Federal Task Force on Environmental Health Risks and Safety Risks to Children

Inventory of Key Federal Activities for Reducing Asthma Disparities

Material compiled for December 16-17, 2010 Workshop to Develop a Coordinated Federal Action Plan for Reducing Asthma Disparities

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Inventory Guidance for Completing the Inventory of Key Federal Activities for Reducing Asthma Disparities:

PURPOSE: The purpose of this inventory is to identify key existing activities that can be enhanced through collaborative efforts to make gains against asthma disparities. Please note that the inventory will NOT catalogue all federal activities on any or all aspects of asthma. The intent is to summarize and highlight only those activities that are (or could be in the future) directly focused on reducing disparities. This inventory will provide a critical foundation for discussion at our December workshop, and will only be helpful if it is concise.

DIRECTIONS:

- Please be brief and be specific—limit your input to about three key activities that you believe have the most potential for making an impact on asthma disparities. Summarize as much as possible. For example, under research activities, do not list each grant or contract supported by your organization; instead, summarize the key large research programs, or the types of research funded and FOCUS only on research that has the potential for a direct impact on asthma disparities.
- Provide one page per activity—we will contact you if we need more detail. If there are activities in other departments/divisions within your organization, please feel free to send this inventory to them. Collate your responses into one submission from your organization.

Please refer to the Draft Framework "President's Task Force on Environmental Health Risks and Safety Risks to Children, Asthma Disparities" as a guide for your input. The potential actions in this document were derived from FLGA and Task Force working group input and should reflect major work areas and opportunities to significantly impact asthma disparities.

Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Identification of health disparities

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
Different populations are disproportionally impacted by environmental triggers of asthma. Work at the EPA has focused on identifying "at-risk" populations and elucidating the factors that underlie this susceptibility. These factors range from the community to the molecular level. At the community level these include: An investigation of the health burden of wildfires focusing on Eastern North Carolina which suggests that asthma visits to the ER are highest in communities with low socio-demographic characteristics. Studies that have identified an increased risk of asthma incidence and prevalence from living close to major roads or freeways. Studies on the asthma risk from exposure to endotoxin which a major concern of those living near Concentrated Animal Feeding Operations (CAFOs). At the home level: Identification of characteristics in low income housing that promote asthma such as molds, mice, cockroach and NO2 or particles from cook stoves. At the individual level: Studies on disparities in risk due to life stages which have shown that fetal life, childhood, old age are more sensitive than other life stages with respect to exposures to environmental agents that promote adverse asthma outcomes. At the molecular level: Studies identifying those individuals with certain common genes that confer increased asthma susceptibility to environmental agents.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Identification of these susceptible or vulnerable populations is essential in order to implement strategies to protect them and reduce health disparities. Understanding the risk factors that can impact these populations and individuals will lead to healthier communities and homes for all.

3. Key Lessons Learned:
What made (makes) this work successful?
A focus on relevant asthma outcomes and an integrated multi-disciplinary approach that uses broad-based expertise in health and exposure science, sociology, and technology.

What obstacles were encountered? How were they overcome?
Access to medical databases can be challenging and involve collaboration with local health provider networks. Limitation of resources is always a hurdle.

What would you do differently?
Bidirectional communication with representatives of community groups would be strengthened, not only to educate and communicate findings better but to learn of the greatest concerns. This would help prioritize the work.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Partners such as the CDC would be useful as intermediaries with local Public Health departments. Agencies such as the NIH and NIOSH would be potential partners for health outcomes. HUD would help on identification of housing characteristics.

5. Additional comments/reflections.

Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Interventions to reduce environmental asthma risks

Focus: **X** Public Health Interventions □ Policy **X** Research

Summary description:
Different populations are disproportionally impacted by environmental triggers of asthma. Exposure to indoor and outdoor pollutants such as particulate matter, ozone, cigarette smoke and traffic and to allergens such as cockroach, mouse and dust mite and mold in damp environments are especially elevated in inner city homes. These exposures are often directly related to socio-economic status. EPA research is assessing the effectiveness of different types of interventions including: Testing of portable air cleaners coupled with behavioral interventions such as smoking cessation programs; Assessment of dietary interventions such as broccoli sprouts to reduce asthma triggers in low income children, and fish oil or vitamins to reduce the effects of air pollutants and viruses on childhood asthma; Evaluation of technological approaches to reduce asthma triggers, such as cleaner cook stoves, reduced emissions from engines, and vegetation barriers to reduce traffic exposure; and Health assessments that document the impact of EPA's regulations designed to improve air quality.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Improvement in air quality has led to significant health benefits. However, complementary strategies are needed to reduce health disparities. Understanding which intervention strategies are likely to be successful will help create asthma friendly homes with reduced allergen and pollutant levels. In addition, in the long-term they should reduce the burden of air pollution on asthma and alleviate disparities in neighborhood environments.

3. Key Lessons Learned:
What made (makes) this work successful?
An integrated multi-disciplinary approach that uses broad-based expertise in health and exposure science, sociology, and technology.

What obstacles were encountered? How were they overcome?
Limitation of resources is the greatest hurdle which necessitates prioritization to ensure the greatest impact.

What would you do differently?
Involve community partners and local authorities at an earlier stage. Greater outreach to inform the public of the health benefits of regulations and interventions.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

Agencies such as the NIH and the FDA would be potential partners for health outcomes and other biological-based intervention programs. Partners such as HUD would help create asthma friendly homes. DOT and local agencies should be involved in interventions based on reducing exposure to traffic.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
Childhood asthma research: the Infant, Child and Women's Research Branch has traditionally focused on health disparities. Previous work has highlighted the much greater racial disparities in adverse asthma outcomes compared to prevalence, greater asthma morbidity among minority and low income pediatric populations, asthma prevalence differences among Hispanic children, and risk factors for school absence due to asthma.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Provide information on the magnitude, context, and implications of racial and income disparities in childhood asthma prevalence, health care use, and mortality. Research based on high quality national data provides evidence for developing well-targeted, effective interventions.

3. Key Lessons Learned:
What made (makes) this work successful?
Collaboration between CDC Centers

What obstacles were encountered? How were they overcome?
Limited geographic detail

What would you do differently?
Data linkage programs to increase contextual data (environmental) are ongoing at NCHS

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
EPA

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
National asthma surveillance: data are disseminated in collaboration with the National Center for Environmental Health and tracking Healthy People Respiratory Health Objectives. Asthma prevalence is tracked using the National Health Interview Survey; office visits to physicians and hospital outpatient departments, emergency department visits, and hospitalizations due to asthma are tracked using the National Health Care Surveys; and asthma deaths are tracked using the National Vital Statistics System. Demographic information is available in all data systems.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
- Uniform prevalence, health care use and mortality definitions for asthma have been established.
- Data on disparities in adverse asthma outcomes has been disseminated and highlight the history of disparities, track progress toward reducing them, and serve as a benchmark for state and local programs addressing asthma.

3. Key Lessons Learned:
What made (makes) this work successful?
- Continuing need and interest in the content
- Collaboration between CDC Centers in production of surveillance
- High quality of data sources

What obstacles were encountered? How were they overcome?
- Confusion with redesign of NHIS: NHLBI website provided FAQs about the redesign; MMWR and journal articles were published to clarify significance of changes for prevalence measures
- Timeliness in report release: different report format chosen for upcoming publication
- Data relatively inaccessible to outside users interested in geographic content: development of alternative data sources to gather information with increased geographic resolution.

What would you do differently?
- Upcoming report to have user-friendly and accessible format

- Increasing collaboration between CDC Centers--currently in development

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Addition of environmental, educational, and housing data to provide context for health data.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Title V Block Grant (Massachusetts)

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
Through its **Asthma Disparities** Initiative, the Asthma Prevention and Control Program supports pilot projects in the regions most affected by asthma both to improve clinical care and to develop and coordinate asthma coalitions. Among the program's data-driven activities have been release of an asthma burden document with comprehensive data about asthma in Massachusetts in April 2009 and a 5-year Strategic Plan for Asthma 2009 -- 2014 that includes specific action steps to improve asthma for young children.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.
This information is reported as part of the Title V Block grant application/narrative. More specific information (such as information requested in questions #2, #3 and #4) can be obtained from the MCH contact for the state listed below

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Asthma, Health Disparities and Developmental Pediatrics

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
The goal of this study is to improve the comprehensive health of children with asthma by examining how health disparities risk factors, such as poverty, limited access to healthcare, lack of health insurance, family dysfunction, and socioeconomic disadvantage, may exacerbate developmental and behavioral co-morbidities. Secondary data analysis is being conducted using the 2005-2006 National Survey of Children with Special Health Care Needs (NS-CSHCN).

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
A better understanding of the interaction of health disparity risk factors and asthma on development and behavior will prompt more narrowly targeted intervention programs for children with asthma.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
--N/A
What would you do differently?
--N/A

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Pediatric Asthma Management: The Role of Health Insurance

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
This secondary data analysis study will determine how the burden across public and private health insurance of covering all asthmatic children, as well as asthmatic children with the highest utilization, has changed in the United States over the past decade. The project will document access to care, asthma outcomes, and rates of asthma management training for parents of asthmatic children by child's health insurance coverage status and other child and parent characteristics (e.g., race/ethnicity, language spoken at home, parents' health status). The investigators will calculate how much of the shortfall in the rate of asthma management training identified in Healthy People 2010 (increase the proportion of persons with asthma who receive formal patient education from 8% to 30%, objective 24-6) could be expected to be closed by ensuring that all children are continuously covered, as well as how much of the gap will need to be closed by changes in provider and/or parent behavior. Finally, the project will examine whether parent smoking behavior, including whether the parent attempts to quit smoking, is associated with the child's or parent's health insurance status or other family characteristics.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
A better understanding of the role of health insurance on pediatric asthma management is expected.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
N/A
What would you do differently?
N/A

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Progress in Reducing Developmental and Behavioral Co-morbidities of Asthma in Children with Emphasis on Health Disparities Risk Factors

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
The goal of this research is to determine 1) What progress has been made in reducing the prevalence of asthma and/or reducing its severity over the past decade 2) What progress has been made in reducing the developmental and behavioral co-morbidities of asthma during the current decade and 3) What role health disparities risk factors have had in exacerbating or mitigating asthma and its developmental and behavioral co-morbidities as measured by two sequential National Surveys of Children's Health.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The results will help focus future intervention efforts in further improving the health care of children with the most prevalent of serious chronic health conditions.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
N/A
What would you do differently?
N/A

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
National Asthma Survey of Physicians: a federal and private collaboration to field a nationally representative survey of physicians on their agreement about and adherence to elements of the NAEPP Asthma Guidelines. Results will be used to guide future activities to increase guideline implementation, especially for groups with known increased rates of adverse asthma outcomes.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
To be fielded in 2012-2013. Short term goal is to better understand clinical decision-making so that differences between specialties, groups of patients, or regions can be addressed. Long term goal includes possible implications for drafting future guidelines, repeat survey to assess change over time.

3. Key Lessons Learned:
What made (makes) this work successful?
Existing federal network of agencies and colleagues dedicated to a common goal

What obstacles were encountered? How were they overcome?
Funding shortages remain a challenge. Ongoing search for new funds and partners

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
New partnerships and collaborations have been formed. In drafting the survey and analyzing data, these partnerships will be solidified and tapped to pursue programs to pursue needs identified by the survey.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Research Demonstration and Dissemination Program includes projects targeting asthma-related disparities in children and adults.

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
This program supports research to (1) develop effective approaches for translating evidence-based behavioral and/or healthcare interventions that attenuate asthma disparities in clinic, community, or other everyday settings; (2) understand relative merit of various behavioral interventions (intensity, duration) to target asthma disparities in diverse everyday settings; and (3) examine effectiveness, individual responsiveness (disease severity, ecologic context), moderators, sustainability, and/or cost-effectiveness of behavioral/healthcare interventions implemented in everyday settings to address asthma disparities faced by children and adults.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

- Urban primary, middle and high school-based asthma education programs using diverse approaches provide relatively consistent, but short-term evidence of improved knowledge, self-efficacy and self-management behaviors. Positive impact is inconsistent regarding quality of life, Emergency Department visits, academic performance, school absences, and days and nights without symptoms and when realized, is short term.
- Combined school-based or Head Start-based (and home-visits to modify domestic environment) programs to reduce asthma-related disparities in inner-city school children. Impact duration varies from short to intermediate.

3. Key Lessons Learned:
What made (makes) this work successful?

- Sustained prevalence of asthma disparities and attendant research priority for NHLBI.
- Innovative investigators and novel research methods to examine adherence and promote (Internet-based technology, patient-advocate/navigator approaches, motivational interviewing, and teachable moment) self-management strategies.
- NHLBI EPR-3 Guidelines emphasize education of provider and patient for partnership in healthcare.

