile the best evidence from programs that are effective in achieving positive health outcomes and community success metrics.
- Disseminate lessons learned from interagency, public, and private programs that successfully integrate SDH into community programs, projects and research to improve health outcomes.

Summary

CHPAC recommends that EPA integrate SDH across the agency in environmental research and development, decision-making, guidance, and policy implementation. CHPAC feels strongly that environmental stressors can be more effectively addressed by simultaneous consideration of social determinants and social stressors that affect individuals and communities. CHPAC recognizes that the incorporation of SDH in the responsibilities of the EPA has not been clearly defined and will be challenging. However, we believe that adding this component to EPA activities and decision-making will broaden and enhance EPA's effectiveness.

Thank you for your commitment to children's environmental health.

Sincerely,



Pamela Shubat, Ph.D.
CHPAC Co-Chair



Sheela Sathyanarayana, M.D., M.P.H.
CHPAC Co-Chair

Attachments

Appendix A: The Importance of Social Determinants of Health for Children
Appendix B: Research Addressing Social Determinants of Children's Health
Appendix C: Examples of Local Communities that Addressed both Environmental and Social Determinants of Children's Health

cc: Jackie Mosby, Acting Director, Office of Children's Health Protection
Mathy Stanislaus, Assistant Administrator, Office of Solid Waste and Emergency Response
Matthew Tejeda, Director, Office of Environmental Justice

⁸ Partnerships for Environmental Public Health. Available at:
<http://www.niehs.nih.gov/research/supported/dert/sphb/programs/peph/>