- Evidence that symptom-based treatment improves asthma care, empowers patients, and encourages proactive participation in self-management programs (S-M maybe ultimate success metric for translation).

What obstacles were encountered? How were they overcome?

- Low adherence to practice guidelines by providers. Studies are underway to examine approaches to improve guideline-based practice.
- Unsustained adherence to self-management action plans by patients. Further research is necessary.
- Competing priorities in public-school system limit successful platform for interventions targeting asthma disparities. Primarily a fiscal issue!

What would you do differently?

- Demonstration / implementation research should be required to include investigation of sustainability.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

- Rather than disease-specific programs, an innovative strategy might include combined targets, e.g., asthma and obesity (and Type II diabetes).
    - NIAID – National Cooperative Inner-City Asthma Study (NCICAS) cohort to investigate primary prevention approaches, strategies to attenuate allergic march (immunologic phenotyping), characterize adherence phenotype and develop/test self-management theories & models
    - NICHD – Child Health Study cohort to investigate primary prevention approaches, strategies to attenuate allergic march (immunologic phenotyping), characterize adherence phenotype and develop/test self-management theories & models
    - NIEHS – Investigator collaborations re control of exposures that condition innate and acquired immune health.
    - NINR – school-based nurses have an important role in implementing programs targeting asthma-related health disparities
    - NIDDK – Combined target programs, eg, asthma & obesity / diabetes type II
    - CDC – Investigator collaborations re asthma surveillance & education
    - AHRQ – CER to identify best practices for asthma interventions

5. Additional comments/reflections.

- Encourage multidimensional “information therapy” for providers, caretakers and patients to facilitate translation of knowledge to action.
- Encourage novel technology-assisted monitoring of and point-of-care decision support for self-management.
- Encourage development and testing of novel theories or innovative applications of existing theories for initiating and sustain self-management programs.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **x** Research

Summary description:
The NIAID has sponsored the Inner City Asthma Consortium (ICAC) since the early 1990's. This Consortium focuses its research on children living in the inner city who have asthma. The goals of the consortium are to identify important environmental factors associated with asthma, develop interventions to reduce environmental factors, create innovate treatments for inner city asthma, and to identify factors associated with the development of asthma among children living in the inner city. NIAID also sponsors projects to identify factors in inner city schools that contribute to asthma morbidity and to reduce home exposure to important allergens such as mouse.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The Inner City Asthma Consortium has a number of important accomplishments:

- Identification of cockroach as a major allergen for inner city children
- Identification of the importance of psychosocial factors plays in asthma control among inner city children
- Development of the Asthma Counselor intervention – a multi-faceted asthma intervention
- Development of an allergen reduction home-based intervention which reduced asthma morbidity among inner city children
- Demonstration that the majority of inner city children's asthma can be successfully managed using ERP-3 asthma treatment guidelines.
- Creation of a birth cohort of inner city children to study the environmental causes of asthma incidence. The cohort has been followed for over 5 years to date.
- ICATA?

3. Key Lessons Learned:
What made (makes) this work successful?

- Long term involvement allowed:
    - Programs to be developed, evaluated, and implemented
    - Programs to build on past successes and learn from failures
- Investigators with commitment and access to inner city populations

What obstacles were encountered? How were they overcome?

- Maintaining high levels of participation in ongoing inner city programs. This obstacle was overcome by developing programs to allow inner city participants overcome barriers which prevented their participation in our programs

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

- The Inner City Consortium has successfully collaborated with other agencies such as EPA, and NIEHS to expand our ongoing research programs.
- Asthma Outcomes project will develop standards for outcome measures that will be used in research studies across the various Federal agency stakeholders

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
Pediatric intensive care units care for the sickest and most disadvantaged children with life-threatening asthma. The critical asthma design and development project is supported by BPCA (Best Pharmaceuticals for Children Act) funding, and is nearing completion. It has been executed in the Collaborative Pediatric Critical Care Research Network (CPCCRN) Two manuscripts are in preparation for submission. The research design and development project has three deliverables: First: a retrospective review of fatal and near fatal asthma, and the data points that characterize the course of care in those instances. This is the largest such review cohort (263) of this subject, carried out across the CPCCRNs 17,000 annual admission PICU services. Second: Comparison of practice variation in critical asthma across the CPCCRN, in comparison to other, non-CPCCRN sites available for comparison via the PHIS data base. Third: Design (not execution) of a prospective cohort study that will elucidate therapeutic decision points in fatal, near-fatal, and other asthmatic children admitted to the intensive care unit. The CPCCRN PICUs are essentially phenotype concentrators. It is well known that the health disparities that characterize critical asthma cohorts are more concentrated there.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
With the three deliverables, the BPCA will be able to conduct studies that are appropriate to evaluate intervention and therapeutic strategies that may ameliorate and enhance our understanding of why some children still have very severe critical asthma, necessitating critical care admission, advanced life support, and the risks of morbidity and mortality. Further, treatment strategies in children with this problem remain virtually unstudied in adequately powered cohorts. This work will focus attention on the development of standards for such care.

3. Key Lessons Learned:
What made (makes) this work successful? The key has been the availability of a collaborative group of experts empowered to investigate the course of fatal and near-fatal asthma and practice variation across a large, geographically, ethnically and racially diverse population in the USA.

What obstacles were encountered? How were they overcome?
Availability of funds delayed the operational execution for a substantial length of time.

What would you do differently?
Ensure that support would be available to do the study before agreeing to do it.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
NHLBI has assumed a collaborative, ad hoc role in the design of the studies.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Several Research and Training Projects designed to address/reduce Asthma disparities

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
The NICHD has several funded research projects addressing asthma disparities. A sample of these projects demonstrate an array of issues including the management of asthma in ethnic adolescents in transition; how family routines influence medical adherence in children with asthma using a tailored intervention'; under-use of preventive medications and clinical communication interactions; the potential for racial and ethnic differences to affect symptom perception in childhood asthma; how asthma affects academic performance in urban children and the study of exposure to ambient PM2.5 and ETS and their interactive effects on children with asthma.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Taken altogether, these current projects address both some preventive aspects in the intermediate term with potential long-term policy implications (environmental exposure) and public health implications (medical adherence and asthma management) for the short and long-term applications.

3. Key Lessons Learned:
What made (makes) this work successful?
We anticipate that the potential application of the results of these studies in the aggregate would make a significant public health impact. This is work in progress.

What obstacles were encountered? How were they overcome?
There is a persistent challenge to incorporating demonstrated effective preventive and management programs by practicing community physicians and health care providers.

What would you do differently?
Increased cross-agency collaborations to determine best practices with more professional/public communication to achieve translation of these research findings into community practice.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

Development of asthma working groups and subgroups that involve interested NIH ICs as well as the other partners in the Taskforce to achieve more transparency and cooperation for specific goals and objectives of the USG. Obvious partners would include EPA, CDC, HRSA and ARQA; others less obvious might vary from DOD/VA to NOAA/DOE.

5. Additional comments/reflections.

Cost-benefit savings could also result from additional cross-agency collaborations. There are more planned initiatives on the subject that we were not able to incorporate in time for this Inventory.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions □ Policy **X** Research

Summary description:
NHLBI supported 4 Centers for Reducing Asthma Disparities, in which a research intensive institutions partnered with a minority serving institution to conduct research to investigate factors that contribute to disparities in asthma and identify targets for interventions. The Centers also developed training programs to build research capacity in examining disparities and interventions to reduce them.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The Centers examined a range of topics: the role of psychosocial factors in disparities, differences in symptom perception among racial and ethnic groups and how these differences affect patients' patters for seeking care; ways to improve communications between patients and their physicians; biological and genetic mechanisms involved in racial variations to sensitivity to environmental allergens and responsiveness to treatment. Three Centers developed low-literacy, culturally sensitive instruments for use in African Americans and Latino populations. Junior faculty and medical fellows involvement in the research led to publications and subsequent NIH level funding as independent investigators. Internships for college, medical, and graduate students expanded interest in research careers in disparities. Identification of the strong contribution of psychosocial issues, across all centers, that contribute to disparities—rather than the traditional emphasis on health care access reveals the complexity of addressing disparities.

3. Key Lessons Learned:
What made (makes) this work successful?
- Dedicated funding
- Requirements for training and partnership activities along with research.
- Frequent monitoring and building in time for required to allow mid-course corrections of research projects that are encountering problems. Given the complexity of the research and difficult recruitment and sustained follow-up issues, problems should be expected.
- Identification of the strong contribution of psychosocial issues, across all centers, that contribute to disparities—rather than the traditional emphasis on health care access reveals the complexity of addressing disparities and the need for integrated, multi-factorial programs.

What obstacles were encountered? How were they overcome?
Several of the minority serving institutions experienced high turnover among faculty/investigator of leadership staff. Strong support of the partner institution helped keep the teams together, focused, and prepared for leadership transitions. Defining realistic goals and objectives—for the research project, recruitment, follow-up is a challenge, trying to balancing the enthusiasm of the investigators with realistic, focused project.

What would you do differently?
Fund the Centers for a longer period of time (7-10 years rather than 5). Establishing partnerships takes considerable time and effort, and more than 1 year is required to build the necessary foundation. More time at the end of the project period would be valuable to get the Centers together. Each Center could bring results from their independent efforts to share experiences and data and to identify ways to consolidate findings for joint reports and future efforts; funding for such collaborative efforts would be built into the Center program. Explore opportunities for junior faculty/fellows to continue training in disparities under NIH auspices.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Several Institutes have Centers programs (NIEHS/EPA, NIMHD, and NHLBI, NIAID) . It would be important to get the program officers of these programs together to see if future efforts to collaborate could lead to research that avoids duplication, expands on the Centers' experiences and findings to determine most promising areas for future investigations, and identifies possible collaborations/synergies. A major challenge is to identify realistic "multi-factorial, multi-level" programs that will be required to address the complexities of disparities and to identify the key elements of such programs. Explore expanded NIH funded training opportunities for disparities research (conducted by both minority and non-minority scientists).

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Childhood Asthma Reduction Study (CARES)

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
Exposure to cockroach allergen might be the most important risk factor for asthma in inner-city households. The primary objective of the Childhood Asthma Reduction Study (CARES) is to evaluate the effectiveness of a novel cockroach eradication method, shown in prior studies to drastically decrease cockroach allergen levels, in reducing asthma morbidity in children with moderate to severe asthma who are both allergic and exposed to cockroach allergen.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
If it could be shown to reduce asthma morbidity, an environmental intervention targeting only cockroach allergen could potentially provide cost savings in a public health program over high cost multi-component interventions. This study targets a high-risk, inner-city population of moderate to severe asthmatic children with excessive exposure to cockroach allergen. Asthmatic children who are both sensitized and highly exposed to cockroach allergen have been shown to have greater morbidity (including hospitalizations) than other asthmatic children.

3. Key Lessons Learned:
What made (makes) this work successful?
Previous interventions that have attempted to reduce cockroach allergen as part of a multi-component intervention have been only moderately successful at reducing cockroach allergen exposure. The single component intervention utilized in this study is extremely effective at reducing cockroach allergen in highly infested homes, while also being relatively simple to implement.

What obstacles were encountered? How were they overcome?
Recruitment for a study like this can be challenging. The patients that would be eligible for this study often have lower incomes, limited transportation and may not be easily reached through traditional recruitment methods. To overcome this, we are conducting this study entirely in the participants' homes and utilizing community networks and organizations, like the local asthma coalitions, to reach the high risk population that we need to enroll in this study. Another obstacle has been working within current government regulations to secure adequate funding for this study, which requires an intramural and extramural collaboration.

What would you do differently? N/A

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

The expertise other agencies have gained by conducting interventions in inner-city and asthmatic populations (i.e., NIAID, HUD, etc.) could lead to valuable collaborations and allow for this study to be expanded to additional centers throughout the country.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: HomeBASE (Home-Based Asthma Support and Education for Adults)
Jim Krieger, PI; R01ES014583

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
The goal of this research is to develop and assess the value of a home-based education and support intervention called HomeBASE (Home-Based Asthma Support and Education) for reducing asthma morbidity among low-income, ethnically diverse adults with asthma ages 18-65. Specifically, the project will test the hypothesis that community health workers providing education and support for self-management of asthma, assessment of the home for environmental triggers, resources for asthma control, and assistance in effective communication with medical providers over the course of one year will reduce asthma morbidity, asthma- related urgent health care use and exposure to indoor asthma triggers. Exposure to asthma triggers will be assessed through interviews, home inspection and analysis of house dust for mite allergen. The incremental cost- effectiveness (dollars per symptom-free day) will be measured.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The number of adults affected by asthma in the United States has grown dramatically in the past two decades; asthma now affects 14 million adults. Control of asthma is inadequate for many of them, leading to substantial morbidity and economic burden. If the efficacy and cost-effectiveness of this type of community intervention is demonstrated, it could pave the way for communities and payers to provide support for these services, leading to decreased disease and economic burden and increased quality of life.

3. Key Lessons Learned:
What made (makes) this work successful?
A commitment from the beginning was ensuring community participation in study design, implementation, evaluation and dissemination and (2) and disseminating protocols and tools for program replication should HomeBASE prove successful. The proposal was initiated by and is sponsored by the King County Asthma Forum, the local asthma coalition. It has been developed through existing collaborative relationships among partners who are members of the HomeBASE Steering Committee: people with asthma, private sector clinics and hospitals, community clinics, the local public hospital, the local health department, community-based organizations and the

University of Washington. The Community Advisory Group, consisting of people with asthma, has advised on proposal development.

What obstacles were encountered? How were they overcome?

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
This work is being spearheaded by the Seattle-King County Public Health Department, so other public health departments would be natural partners, as would the CDC.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Head-Off Environmental Asthma in Louisiana (HEAL)

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
Though a multi-agency public-private partnership, NIMHD supports a research project entitled HEAL, which stands for Head-Off Environmental Asthma in Louisiana. This activity focuses on understanding the effects of indoor allergens on children with asthma in post-Katrina New Orleans. The research project examines genetic (i.e. inherited) differences in response to environmental influences.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
As a long-term impact, the HEAL Project provides an opportunity to determine best practices that promote better medical management and safer home environments in an effort to improve the health of local children with asthma. In the short term, participants enrolled in the HEAL Project receive direct access to healthcare for their asthma condition (e.g. allergy testing by Pediatric Asthma Specialists and identification of health care resources by Asthma Counselors).

3. Key Lessons Learned:
What made (makes) this work successful?
The HEAL research project has been successful due in part to the comprehensive nature of the activity. The project involves home environmental evaluation, patient-centered health management, education and intervention.

What obstacles were encountered? How were they overcome?
The main obstacle in conducting the HEAL project was the remaining infrastructure post-Hurricane Katrina. Although in a challenging environment, project coordinators used this activity as an opportunity to set standards that could be applied for future studies under similar natural disaster situations.

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

The HEAL research project currently has three major partners; Merck Childhood Asthma Network, NIMHD, and NIEHS. The project presents an opportunity to create a sustainable program within a community devastated by a natural disaster. Furthermore, the project could be expanded by broadening the partnership to include HUD tailored-programs such as community empowerment zones.

5. Additional comments/reflections.
N/A

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Pediatric Asthma Community-Based Program (PACBP)

Focus: ☐ Public Health Interventions ☐ Policy **X** Research

Summary description:
The PACBP is a CBPR project that tests the effectiveness of asthma management programs designed to eliminate asthma treatment disparities by intervening at the family, provider, and policy level. The project is in its primary phase, which focuses on analysis of medical claim data comparing private and public insurance providers. The project surveys pediatricians in order to examine their knowledge on asthma treatment guidelines and their perceptions on present policies affecting the treatment of children with asthma.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The short-term impact is the results obtained from the research project. These results revealed the increased disparity in the rates of dispensing of asthma controlled medication among children with persistent asthma. The intermediate accomplishment is to provide quality data to physicians and policy makers regarding the impact of the current health policy on asthmatic children. The long-term impact is the translation of the research findings into interventions that can reduce asthma morbidity and disparities in care.

3. Key Lessons Learned:
What made (makes) this work successful?
The research project is successful because of the community-based participatory nature of the study design coupled with the goal of outreach and dissemination of key findings.

What obstacles were encountered? How were they overcome?

What would you do differently?
The project is in its infancy stage, thus evaluation of challenges and/or pitfalls have not been assessed.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

The PACBP addresses a health care services question utilizing a community-based participatory research approach. Furthermore, the project, which is carried out in Puerto Rico, would be expanded with a data collection and evaluation component that highlights health literacy innovation. Collaborators such as the OMH and/or HRSA would be ideal contributors in this effort.

5. Additional comments/reflections.
N/A

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
None of the programs in DPHIE specifically address reduction of asthma disparities. However, programs in the Public Health Branch and Geriatrics and Allied Health Branch offer training related to the general topic of asthma. In addition, programs in the Diversity Branch include asthma education and support services in community-based health facilities to enable students to understand community needs, cultural competency, and interventions in underserved areas which have racially and ethnically and diverse communities.
Title: See chart below

Focus: **X** Public Health Interventions ☐ Policy ☐ Research

Summary description:
See response to Question 1.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The training of health professionals and students on asthma in these programs is currently not measured or evaluated.

3. Key Lessons Learned:
What made (makes) this work successful? n/a
What obstacles were encountered? How were they overcome? n/a
What would you do differently? n/a

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
DPHIE can explore other agencies/offices and/or Departments that fund health care services to discuss potential collaboration to assess the asthma training on practice as well as assess existing programs to ensure that they meet the goals in HRSA's strategic plan.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

DPHIE/Public Health Programs	Grantee/Organizations
Public Health Traineeship	1) San Diego State University Foundation, 2) Johns Hopkins University 3) University of North Carolina at Chapel Hill 4) Florida A & M University 5) East Carolina University 6) West Virginia University Rsch Corp
Public Health Traineeship - ARRA	1) University of North Carolina at Chapel Hill 2) San Diego State University Foundation, 3) Florida A & M University 4) Johns Hopkins University 5) Regents of the University of California
Public Health Training Centers	1) The University of Texas Health Science Center at Houston
Preventive Medicine Residency	1) The Regents of the Univ. of Calif., U.C. San Diego 2) The Research Foundation of SUNY
DPHIE/Geriatrics and Allied Health Programs	**Grantee/Organizations**
Geriatric Training Program for Physicians, Dentists, and Behavioral and Mental Health Professions	1) Johns Hopkins University 2) Regents of the University of California 3) University of Rochester 4) University of Medicine & Dentistry of New Jersey - School of Osteopathic Medicine 5) Beth Israel Deaconess Medical Center 6) The Regents of the University of California, San Francisco 7) Trustees of the University of Pennsylvania

Graduate Psychology Education	1) Yale University 2) The Regents of New Mexico State University 3) University of Rochester 4) University of Colorado Denver 5) Lutheran Medical Center 6) Eastern Virginia Medical School 7) The Wright Institute 8) University of Oklahoma HSC
Comprehensive Geriatric Education Program	1) George Washington University
DPHIE/Diversity Programs	**Grantee/Organizations**
Centers of Excellence	1) Mount Sinai School of Medicine at NYU
Centers of Excellence	2) University of Medicine and Dentistry of New Jersey

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: BRFSS Asthma Call Back Survey

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
To obtain greater state level information on asthma, in 2005, APRHB began conducting the Asthma Call-Back Survey (ACBS) in coordination with the BRFSS survey. The ACBS asks questions that examine the health, socioeconomic, behavioral, and environmental predictors that relate to better control of asthma and helps to characterize the content of care and health care experiences of persons with asthma. In CY 2010, a record 40 states are participating in the ACBS.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Overall, the ACS adds depth to the existing body of asthma data, helps to address critical questions surrounding the health and experiences of persons with asthma, and provides detailed data at the state and local levels. These data can be used to measure the impact of asthma control programs in state and local health departments. ACS can be used to assess the characteristics of people with asthma and the characteristics of effective asthma care. With the data from the ACS, interventions to control the cost of asthma care can be better targeted and their impact on the population-based indicators can be determined.

3. Key Lessons Learned:
What made (makes) this work successful?
APRHB funds state asthma programs that are required to collect, analyze and disseminate state-specific surveillance data on asthma. These state programs are instrumental in producing reports utilizing the state specific call-back data, as well as other state specific asthma data, to identify demographic groups with the most need at the state level. Targeted interventions can then be more cost effective.

What obstacles were encountered? How were they overcome?
Everyone wants data; no one wants to pay for it.

BRFSS funding for the core survey is inadequate to maintain a state sample size sufficiently large to identify enough respondents with asthma for recruitment to the call-back survey. Recent

budget shortfalls have resulted in large reduction in the core sample size which in turn negatively impacts the sample available for the asthma call-back survey. Annual cost cutting and the associated revising of the state agreements and contracts is staff intensive.

The call-back data are extremely complicated and difficult to analyze. In May 2010, APRHB conducted a one day workshop with over 60 participants from state asthma programs and APRHB epidemiologists to familiarize them with methods to analyze the BRFSS core asthma data and BRFSS ACBS data. Session topics included:

a. Analyses of asthma variables in BRFSS Core survey;
b. Combining multiple years of ACBS data;
c. Combining adult and child ACBS records; and
d. Variance estimation for the ACBS

APRHB currently convenes 11 workgroups, in collaboration with the states, to develop analysis plans for asthma incidence, asthma management and control, healthcare utilization, environmental exposures, medication use, cost barriers, work related asthma, co-morbidities, complementary and alternative therapy, and methodological issues. APRHB convenes monthly analysis conferences and a detailed user's manual for the ACBS is near completion.

What would you do differently?
Hired 10 more staff to do this.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: CDC National Asthma Control Program: Addressing Asthma from a Public Health Perspective

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
CDC APRHB provides financial and technical assistance to 34 states, DC and PR for comprehensive state asthma control programs. Major focus areas are Surveillance, Partnerships, State Asthma Plan, Interventions and Evaluation.

Through surveillance, the grantees identify the burden of asthma including specific segments of the population that are disproportionately affected by asthma. The asthma partners assist the state in developing and revising the state asthma plan. A state plan addresses all populations but prioritizes interventions based on analysis of asthma surveillance data and focuses on populations disproportionately affected by asthma. The partners help to implement interventions outlined in the State Asthma Plan. Evidence-based interventions are utilized to reach the target populations.

Seven states receive funding for additional activities that address asthma disparities. Two states are conducting analyses on Medicaid and other asthma-related databases to better address the burden of asthma (to inform program planning, evaluate interventions, and guide policy development) in the Medicaid population. Three states are funded to develop, implement, and evaluate an intervention designed to impact a specific population that is experiencing a disproportionate burden of asthma (American Indians and the Medicaid population). Two states are conducting interventions (asthma self-management, environmental trigger reduction) to reach the specific target populations.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The activity will allow states/grantees to further expand their asthma surveillance systems to identify populations experiencing a disproportionate burden of asthma. The asthma partners will work with the grantee to revise state asthma plans and assist with implementation of interventions to address the burden of asthma. And the grantee and their partners will evaluate the areas of surveillance, partnerships and interventions.

The grantees interventions must be consistent with the NIH EPR-3 Guidelines for the Diagnosis and Management of Asthma. Categories of interventions include but are not limited to, education for the patient/ caregiver (including self-management education), environmental controls, policy development/ implementation, provider training, public education/awareness campaigns, work-related asthma, or interventions designed to change systems and/or policy.

3. Key Lessons Learned:
What made (makes) this work successful?
Having surveillance data allows targeting interventions activities toward population sub-groups with greatest burden of asthma. Partnerships ensure stakeholder participation.

What obstacles were encountered? How were they overcome?
Despite CDC funding, state budget cuts in the last two years have made recruitment and retention of program staff very difficult. Not yet overcome.

What would you do differently?
At this time, we do not expect to change our approach.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
The grantees are currently working with EPA and HUD in the areas of air quality in schools and housing.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Controlling Asthma in American Cities Project (CAACP)

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
The CAACP was a 7 site program funded for 2 years of implementation and 5 years of interventions to use a community-based multi-sector approach to decreasing the disparate burden of asthma in inner-city populations of need. Funding ended in 2008. Some of the lessons learned in reaching and tools used to work with disparate populations are summarized in individual site publications as well as in a special supplement to the Journal of Urban Health (in press).

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The papers and special supplement add to the knowledge base and tools for addressing disparities in several ways. They:

1. Discuss different issues in planning community-based interventions that are intended to reduce disparities and those that are intended to have a population impact
2. Provide documentation of which CAACP interventions "worked" and which did not
3. Describe the resources and efforts necessary to engage health care providers who serve disparate populations
4. Summarize the way different sites provided in-home trigger reduction services
5. Demonstrate a dose response to multiple layers of interventions
6. Describe tools that can be used at a community and school level to follow trends in asthma knowledge and burden over time
7. Provide a description of and access to tools used by the CAACP sites

3. Key Lessons Learned:
What made (makes) this work successful? Experiences of the sites honestly and thoughtfully documented.

What obstacles were encountered? How were they overcome? As this was an intervention project, research was not allowed. There was a constant tension between expending resources on adequate documentation for evaluation purposes and directing resources to program implementation.

What would you do differently? Require a series of meetings at the beginning of the project to agree upon common definitions, tools and indicators for evaluating similar interventions across sites.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

APRHB is working with the CDC-funded state partners to apply and further translate the lessons of the CAACP at the state level. For example, a state partners workgroup will coordinate efforts to implement and evaluate home-based trigger reduction activities at city, district and state levels. The first step in this effect will be to agree upon standard definitions and metrics to use in tracking activities and outcomes. This effort can be expanded to include the Communities in Actions partners.

5. Additional comments/reflections.

This activity would also be enhanced by participation of the former Allies Against Asthma communities and leaders.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: GIS for Asthma: Expanding the Use of Mapping and Spatial Analysis to Understand Asthma Occurrence and Outcomes in Urban and in Rural Areas

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
We are using GIS technology to maintain a network of geo-referenced data that can be analyzed to determine and display patterns of asthma occurrence, health outcomes, health care access, and potentially related environmental risk factors by location. These results will be used to generate hypotheses concerning correlates of asthma occurrence and outcomes in rural and urban areas across the nation over time.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Although asthma prevalence has long been considered higher in urban versus rural areas, our analysis found that asthma prevalence is similar in urban and rural environments.(Morrison et al, 2009) Because these results substantially change our understanding of asthma prevalence in geographically disparate populations, we need ongoing analyses of geospatial patterns of asthma occurrence. Using a 'weight of evidence' approach, we can also estimate the health impacts of environmental health policies, asthma guidelines, and other local-level interventions.

3. Key Lessons Learned:
What made (makes) this work successful?
The ability to collaborate with internal and external partners to obtain national, state, and local-level information; to distinguish rural areas from urban areas (i.e., population density, Beale codes, urban influence codes, and NCHS urban-rural classifications); to determine current and lifetime asthma prevalence and health outcome estimates in these areas from 1999-2008 (i.e., national survey data, state-level data, and county-level data); and to identify environmental features in these areas potentially related to asthma prevalence (i.e., swine farms, cattle farms, agricultural farms, pollen counts, particulate matter levels, ozone levels, housing stock, vegetation/parks, interstate proximities, traffic density, industries/toxic sites, hospital resource areas, and health care facilities).

What obstacles were encountered?

We had to obtain approval from supervisors outside of APRHB to allow their staff to work on the project.

How were they overcome?
We presented the project goals and objectives to the supervisors individually and then collectively to obtain support, assign tasks, and establish time commitments.

What would you do differently?
I would like to expand our collaborators to academic researchers in asthma and environmental health.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
NCEH/EHHE/APRHB is in a unique position to further this work by combining the asthma surveillance and research expertise of APRHB with the advanced GIS programming skills of the Geospatial, Research, Analysis, and Services Program (GRASP), the Emerging Investigations and Analytic Methods Branch and other geographers to link GIS for asthma to a large repository of databases with geospatial components.

5. Additional comments/reflections.
A central repository of asthma information linked to GIS will provide a foundation on which NCEH/EHHE/APRHB can integrate population health information from the Nationwide Health Information Network (NHIN) when the US Department of Health and Human Services implements the system.

Morrison T, Callahan D, Moorman J, Bailey C. *Journal of Asthma* 2009 Oct;46(8):751-58

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
CDC/DASH provides funding for local education agencies to help school districts and schools implement effective policies, programs, and practices to prevent and reduce asthma episodes and absences among students with asthma. Overall program goals include reducing health and education disparities by supporting culturally appropriate school and community efforts to improve the health and well-being of at-risk youth populations. Strategies to accomplish program goals include: data collection and analysis; funding and technical assistance to state, territorial and local education and health agencies and tribal governments; funding and technical assistance to national nongovernmental organizations; evaluation and evaluation research; and resources, guidance documents and strategies development.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
DASH provides technical assistance and financial support to education agencies in 10 large urban areas for asthma management. As a result of this assistance, these partners are able to implement effective policies, programs, and curricula; provide professional development, consultation, and technical assistance to schools and school districts; collaborate with local health and education departments, community planning groups, parents, students, and other groups or coalitions; and implement strategies to reduce health disparities among populations that are disproportionately affected by health-related risks and problems.

All of these funded programs are required to address health disparities as a major focus of their programmatic activities. In addition, local education agencies (LEAs) must have a minority enrollment greater than 50% and a high child poverty rate to be eligible for funding.

3. Key Lessons Learned:
What made (makes) this work successful?
Continued collaboration between CDC Centers, specifically the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP/DASH) and the National Center for Environmental Health has been an important contributor to the success of DASH efforts.

What obstacles were encountered? How were they overcome?

Issues related to building the capacity of school districts to assist schools/school districts in increasing students with asthma' s access to community based asthma care clinicians has been a challenge. We are still trying to work through the difficulties.

What would you do differently?
We are currently in the process of selecting an LEA in which to conduct a rapid evaluation of how schools are linking kids to community based clinicians in order to determine what is working in the field and how this can be translated into guidance for school districts.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

- Continued collaboration with NCEH and its funded state health departments.
- Increased collaboration with EPA to assist schools in addressing environmental issues in schools.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Communities in Action asthma campaign/ www.AsthmaCommunityNetwork.org

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
The Asthma Health Outcomes Project determined key attributes of successful community-based asthma programs with an environmental component. Programs participating in AHOP requested a platform for rapidly learning and sharing from each other. EPA launched the Communities in Action asthma campaign to fulfill this request. Communities in Action is a Network of community-based asthma programs and the organizations that support them, working to rapidly spread best practices and field tested strategies for improving asthma outcomes for the individuals they serve. The Network is supported by on online interface (AsthmaCommunityNetwork.org) and an annual pacing event (The National Asthma Forum). An additional focus of the campaign includes training health care providers to deliver guidelines based care, including asthma education and environmental interventions. This is accomplished primarily through grants to NGOs who then provide accredited training programs.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

- Short term: More than 500 programs, and 1100 individuals are participating online, sharing resources and strategies, participating in learning opportunities such as webinars and the National Asthma Forum. About 3000 health care providers trained annually on environmental management of asthma, through grants to NGOs.
- Intermediate: Adoption of effective interventions at the community level (e.g. home visits, asthma management plans, school-based asthma management programs). Health care providers with increased knowledge and skills in asthma management.
- Long term: Leading programs in the Network are improving asthma health outcomes, in many cases, besting HP2010 targets.

3. Key Lessons Learned:
What made (makes) this work successful?
Filling a unique niche by providing real time access to information for a broad range of stakeholders; free access to many asthma care resources; free webinars. Expanding the reach of others—e.g. CDC's evaluation expertise; MCAN's policy report. Using the peer to peer learning model (webinars, Forum)

What obstacles were encountered? How were they overcome?
Participants have been slow to adopt the networking tools and technologies that are available to them. Traditional engagements such as webinars and the National Asthma Forum continue to be popular. Through these engagements we are working to get participants comfortable with the other network features such as discussion forums (blogs), event calendar and the resource bank.

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

- Engage other agencies as co-sponsors of the Network;
- Engage HUD and CDC grantees in the Network;
- Build out a research component (EPA, HHS, others) to rapidly transmit new findings to the field;
- Build out an asthma surveillance component to help bring state and county level surveillance expertise to local level;
- Expand collaboration with Dept of ED to link school-based asthma management and school environmental health with educational improvement initiatives;
- Engage USDA extension service to provide community expertise (e.g. home-based interventions such as pest management, community education and outreach).

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Raising public awareness and promoting behavior change

Focus: **X** Public Health Interventions ☐ Policy ☐ Research

Summary description:
Public awareness campaigns have been shown to increase target audience knowledge and behavior change leading to improved health outcomes. EPA sponsors the National Childhood Asthma Public Service Media Campaign, designed and implemented by the Ad Council. This campaign is targeted to parents of children with asthma, primarily African American and Spanish speaking families. EPA, in collaboration with NOAA, NASA, NPS, National Assn of Clean Air Agencies, and Environment Canada, sponsors the Air Quality Index, EnviroFlash and www.Airnow.gov. EPA and CDC are collaborating to increase the number of people receiving electronic AQI alerts (EnviroFlash), increase state involvement in AQI forecasting, and develop a system for long-term surveillance of the health impact of air quality regulations.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
AQI: research shows that people with asthma are more likely to respond to AQI media alerts (Wen et al., 2009), and are more likely to reduce the amount of time spent outdoors (Mansfield at al., 2006). These exposure reduction measures lead to decreased hospital admissions for asthma (Neidell and Kinney, 2010; Carls, 2010). People with asthma are much more likely to reduce exposure when advised by health professional (Wen et al., 2009)

National Childhood Asthma Public Awareness Media Campaign:
Short term: Media campaign has garnered over $300M in donated media since the launch in 2001.

Intermediate: Annually, 1.9M web hits to www.noattacks.org and tens of thousands of calls to 1-866-NO-ATTACKS.

Long term: Tracking studies show that parents of children with asthma who report seeing/hearing the PSAs are significantly more likely to be taking asthma management actions—these actions include environmental management and other asthma management activities.

3. Key Lessons Learned:
What made (makes) this work successful?

Multi-media approach to reach target audience; focus group tested messages and images; donated media approach that the Ad Council brings to the partnership

What obstacles were encountered? How were they overcome?
Building consensus between creative designers and technical experts on campaign messaging took time—we had lots of meetings and discussions to get to the final product. Focus group testing was essential to the process.

What would you do differently?
Explore new media approaches to reach specific audiences that may not be well served by traditional media; increase the budget for the project by inviting other partners to contribute funding and share in the design.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
AQI: Collaboration with HHS/NIH to educate health care providers about the AQI would likely lead to increased awareness and exposure reduction measures.

Link AQI and Childhood Asthma Media Campaign—increasing messages around outdoor air pollution via the Media Campaign and linking to noattacks.org from the AQI web site.

Increased federal partnership on this project would bring more resources and allow us to implement new media approaches; to expand the message beyond trigger management (EPA's focus) to include comprehensive asthma care (e.g. use of asthma action plan, well visits) and asthma management at school messages. There may also be an opportunity to expand the target audience beyond the primary audience of parents of children with asthma (e.g. health care providers, school-based audience).

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: "Catching Your Breath – Addressing Environmental Factors that Contribute to Childhood Asthma"

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
EPA provided grant support to the Environmental Council of the States (ECOS) and the Association of State and Territorial Health Officials (ASTHO) to develop and implement a national action agenda to reduce environmental triggers of childhood asthma. The program was innovative in that it supported states to create targeted programs addressing childhood asthma. The grant cycle ended in 2006.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Short-term term impacts include providing funding support to states to develop pilot programs to reduce environmental hazards, as well as a 2003 document titled "Catching Your Breath: Strategies to Reduce Environmental Factors that Contribute to Asthma in Children.". Long term impacts include developing sustainable, state-run programs to tackle childhood asthma.

3. Key Lessons Learned:
What made (makes) this work successful?
This program was a success through both the establishment of a strong partnership between federal and state governments, as well as the encouragement of inter-state collaboration between state environment and health officials.

What obstacles were encountered? How were they overcome?

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Contingent upon funding approval, this grant could be expanded to include funding sources from HHS to provide a health component. HUD can provide support for reducing environmental hazards of asthma in housing facilities.

5. Additional comments/reflections.
http://yosemite.epa.gov/ochp/ochpweb.nsf/content/whatwe_states.htm#develop

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: The Office of Pesticide Programs through the PRIA2 (Pesticide Registration Improvement Act) grant has funded the IPM Institute of N.A. for the following proposal, "*Healthy School Communities through IPM and Expanded Partnerships: Reducing Pests and Pesticide Risks and Improving Asthma Outcomes and Furthering Environmental Justice.*"

Focus (select one or more): This demonstration project that was awarded through the PRIA2 grant mostly fits into the **public health interventions** although some of the work/demonstrations can also be viewed as research as information will be gathered for pesticide risk/use reduction.

Summary description:
The PRIA2 grant awarded to the IPM Institute of NA will promote the adoption of integrated pest management in our Nation's schools. It has been long realized that reducing pests, namely german cockroach feces from the school environment will reduce asthma incidence. The grant project will expand existing partnerships in ten states and establish new partnerships in five states with high asthma rates to deliver quantifiable improvements in IPM performance measures and reductions in asthma triggers and pest and pesticide risks in more than 300 school districts in total. The developed coalitions will use peer-to-peer recruitment, ongoing networks and science-based educational materials and approaches to train and support professionals working in and with schools to implement high-level verifiable IPM.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The anticipated outcomes from this grant will include: Expanded partnerships including three hundred school districts actively participating in fifteen state or regional coalitions; - Baseline and end-of-years one and two metrics reporting from each participating district including estimated number of students with asthma, asthma attacks in school, asthma-related staff and student absences, allergens; *acreage of landscaped area*, *square footage of buildings*, numbers of staff and students; pesticide use by categories including biopesticides, reduced-risk and conventional pesticides as well as non-chemical products and practices such as monitoring traps, door sweeps, rodent proofing, etc., and tracking database for these metrics. Landscaping acres and biopesticide use for coalitions are currently unknown but will be tracked and detailed by the end of year one. There will also be realized a 50 percent improvement in asthma related asthma related absences and pest/pesticide risk reduction in participating school districts by end of year two. The grant will also produce IPM educational materials for schools to distribute to students and parents designed to reduce allergens and asthma incidence and severity at home.

3. Key Lessons Learned:
This particular grant has just been awarded to the IPM Institute of NA and no lessons have been learned yet. The IPM Institute of NA has received numerous grants in the past have done exemplary work in documenting their progress/success with school districts. For more information on the IPM Institute and their school IPM projects, visit their website at: http://www.ipminstitute.org/schools

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? The IPM Institute of NA has been very successful in building collaborative partnerships with other federal agencies, universities, state lead agencies and others. The Agency has recently announced that the Office of Chemical Safety and Pollution Prevention will renew its focus on school integrated pest management. The IPM Institute of NA will be key to the partnerships and to the Agency for furthering our goal for National school IPM implementation for verifiable IPM.

5 . Additional comments/reflections.
As we receive progress reports/information on this grant, we will glad share our findings with OAR/Tools for Schools Program.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Trotter Elementary School

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
EPA is currently partnering with Ecumenical Social Action Committee (ESAC) and Pleasant Hill Baptist Church (PHBC) to address the high prevalence of asthma (38%) at the Trotter Elementary School, Dorchester, MA. Subsequent to a visit by the Pastor of PHBC who was very troubled by the conditions of the school and immediately brought it to the attention of the School Superintendent, EPA also conducted a walkthrough and observed inoperable air vents, evidence of leaks, mold/mildew odors and pest infestation, e.g., rodent droppings and extensive clutter.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
To date, school has repaired leaks, done extensive cleaning, removed clutter and debris and had air quality monitoring done which showed air quality consistent with ASHRAE standards. Reports by school nurse also indicated great improvement with indoor air quality, mold and mildew odors are no longer obvious and students' visits to her office due to asthma exacerbations have lessened.

Long term - EPA will maintain a working relationship with the school and currently has an EPA staff on the Environmental Committee. The committee membership includes the school nurse, parent liaison, ESAC, MassCOSH, the Boston Public Health Commission and EPA.

3. Key Lessons Learned:
What made (makes) this work successful?
The success of the program was largely due to the partners, e.g., Mass COSH, ESAC, neighboring church (PHBC) and EPA, the willingness and cooperation of the school principle and nurse to work with these partners and last but not least, the unbridled access to the school to work on these issues.

What obstacles were encountered? How were they overcome?
No major obstacles were encountered. Partners were respectful of each other's positions and strengths. The partnership was committed to providing a healthy environment for the children to learn and thrive.

What would you do differently?
Not sure we would've done anything differently. EPA is very fortunate to work with a school that is both aware of the environmental contributions to asthma morbidity and is willing to do something about it.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Within Region 1, there is an opportunity for the Pesticides' Program to partner with staff from the Indoor Air Unit. A robust IPM program needs to be put in place. The current boilerplate language that's in use may not be adequate.

5. Additional comments/reflections.
Appreciate the opportunity to share what we are doing in addressing the challenges of asthma morbidity in our schools. Particularly in light of this eclectic partnership of faith-based, social service, and city health partners.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Work done in Puerto Rico

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
In the recent past we have spent quite a bit of grant funding dealing with asthma issues and targeted at underserved communities and populations. By dealing in a coordinated fashion through education and outreach we have been able to achieve some substantial advances. For example, in Puerto Rico we have worked with other health based and education stakeholders and are seeing a 50% reduction in school days missed due to asthma.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Duval County Health Department-Asthma Smart School Program

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Duval County Health Department (through an EPA IAQ grant) developed a comprehensive educational program for daycare providers, parents and children. The Asthma Smart School program will build public awareness of childhood asthma in preschoolers 3-6 years of age and provide support to their families and childcare providers.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The Asthma Smart School program targets childcare centers and families located in the geographical sectors within Jacksonville, Florida known as Health Zones. Health Zone 1 is predominately African American with 41% of Duval County Black population living in this area. Jacksonville, Florida is also Region 4's Environmental Justice Showcase Community Pilot project and asthma is the number on concern in the community. **Short term:** Number of parents, daycare staff and children trained about environmental asthma triggers, number of outreach materials disseminated, number of participants with increased knowledge **Long term:** reduction in school and work days missed, reduction in hospitalization rates

3. Key Lessons Learned:
What made (makes) this work successful? Keeping the communication open with the Children's Health Division and the Environmental Justice Department to make sure we are addressing the communities' needs.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Possibly partnering with other agencies as they address environmental justice communities.

5. Additional comments/reflections.
We will evaluate the possibility of expanding this program and providing a train the trainer session to non profits and faith based organizations to spread into the communities.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Increasing Awareness- Decreasing Poor Indoor Air Quality and Asthma Triggers in K-12 Schools

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Asthma attacks have become increasingly common in adults and children, many times as a result of exposure to indoor air pollutants. Education on factors that trigger asthma is critical. Despite the prevalence of asthma and indoor air quality concerns, many people do not have access to resources or educational materials. Southface will administer (through an EPA IAQ Grant) a program in 7-10 school districts (rural included) across the state of Georgia to address Asthma, IAQ and Tools for School. Southface will partner with the Georgia ALA to offer the "Asthma 101" trainings and offer the courses through web based capabilities to those who cannot travel.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Through the relationships with the school systems, nonprofit organizations and universities, Southface will get the program off the ground and leave the program able to replicate and sustain.

- Short term: Number of parents conference attendees aware of asthma triggers and asthma management, number of IAQ champions in the districts, number of PTA committees across the state educated about asthma, number of school staff trained
- Long term: Number of children across state of Georgia that will suffer fewer attacks since triggers are identified, asthma attacks better managed in the schools

3. Key Lessons Learned:
What made (makes) this work successful?
The partnership with the higher officials in the educational arena. The close bond that this grantee has with the local nonprofit agencies and universities.

What obstacles were encountered? How were they overcome?
Often, the obstacle is the buy in from the Superintendent to get this work done. EPA Region 4 required letters of support from the Superintendents in the grant proposals.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Southeast Regional offices of the U.S. Department of Health and Human Services'(HHS) Administration for Children and Families and the U.S. Environmental Protection Agency (EPA) Partnership

Focus: **X** Public Health Interventions□ Policy □ Research

Summary description:
In January 2007, a formal Memorandum between EPA and HHS was signed to conduct outreach and deliver health risk reduction messages related to secondhand smoke and other environmental asthma triggers on young children and their families. HHS Administration for Children and Families (ACF) Region IV Immediate Office of the Regional Administrator convened an Interagency Workgroup with representatives from EPA, Office of Head Start and Child Care in support of the MOU. The partnership was formed to develop outreach strategies that would increase awareness and facilitate access to resources that can be integrated easily into ongoing Head Start, Early Head Start and Child Care program activities.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The Interagency workgroup reached a consensus to develop a pilot project in Georgia to include a resource toolkit and an evaluation of probable behavior changes. The *Asthma Resource Toolkit* is designed to narrow the information gap and broaden staff understanding of how better to incorporate environmental education into program activities. The toolkit consist of EPA's asthma and secondhand smoke publications, asthma educational aide for children (poster and coloring book), ACF Care for their Air: Promoting Smoke-free Homes and Cars for Head Start Families Fact Sheets, and train the trainer modules for staff and parents.

- Short term: Number of parents, daycare staff and children trained about environmental asthma triggers.
- Intermediate: Increased knowledge and behavior change
- Long term: reduction in school and work days missed, reduction in hospitalization rates

3. Key Lessons Learned:
What made (makes) this work successful? The partnership with another federal agency (HHS) allowed instant access to the audience in need.

What obstacles were encountered? How were they overcome?

The obstacle was the difference in certification standards between Headstart Center and Childcare centers we worked together to come to a comfortable middle that would still create "Asthma Friendly" Centers.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? I can see this same concept used with possibly HUD as they educate the communities and go into the homes of families with asthmatic children.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Burden of Asthma in New Mexico April 2009

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:

Approximately 4,000 state-registered child-care providers receive their state required training at 16 Regional Early Care Education Conferences scheduled each year throughout the state of New Mexico. Up to 450 child care providers who have the potential to care for 1,800 or more children are expected to attend these Asthma Trigger and Environmental Quality classes in 2011.

An estimated 7.2% of New Mexico children in Kindergarten through Grade 5 are reported to suffer from asthma, according to the New Mexico Department of Health Asthma Education Coordinator. Assuming that this same incidence of asthma occurs in the younger population of children attending child care, this project is expected directly to reach the caregivers of approximately 130 children with asthma each year. Based on data collected from the 2006 RECEC workshops, we expect a higher number of children with asthma will benefit from this training, as our targeted communities reported a higher than average number of children with asthma in childcare. It is also expected that each year more than 1,000 additional children with asthma who attend home-based child care also will benefit from healthier environments promoted by the educational literature distributed to their providers. These trained providers will continue to impact additional children with asthma in the years to come.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

Environmental Justice - The project proposed in this grant application will address the need for environmental health and safety education reaching Spanish-speaking daycare providers in Southern New Mexico. Spanish language workshops will be delivered at 8 Regional Early Care Education Conferences in the New Mexico counties of Doña Ana, Luna, Grant, Eddy, Otero, and Chavez—the majority of these workshops will be delivered in counties along the U.S.-Mexico Border. Over 54% of the population in these counties are of Hispanic origin; 43.5% of the population speak a language other than English in the home; when compared to U.S. population statistics of 15.1% Hispanic origin and 19.6% speaking a language other than English in the home, these U.S. Census Bureau statistics show a pressing need for Spanish language workshops in Southern New Mexico. In these counties, 17.8 % of the population live below the poverty line, as compared to 9.6% in the U.S. Data collected from the 2006 grant-funded workshops at RECEC conferences in Doña Ana County, reported that 21% of the children in home-based childcare had asthma. In the proposed grant, six of the 16 workshops would be scheduled in Doña Ana County.

- Short term: 1.) Decrease in the number of children exposed to asthma triggers in their homes and day-care centers. 2.) Increase in the number of homes and day-care centers that have reduced asthma triggers in their indoor environment.
- Intermediate: Adoption and implementation of activities delineated in the Action Plan.
- Long term: Reductions in asthma disparities.

Activity 1: *Update HELP for Kids Assessment and Training Tools* – Assessment and training tools, which were developed under prior Healthy Indoor Environments (2006 and 2009) grant-funded activity and based on the existing Healthy Environments and Living Places for Kids home-based child-care module, will be updated based on lessons learned from the evaluations provided by the registered child-care providers who attended workshops in 2007 through 2010.

Activity 2: *Distribute Pamphlet on Indoor Environmental Asthma Triggers/IEQ in Home-Based Child Care* – A bilingual (English and Spanish) informational pamphlet, developed under previous grant activity, highlights the key elements for reducing indoor environmental asthma triggers and improving indoor environmental quality (IEQ) in home-based child care. This two-sided pamphlet, English on one side, Spanish on the other, is written in non-technical language suitable for the untrained layperson. Graphics were added for interest and to improve readability. The pamphlet will be distributed to all training workshop attendees, with additional copies made available to the State of New Mexico of Children Youth and Families Department for distribution to other child-care providers in the state and the parents of children with Asthma in their care.

Activity 3*: Deliver Training Workshops in Spanish* – Using the materials developed in Activity 1, deliver 16 two-hour training workshops at Regional Early Care Education Conferences (RECEC) in 8 locations in southern New Mexico to up to 450 or more registered child-care providers. Training will consist of classroom activities with a slide presentation providing an overview of

3. Key Lessons Learned:
What made (makes) this work successful?

What obstacles were encountered? How were they overcome?

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Educating the Educators: Reducing Low Income Children's Exposure to ETS and Other Environmental Asthma Triggers

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Through a grant activity in fiscal years 2011-2012 with the American Lung Association in Colorado, education and training on environmental tobacco smoke and other asthma triggers will be provided to early childhood educators (ECE's). The ALA will target ECE centers that serve low income families as well as geographic areas that have high asthma and smoking rates. Information and education will be provided to the ECE's, who in turn will bring the information to parents and caregivers of households where ETS and other asthma triggers are currently present.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Short term output – training provided to early childhood educators.
Intermediate outcome – parents trained by ECE's, resulting in increased knowledge of parents/caregivers and a reduction in ETS and other asthma triggers in the homes of asthmatics.
Long term outcome – reduction in ER visits, hospitalizations, doctor visits and missed days of school from asthma attacks.

3. Key Lessons Learned:
What made (makes) this work successful?
We had a similar activity with the ALA/South Dakota in a previous grant year. This activity was successful because of the level of trust that ECE's have for the ALA. Also, by training ECE's who in turn train parents and caregivers, a greater number of families benefit for a limited amount of funding.

What obstacles were encountered? How were they overcome?
In the previous related activity in South Dakota, the wide distribution of rural populations made it sometimes difficult to reach all ECE's efficiently. Careful scheduling of trips and visits to meet with the maximum number of ECE's meant fewer wasted trips.
What would you do differently? No changes.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Any agency or organization that works with rural populations on health related issues may have an interest in teaming up, or at least learning from the experience of the ALA in South Dakota or Colorado.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Improving Indoor Air – Moving from Information to Action

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Through a grant in FY 11-12 with Montana State University Extension, Native American and non-native populations in the Rocky Mountain and Northern Plains region will benefit from an IAQ education and training program. MSU will use their existing Native AIR (Asthma Intervention and Reduction) Program and materials to educate the public and train members of the community who will continue the education process. Emphasis is placed on promoting awareness of environmental asthma triggers.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Short term output – training provided to health care professionals, parents, students, caregivers.
Intermediate outcome – increased knowledge about asthma triggers by trainees, reduction in environmental asthma triggers in homes, reduction in children exposed to asthma triggers.
Long term outcomes – reduction in school/work days missed, reductions in asthma related hospitalizations, improvement in quality of life for asthmatics.

3. Key Lessons Learned:
What made (makes) this work successful?
The Tribal portion of this activity is a continuation of MSU's Native AIR Program, which has had success in the past. The education material is written in a way that is culturally adapted to Native American culture. MSU also understands the importance of working with existing Tribal community and health care groups, MSU has existing working relationships with many of these groups. This increases the acceptance of the activity in Tribal populations.

What obstacles were encountered? How were they overcome?
No major obstacles. The geographic distribution and isolation of both the native and non-native populations in the Rockies and Plains areas is sometimes a challenge.

What would you do differently?
No major changes needed.

4. What opportunities do you see for extending or expanding this work through cross-

agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
The partnerships and relationships that MSU has with Tribal and rural populations could be used by other agencies or groups that work with Tribes on health and housing related issues. Possible collaboration with/through HUD or Indian Health Service.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Title V Block Grant (New Jersey)

Focus: **X** Public Health Interventions ☐ Policy ☐ Research

Summary description:
The Department of Health and Senior Services (DHSS) Asthma Awareness and Education Program (AAEP) has collaborated with the NJDHSS Office of Minority and Multicultural Health (OMMH) in funding three community-based organizations to implement the Community Health Mobilization Grant Reducing Pediatric **Asthma Disparities** in Camden, Trenton and Newark. The project focus is to reduce pediatric emergency department visits and school absences for asthma in minority communities by reducing exposure to asthma triggers and by improving ability to self-manage asthma symptoms, through: 1) collaboration, 2) outreach, 3) identification and linkage 4) case management, 5) education and 6) evaluation

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.
This information is reported as part of the Title V Block grant application/narrative. More specific information (such as information requested in questions #2, #3 and #4) can be obtained from the MCH contact for the state listed below

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Activity 1: Development and Delivery of Training on Integrated Pest Management to Public Housing Authority Staff and Residents

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Delivery of Integrated Pest Management (IPM) Training to Public Housing Authorities

Focus: **X** Public Health Interventions ☐ Policy ☐ Research

Summary description:
There is an observed association between exposure to cockroach allergen and asthma severity and there is evidence that interventions that include effective pest control can reduce asthma morbidity. This multi-year project, through an Interagency Agreement with the USDA, developed training curricula on integrated pest management, qualified trainers and piloted the delivery of training to 14 Public Housing Authorities (PHA) staff. A short video for residents was also developed. Technical assistance and web resources were also provided and evaluation is being conducted at a subset of sites.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
This project broadened the network of people involved in IPM in conventional public housing and supported their efforts through training and technical support (see: www.stoppests.org). Short-term: built the capacity of IPM trainers and recruited PHAs to implement IPM. Intermediate: gathering data on cockroach infestations and effectiveness of peer educators; identifying PHA needs and effective practices. Long-term: successful aspects of this program will be implemented on a large scale. Improvements in asthma control among residents from reduced cockroach allergen exposure are expected.

3. Key Lessons Learned:
What made (makes) this work successful?
This project had an extremely effective team of coordinators and trainers. Consensus on the training materials was reached with other federal agency partners (EPA, CDC), non-profits, and pest control industry (National Pest Management Association) representatives. Also, a significant amount of time up-front was invested before the training was delivered in providing technical assistance, reviewing PHA management systems, pest control contracts, and costs.

What obstacles were encountered? How were they overcome?
Initially, PHAs needed some encouragement to enroll in this project. However, effective communication strategies (industry conference presentations, web posting of materials, direct

contacts to Executive Directors, etc.) helped to recruit PHAs. By the end of the training phase of the project, there was a waiting list of PHAs wanting to participate. An ongoing challenge is the availability of pest management firms that are competent in providing IPM services and that are willing to work in low income housing.

What would you do differently?
Increase slightly the number of Public Housing Authorities to be trained during the pilot to accommodate more participants.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
HUD's expansion of the pilot to several hundred PHAs by creating a "National IPM Center for Affordable Housing" is currently under discussion. HHS/CDC: 1) help promote IPM as a strategy to improve indoor environmental quality and asthma control among sensitized individuals; 2) help develop and implement evaluations of the impact of successful IPM programs in improving asthma outcomes (including cost benefit and cost effectiveness analyses). EPA: promote adoption of structural IPM and help increase availability of pest management professionals with competence in IPM. USDA: conduct research to improve IPM practices.

5. Additional comments/reflections.
This would be most effective when implemented in conjunction with other efforts, including optimization of medical care.

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Activity 3: Grant Program to Support Asthma Interventions in Public and Assisted Multifamily Housing

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Design and Implementation of Smoke-Free Policies in Federally-Assisted Housing

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
HUD is making available grant funds for activities to improve asthma control among asthmatic children and other residents of federally assisted multifamily housing. The objective is to support the implementation of replicable, multi-component interventions with a housing-related environmental focus that improve asthma outcomes among residents. Applicants are expected to be innovative and form strategic partnerships that will leverage HUD funding and ensure project success (e.g., partnering with local clinics to ensure proper medical management.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Objectives include: 1) Development and implementation of cost effective, replicable interventions and protocols for the control of asthma among residents of federally assisted, multifamily housing, particularly children; 2) Creation of sustainable programs and policies that reduce exposure to asthma triggers in the indoor environment (e.g., IPM, smoke-free housing); and 3) Evaluations of the effectiveness (including cost-effectiveness) of asthma control programs and interventions in improving the health of residents and their understanding of asthma management practices.

3. Key Lessons Learned:
What made (makes) this work successful?
This is a new program, but keys for success are expected to be the creation of strategic partnerships and the implementation of sustainable practices and policies (e.g., smoke-free housing, adoption of integrated pest management).

What obstacles were encountered? How were they overcome?
No information at this time.

What would you do differently?
No information at this time.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
HHS/CDC: 1) Targeted smoking cessation assistance for residents of HUD-assisted properties; 2) asthma surveillance from CDC state asthma control grantees; 3) medical management best practices training for medical care providers in federally funded clinics serving residents; 4) Centers for Medicare and Medicaid Services: reimbursement models for environmental interventions in homes of children with poorly controlled asthma. EPA: 1) outreach and support on reducing exposure to secondhand; 2) promotion and technical support on structural IPM; 3) support of research on energy retrofits that also improve IAQ (Dept. of Energy as well).

5. Additional comments/reflections.
This new program is expected to identify best practices that can be replicated by other housing providers. It was in part motivated by a project that was implemented in Newport, RI public housing: http://www.health.ri.gov/projects/healthyresidentshealthyhomes/index.php

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Better Asthma Care Through Online Spirometry Training and Feedback

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Outreach is targeted to "safety net" practice organizations caring for vulnerable populations as a means to promote enrollment in a proven online training course aimed at improving asthma outcomes through use of spirometry. Performing and interpreting pulmonary function via spirometry is an important component in the proper diagnosis of asthma and in determining the initial course of treatment (based on a patient's level of severity). Spirometry testing at follow-up visits is used to assess asthma control and adjust treatment, as needed. Through partnerships and scholarships we are able to extend availability of this course to numerous "safety net" practices.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
A study published by J. Stout, et.al., in JAMA 2006 concluded that in two different studies of inner-city children with asthma, approximately one-third of the participants were reclassified into higher NHLBI/NAEPP guidelines severity categories when pulmonary function was considered in addition to symptom frequency. Improper assessment of asthma severity and control may have direct implications for the under treatment of asthma in low SES communities and, thus, contribute to the gap in asthma disparities. Widespread and proper use of spirometry with patients who have asthma in low SES communities should lead to better treatment and control and, ultimately, to reduced healthcare utilization (ED visits and hospitalizations) and improved quality of life (symptom-free days) for persons with asthma.

3. Key Lessons Learned:
Although the content and structure of the course is highly effective in teaching participants who complete the course how to perform and interpret spirometry, the course logistics (which includes long-distance curve over-reads by experts, and sizeable data-entry by course enrollees and -analysis by experts) is labor intensive and expensive. Scholarships offered through temporary contract funds to cover the cost of participation have been valuable in the course success, and we need to identify alternative funding streams and mechanisms for reimbursement to help cover costs in the future.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration?
During the pilot stage we are establishing a national network (especially of "safety net" organizations) which can be expanded and leveraged with help from groups, e.g. HRSA, CMS, AHRQ, AAP, AAFP, NMA and NAPNAP.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Latino Asthma Education Initiative

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
NHLBI is developing a CHW/promotora-led educational and outreach program. The program has two objectives--first to train promotores using a "train-the-trainer" model, and second to have the trained promotores teach Latino parents of children ages 5-11 how to manage their child's asthma. Curriculum materials include a teaching manual, picture cards, and a DVD. Two pilot tests are currently underway: one focusing on the training of promotores; the other one on the parent course.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The anticipated long-term impact is to help improve asthma control among Latino children with asthma by means of a promotora-led education program. The short and intermediate impact is to develop and test an interactive curriculum to train promotores and to have these trained individuals teach Latino parents. This curriculum:

- is science-based, (based on the NAEPP's guidelines for asthma management)
- is led by promotores connected to a clinical setting
- helps parents gain knowledge, skills, and confidence in managing their children's asthma
- is sensitive to language preferences, cultural values, and barriers; bilingual and easy-to-read
- dispels fears, misconceptions, and barriers in a nonthreatening environment
- is flexible ---allowing programs to adapt them to their particular settings.

3. Key Lessons Learned:
What made (makes) this work successful?
The heart and soul of this program is the promotora, a Latino community health worker. CHWs/promotores have been shown to:

- help increase minorities' access to health care
- serve as a liaison between health care providers and community members
- effectively deliver health messages

What obstacles were encountered? How were they overcome?

What would you do differently?
The program is under development. Currently the curriculum materials are being pilot-tested in two ways: a train-the-trainer program of 6 sessions; and a parent education program of 5 sessions. These pilot tests will provide useful information about any barriers or issues that need to be addressed. We will then make any needed revisions.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work? While the pilot tests are conducted and the curriculum is finalized, we are exploring new partnerships to encourage existing asthma education programs to incorporate this Latino curriculum into their activities. We also will encourage existing promotora-led CVD education programs to expand into the area of asthma management and education. We welcome all opportunities to explore potential partnerships for implementing this program.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Physician Asthma Care Education (PACE) Program to Underserved Communities

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Several current activities are aimed at the common goal of enhancing patient-provider communication to improve asthma outcomes. Activities include evaluating potential modifications to a nationally vetted and widely used PACE program in a way that acknowledges the cultural and logistical differences in addressing the needs of diverse minority and underserved populations. Clear communication and a partnership for care are crucial to implementation of the NHLBI/NAEPP guidelines, adherence to which reduces asthma disparity. A further adaptation adds a patient education/empowerment component via tips sheets for physicians to use in counseling patients during office visits.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
We anticipate a major impact of this work will be to improve cultural competence of healthcare providers and to improve the working relationship of doctors and their patients; in turn, leading to increased adherence to guidelines and improved asthma outcomes. Furthermore, physicians will learn effective communication skills and patients will develop essential self-management skills with a focus on a manageable set of simple, priority asthma care messages.

3. Key Lessons Learned:
What made (makes) this work successful?
PACE has been shown to improve patient-physician communication and patient outcomes without extending time spent with the patient.

What obstacles were encountered? How were they overcome?
Obstacles encountered during PACE implementation have shaped the current activities that are now being tested. These obstacles include: accessing and scheduling staff trainings to increase completion rates; expanding training to other disciplines besides physicians; tracking follow up knowledge and practices by healthcare providers who complete the course; and adapting PACE for relevancy to a diverse range of ethnic/minority groups. Solutions to overcome include: increased access to providers (including nurses) via organizational policies; expanded or strengthened partnerships to access providers through existing networks and opportunities; "tracking" via an EMR system coupled with provider performance assessments; development of

a PACE module that addresses minority patient-provider needs. Attention will be given to position PACE as one element in building community capacity and organizational developmental strategies that initiate or enhance efforts towards reducing health disparities.

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration?
The enhancements being tested should widen appeal of the PACE Program to a broader number of settings. We can expand its reach through partnerships with existing networks, e.g., HRSA Community Health Centers, state medical societies, professional associations, and grassroots coalitions.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: **X** Public Health Interventions □ Policy □ Research

Summary description:
Through an interagency agreement between the United States Department of Housing and Urban Development (HUD) and the United States Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), the Healthy Homes Partnership links the resources of the USDA, NIFA and state land grant universities with HUD, for a public outreach education program that addresses housing deficiencies and risks associated with childhood diseases and injuries including asthma and allergies.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Short-term/intermediate: In the 2009-2010 project year, the Healthy Homes Partnership (HHP) state educators in 35 states or territories directly trained 58,119 consumers and reached an additional 10,490,387 consumers with trainings, displays, presentations, conferences calls, media outreach, and other events.

3. Key Lessons Learned:
What made (makes) this work successful?
The HHP state educators are members of the Land Grant Universities Cooperative Extension System. The sole mission of these professional educators is to provide outreach to the citizens of their respective states though a wide variety of activities. The standardized self-help booklet (available in 7 languages), "Help Yourself to a Healthy Home," enables all of the HHP state educators to deliver the same Healthy Homes message to all customers.

What obstacles were encountered? How were they overcome?
The Land Grant Universities and individual state Cooperative Extension Systems have experienced severe financial shortfalls in recent years. In some states, Cooperative Extension System positions have been lost which would conduct the Healthy Homes outreach. USDA is trying to creatively have Healthy Homes outreach in each state.

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
The Healthy Homes Partnership is currently an effective cross-agency collaboration that extends collaboration to 35 states' network of Cooperative Extension professionals. This existing partnership and network can be used to immediately dispense new research-based information or a new "message" about prevention of asthma.

5. Additional comments/reflections.
See www.healthyhomespartnership.net

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Examples of Federal Civil Judicial Enforcement Activities That Address Asthma-Related Air Pollutants

Focus: □ Public Health Interventions **X** Policy □ Research

Summary description:

- The Department of Justice's Environment and Natural Resources Division (ENRD) enforces an array of Clean Air Act standards that address air pollutants that can contribute to and aggravate asthma, such as nitrogen oxides (NOx), sulfur dioxide (SO2), particulate matter (PM), and volatile organic compounds (VOCs).
- Enforcement of Clean Air Act standards can help to reduce the burden of pollution on disproportionately affected communities. For example, this summer ENRD settled an enforcement action for excessive train engine idling brought against the Massachusetts Bay Transportation Authority (MBTA). This settlement requires the MBTA to spend more than $2 million to reduce diesel emissions throughout the MBTA system, and is expected to have immediate benefits to densely-populated and environmental justice communities located near MBTA facilities.

- Background/Cases:
    - Coal-fired electric power plant cases: This July, ENRD concluded its twentieth settlement under the Clean Air Act against operators of coal-fired electric power plants. The settlement requires Hoosier Energy Rural Electric Cooperative to install pollution control technology expected to reduce SO2 by almost 20,000 tons and NOx by more than 1800 tons. Collectively, settlements in cases concluded between 1999 and 2009 will result in reductions of over 2 million tons of sulfur dioxide and nitrogen oxide each year once the approximately $12 billion in required pollution controls are fully functioning.
    - Petroleum refinery cases: Last month, ENRD and EPA announced a comprehensive Clean Air Act settlement with Murphy Oil USA to spend more than $142 million to upgrade pollution controls at refineries in Louisiana and Wisconsin. The new air pollution control technologies and other measures to be implemented will reduce emissions of SO2 and NOx by nearly 1,400 tons per year once all controls are installed. The settlement will also result in reduced emissions of VOCs, PM and carbon monoxide. The Murphy Oil settlement was the latest in a series of "global" multi-issue, multi-facility settlements relating to the refining sector. More than 104 refineries operating in 31 states and territories are now covered by global settlements,

representing 90% of the nation's refining capacity. The first such global settlement was reached in 2000.

- Heavy Duty Diesel Engine cases (1998): The United States brought suit against seven engine manufacturers, alleging they violated the Clean Air Act by selling heavy duty diesel engines equipped with "defeat devices" -- software that alters an engine's pollution control equipment under highway driving conditions. The defeat devices allow engines to meet EPA emission standards during testing but disable the emission control system during normal highway driving. Settlement included a $83.4 million civil penalty; reduction in total NOx emissions by one-third; and $109.5 million for SEPs.
- Anti-idling cases: The United States has brought several judicial actions to enforce regulations contained Connecticut and Massachusetts Clean Air Act State Implementation Plans that prohibit diesel engine idling violations. In August 2009, Paul Revere Transportation LLC, a bus company located in Boston, agreed to pay a $650,000 civil penalty after being found liability by a jury for illegally idling their buses for extended periods of time. Approximately 60 buses ran out of the company's yard in Roxbury, Massachusetts, an inner-city neighborhood with asthma rates substantially higher than in other parts of the Commonwealth. In July 2010, ENRD and EPA announced a judicial settlement against National Car Rental for shuttle bus idling at two airports.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Building the Business Case for Comprehensive Asthma Management

Focus: ☐ Public Health Interventions **X** Policy ☐ Research

Summary description:
Building the Business Case for Comprehensive Asthma Management by:

- Fostering reimbursement by health insurance plans for comprehensive asthma care, including asthma education and environmental interventions in the home.
- Equipping community-based programs to deliver a compelling "value proposition" to funders.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

- Guidance for health plans (How to get started guide).
- There are a handful of health plans, including Medicaid providers, who are leading the way. Children with asthma served by these plans have improved asthma outcomes.
- National Environmental Leadership Award in Asthma Management—health plan category is an effective way to incentivize health plans to reimburse for comprehensive care that includes environmental controls; serves to surface successful models and document return on investment for health plans
- Business Case/Value proposition tools and training; mentors for community asthma program leaders.

3. Key Lessons Learned:
What made (makes) this work successful?

- Small grants program in collaboration with America's Health Insurance Plans helped raise awareness among health plans and supported home visit demonstration projects that can be replicated by other plans. This program has ended but AHIP continues to raise awareness among health plans through various publications and their Taking on Asthma initiative (www.takingonasthma.org)
- National Environmental Leadership Award in Asthma Management incentivized health plans and surfaced successful approaches.
- Peer to peer mentoring is an effective method to help community based programs use value proposition tools, create powerful narrative, and secure partnerships, collaborations, and funding streams.

What obstacles were encountered? How were they overcome?

- We were not effective in engaging CMS in this effort. We still have not overcome this obstacle.

What would you do differently?
- Engage the Association of Affiliated Plans as a partner to increase reach to health plans.
- Target State Medicaid Directors to increase their focus on contracting for services that include coverage for home visits.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
- State Medicaid directors, HHS agencies including CMS, AHRQ (I think they did a business case calculator for asthma care) and CDC; HUD.
- Foundations that support local interventions and or policy/advocacy work (MCAN is a co-sponsor for ACN.org and supports policy/advocacy around increasing coverage and reimbursement for asthma care; opportunity to engage other foundations). RWJF funded some health plan interventions also.
- Academic institutions (AAA/UMich Center for Managing Chronic Disease is a co-sponsor of ACN.org; opportunity to bring important expertise from the academic sector).
  Asthma Regional Council has done work on promoting reimbursement by payors and documenting the business case.

5. Additional comments/reflections.
There is a fair bit of work on making the business case for comprehensive asthma care that includes reimbursement for education and environmental interventions. But this work is scattered and needs to be brought together in a compelling way. This is how the TFCEH could add value.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Children's Environmental Health Disparities Fact Sheets

Focus: ☐ Public Health Interventions **X** Policy ☐ Research

Summary description:
The Children's Environmental Health Disparities fact sheets address disparities in secondhand smoke exposure and asthma among African-American and Hispanic-American children. Each fact sheet includes information on actions that parents can take to protect their children, and positive actions EPA and other organizations are taking to address each environmental health issue.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
This work presents, in quick, data-driven and accessible manner, the issue of disparities in children with statistics that are direct and stark. Very clearly written as information for policy makers, advocates and parents. Short-term term impacts include providing the outreach materials to general audiences to raise awareness about asthma disparities via the web and in-person events. Long-term impacts include the education of target audiences such as parents and community organizations to influence programs and reduce childhood exposures.

3. Key Lessons Learned:
What made (makes) this work successful?
Easy to distribute, easy comprehension for general public, and appropriately conveys message on disparities in asthma for two major groups of individuals.

What obstacles were encountered? How were they overcome?
Resource constraints prevented further exploration of additional disparity issues in children's environmental health.

What would you do differently?
We could still expand our fact sheets to focus on other underserved populations, such as Native Americans/American Indians.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration?

These additional handouts could be expanded to include relevant links and information on other agencies' materials, such as CDC's current efforts. We can also provide other agencies these outreach materials to distribute to non-EPA events or audiences.

5. **Additional comments/reflections.**
   http://yosemite.epa.gov/ochp/ochpweb.nsf/content/publications2.htm#2

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

Title: Asthma Regional Council of New England

Focus: □ Public Health Interventions **X** Policy □ Research

Summary description:
ARC was created in 2000. It's coalition of federal, state and local public agencies. ARC's Mission is to reduce the burden of asthma across the 6 New England states. ARC focuses on promoting policy and supporting the New England states to implement their state asthma management strategies. ARC receives funding from EPA, HHS and others.
ARC's Accomplishments to date:

Promotion of the healthy homes (HH) agenda, i.e., promote healthier and green housing across New England:

(1) focused on a coordinated approach to addressing the environmental health and safety of low-income populations who are at greatest risk of asthma, poisonings, cancer, and unintentional injuries that arise from biological, physical, and chemical exposures within the home environment.

(2) Engage the health sector in providing, and paying for, home-based environmental assessments and education for patients at high risk for asthma exacerbations and other diseases/injuries resulting from hazards found frequently in low-income housing. A key component of HH is Integrated Pest Management (IPM).

(3) Additional HH issues that impact health and areas of focus for ARC are weatherization, radon, carbon monoxide and building materials.

(4) Seek to actively address the issue of health disparities among racial/cultural groups by ensuring policies address the conditions of healthy and green housing for those at highest risk.

An IPM program in a BHA owned elderly housing development, property maintenance guidance for a healthy home,' an IPM Tool Kit for building managers and owners of affordable housing and a policy paper for residential real estate.

Nationally recognized healthy homes guidance was adopted and adapted by the housing and urban development (HUD).

Received commitments from 6 New England State Asthma Managers (Asthma Manager located in their Departments of Public Health) to help take leadership in promoting healthy and green

housing policies and strategies in their states that focus on reducing asthma triggers and other hazards that contribute to injuries and other chronic diseases.

Promote educational opportunities to their housing and health sectors, and work with health payers (Medicaid and commercial insurance) and providers to provide assessments, services and payment for healthier housing and education:

Provide technical assistance, e.g., Strategic Planning services and other technical assistance to better coordinate governmental and non-profit organization agencies working on healthy homes programs:
Manchester, NH is a client.

Provide leadership in promoting the role of the health sector in addressing home-based environmental interventions for asthma in Massachusetts:
ARC and the Boston Public Health Commission have produced a business case for health payers documenting costs and benefits environmental intervention: pest management education and services for certain asthma patients. The *Business Case* outlines a structure for assessing patients' risk of allergic asthma exacerbations. Then, with an eye towards cost-efficacy, we offer a framework for deciding which patients warrant more or less intensive pest management interventions.

Assist States identify assets and gaps in healthy homes policies and services, with focus on the health sector:
ARC and State Asthma Managers launch a coordinated effort to reduce home-based asthma triggers and other hazards by working with the health sector (insurers/payers, employers and providers) to increase referrals, service capacity and payment for the provision of healthy homes assessments and interventions for those at greatest risk for health and safety hazards/exposures in their homes.

More coordinated approaches include provide workshops or conferences to builders, housing inspectors, code enforcers, landlords, public housing managers and finance agencies—as well as health practitioners, insurers and employers--about the principles of healthy homes and their unique roles in promoting them. ARC will provide trainings and technical assistance, as well as partner/contract with existing training programs in our region such as the Boston Center for Healthy Homes and Neighborhoods.

Most recent Publication - *Investing in Best Practices for Asthma: A Business Case for Home-based Education and Environmental Interventions* and

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Title V Block Grant (California)

Focus: ☐ Public Health Interventions **X** Policy ☐ Research

Summary description:
Efforts to address childhood asthma are guided by the California Asthma Public Health Initiative (CAPHI), which is implemented by the Center for Chronic Disease Prevention and Health Promotion in CDPH. CAPHI developed the Strategic Plan for Asthma in California for 2008-2012. The plan highlights five priorities: eliminating **asthma disparities**; providing education and awareness; focusing on asthma across the lifespan; creating institutional and systems change; and promoting effective policies.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The child asthma hospitalization rate continues its decline and is at a new low of 22 per 100,000 in 2008. Since 2005, California has consistently achieved the Healthy People 2010 objective of 25 hospitalizations per 10,000 children under age 5.

3. Key Lessons Learned:
What made (makes) this work successful?
What obstacles were encountered? How were they overcome?
What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.
This information is reported as part of the Title V Block grant application/narrative. More specific information (such as information requested in questions #2, #3 and #4) can be obtained from the MCH contact for the state listed below

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Monitoring of asthma care quality in federally qualified health centers

Focus: ☐ Public Health Interventions **X** Policy ☐ Research

Summary description:
HRSA has requested OMB for approval to begin monitoring (through clinical quality performance measures- see below) the asthma care quality provided in FQHCs.

Asthma – Pharmacological therapy: Percentage of patients age 5 to 40 years with a diagnosis of persistent asthma (either mild, moderate, or severe) who were prescribed either the preferred long term control medication (inhaled corticosteroid) or an acceptable alternative pharmacological therapy (leukotrene modifiers, cromolyn sodium, nedocromil sodium, or sustained released methylxanthines) during the current year.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
HRSA will be able to for the first time assess asthma care quality provided in federally qualified health centers.

3. Key Lessons Learned:
What made (makes) this work successful?
Alignment with CMS/ONC meaningful use measures is vitally important to minimize duplication of efforts and streamline data collection.

What obstacles were encountered? How were they overcome?
What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Once HRSA has a better understanding of the quality performance, we will consider technical assistance, education, and training to improve the performance.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

Activity 2: Promotion of Smoke-Free Multifamily Housing by HUD Programs

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Design and Implementation of Smoke-Free Policies in Federally-Assisted Housing

Focus: ☐ Public Health Interventions **X** Policy ☐ Research

Summary description:
Smoke-free housing is a policy initiative to improve the health of residents of federally-assisted multifamily housing. The initiative includes the publishing of official notices to program participants (public housing authorities and privately owned/federally supported properties) strongly encouraging the development of smoke-free housing and the creation and dissemination of information to owners/operators to facilitate this. It also involves communication within the Department to develop the infrastructure to support the anticipated increase in the number of properties that adopt smoke-free housing.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
- Short term: Increase number of federally multifamily developments with smoke-free housing policies; reduced asthma morbidity among residents in buildings that have gone smoke-free.
- Intermediate: decrease the high rate of smoking among assisted housing residents and improve asthma and other health outcomes among residents.
- Long term: reduced smoking prevalence; improved health outcomes; reduction in smoking-related medical costs; and increased disposable income among residents that quit smoking.

3. Key Lessons Learned:
What made (makes) this work successful?
Effective translation of existing research findings: The Office of Public and Indian Housing (PIH) was made aware of the health disparities in residents of public housing, how smoke cannot be isolated and moves throughout multi-family properties into units of non-smokers, and that nicotine addiction can be treated successfully. In 2009, PIH issued a Notice to all public housing authorities encouraging them to initiate smoke-free housing policies in some or all of their units. Lastly, the Office of Housing issued a policy this year encouraging an optional smoke-free housing program for several of its programs involving privately-owned multi-family housing.

What obstacles were encountered? How were they overcome?

Clarifying misinformation: This was done concerning smokers' and non-smokers' rights, legal issues, and how a smoke-free policy would impact market-rate properties that should be corrected. We are carefully crafting information toolkits and broadly vetting them to ensure the correct information is distributed so owners/agents can make sound decisions.

What would you do differently?
We would start production of the smoke-free toolkits earlier so they would be ready for dissemination to all HUD program staff when the initiative began.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
HHS: we have had preliminary discussions on the possibility of targeting smoking cessation efforts towards residents of federally assisted housing that are adopting smoke-free policies. We are also working closely with CDC's Tobacco Control program. We are also collaborating with several EPA programs, such as the Indoor Air Quality and Asthma programs, as we develop our outreach and educational materials; they can also be of assistance in promoting this initiative. HUD would welcome assistance in evaluating the health impact (and other benefits) of smoke-free multifamily housing.

5. Additional comments/reflections.
The evidence and political climate support taking this dramatic step which will improve the lives of many, protect the health of our children and result in considerable savings in future health care costs. Our collaboration with tobacco control advocacy groups has been invaluable.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Transitioning Children from Acute Asthma Care to Longitudinal Care Within a Medical Home

Focus: ☐ Public Health Interventions **X** Policy/Systems change ☐ Research

Summary description:
Children who frequent the ED are offered enrollment in a short-term case management program to stabilize them and build a solid educational foundation for asthma self-management before transitioning them into a primary care medical home. Fundamental to this effort has been the development of protocols for staff assistance in scheduling primary care follow-up visits for patients, reminder calls, visit templates, an electronic asthma encounter form (AEF), and staff training on the use of these tools and further honing asthma care skills.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The major accomplishment anticipated is reduced use of the ED as a primary source of asthma care and increased follow up by patients with their primary care physician (PCP) for longitudinal care facilitated by a streamlined communication system between the ED and the PCPs, particularly those practicing in Community Health Centers.

3. Key Lessons Learned:
The electronic AEF is the centerpiece of this intervention as it promotes communication about the patient's health status between inpatient and outpatient care settings. A key to success has been early collaboration among all stakeholders to assure buy-in and continued participation. Scheduling real-time appointments for patients with PCPs can be time-consuming. To facilitate the effort, project staff identified a direct contact in each primary care clinic to work with, and also confirms the appointment with the clinic staff one week in advance.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration?
This work could be replicated by CHCs in asthma "hot spots" throughout the nation. Agencies that could serve as facilitators to extend this project include HRSA, CMS, CDC, AHRQ, American College of Emergency Physicians, Society for Academic Emergency Medicine, American Academy of Pediatrics, and the American Academy of Family Physicians.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title:

Focus: □ Public Health Interventions **X** Policy **X** Research

Summary description:
The Agency for Healthcare Research and Quality (AHRQ) has long been concerned about the burden of asthma. Examples of AHRQ efforts focused in this area include research on the quality of care for children in the Medicaid program and in the State Children's Health Insurance Program, guideline implementation in the primary care setting, as well as asthma care in the emergency room setting.

Continuing disparities in health care for racial and ethnic minorities are documented in the annual *National Healthcare Disparities Report*. AHRQ's efforts to address these disparities are evident through the Agency's continuing support of research grants, contracts, training opportunities, conferences, partnerships, and publications focused on minority health and disparity reduction.
Programs/initiatives have included:

- Publishing *Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies*
- *Volume 5—Asthma Care* (2007): One way that AHRQ encourages quality improvement and disparities reduction interventions is through providing stakeholders with evidence about effective strategies.
- National Workshop to Eliminate Asthma Disparities (2005): Workshop supported by the AHRQ, NHLBI, and several public and private partners. The main objective of this workshop was to design an action plan to help guide a diverse group of stakeholders in solving this problem.
- Learning Partnership for decreasing asthma disparities (2005): AHRQ developed an initiative to address the disproportionate burden and work toward the elimination of disparities in pediatric asthma.
- Development of the *Asthma Care Quality Improvement: A Resource Guide for State Action* and its companion workbook, *Asthma Care Quality Improvement: A Workbook for State Action* (2006): These materials were designed in partnership with the Council of State Governments to help States assess the quality of asthma care and create quality improvement strategies.
- AHRQ's Health Care Innovations Exchange: A program designed to accelerate the development and adoption of innovations in health care delivery with a particular

emphasis on reducing disparities in health care. The Innovations Exchange website provides searchable innovations, searchable quality tools, learning opportunities, and networking opportunities.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible. (<75 words)
Because settings that serve largely racial and ethnic minority or low-income children often don't have the resources to implement effective quality improvement strategies (e.g., integrating a nurse educator/care manager into the practice), the AHRQ encourages quality improvement and disparities reduction interventions at higher levels of the health-care "chain of effect" (i.e., the policy and health plan levels).

3. Key Lessons Learned:
What made (makes) this work successful?

What obstacles were encountered? How were they overcome?

What would you do differently?

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Systematic Reviews of the Evidence for Non-Clinical Asthma Interventions

Focus: **X** Public Health Interventions **X** Policy **X** Research

Summary description:
The APRHB has completed two activities to assess and summarize the evidence for non-clinical asthma interventions:

1. A review of multi-component, multi-trigger home based interventions for the Guide to Community Preventive Health Services
2. A systematic review of reviews on asthma interventions

Most of the papers included in both these review address disparate populations, thus their findings are important contributions to the goal of reducing health disparities.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
The Task Force on Community Preventive Services conclusions:

- The Task Force recommends the use of home-based multi-component, multi-trigger environmental interventions for **children and adolescents** with asthma on the basis of strong evidence of effectiveness in reducing symptom days, improving quality of life or symptom scores, and reducing the number of school days missed.
- The Task Force found insufficient evidence to determine the effectiveness of home-based multi-component, multi-trigger environmental interventions in **adults** with asthma due to a small number of studies with inconsistent results.
- The Task Force found that home interventions with the combination of minor to moderate environmental remediation with an educational component provide good value for the money invested> The economic benefits from these interventions have the potential to match or even exceed the cost of interventions

The intermediate-term impact of this work is to direct the activities of funded partners. It is anticipated that the long-term impact will be sustained funding to home-based trigger reduction activities.

The systematic review of asthma reviews is an activity to rapidly summarize the state of the evidence for other (not home based trigger reduction) non clinical asthma interventions for the purpose of:

1. Informing those who plan and implement asthma programs

2. Identifying gaps in the knowledge so as to guide future reviews and research

3. Key Lessons Learned:
What made (makes) this work successful?
Brings the depth as well as the limitations of knowledge to light.

What obstacles were encountered?
The community guide process is very lengthy and resource intensive.

How were they overcome?
Use a review of reviews as an interim step. Obstacles to the review of reviews are the heterogeneity of interventions, methods and outcomes as well as limitations in study quality for most non-clinical asthma interventions. This begs for a coordinated federal research agenda as well as the development of common core definitions, indicators and evaluation approaches.

What would you do differently?
Nothing at this point.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Multiple partners and agencies will be needed to take the multi-component multi-trigger environmental interventions to scale. HUD will be a valuable partner in evaluating the cost and effectiveness of interventions at the level of multi-unit public housing. State partners will be critical in developing the funding base and administrative mechanisms for implementing these interventions at local and state levels. APRHB expects to take the lead in developing an evaluation framework, criteria and indicators for evaluating implementation of the CG recommendations.

The asthma review of reviews can serve as a starting point for a analysis of the gaps in asthma program knowledge and for the development of research priorities at the federal and partner levels.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Code of Federal Regulations (CFDA) 66.034 – Survey-Studies-Investigations-Demonstrations and Special Purpose Activities relating to the Clean Air Act.
E.O. 13296 – Protection of Children from Environmental Health Risks and Safety Risks

Focus: **X** Public Health Interventions **X** Policy □ Research

Summary description:
CFDA 66.034: To support Surveys, Studies, Research, Investigations, Demonstrations and Special Purpose assistance relating to the causes, effects (including health and welfare effects), extent, prevention, and control of air pollution to include such topics as air quality, acid deposition, climate change, global programs, indoor environments, radiation, mobile source technology and community-driven approaches to transportation and emissions reduction.
(1) Indoor Environments. Activities will support surveys, studies, research, training, outreach, education, investigations or demonstrations performed by organizations that lead to effective outreach strategies to educate key audiences about indoor air pollutants, their associated health risks and encourage effective mitigation and control strategies. The Programs should focus on several critical aspects of indoor air quality that pose significant risks to public health, and in particular, to children and other disproportionately impacted segments of society.
E.O. 13045 (amendment EO 13296, April 18, 2003) – Protection of Children from Environmental Health Risks and Safety Risks

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
<u>The long-term anticipated impact would be the following:</u>
- Changed behavior patterns (asthmatic/families and PCPs)
- Improved quality of life
- Improved learned asthma knowledge
- Improved asthma management
- Improved work productivity
- Healthier schools, workplaces and living environments

<u>The short-term intermediate impacts would be following:</u>
- # of educated families (indoor and outdoor) trigger identification, asthma management and trigger mitigation techniques
- # of asthma action plans implemented in school (i.e. trigger identification for individual students)

- # of PCP educated and providing quality clinical care for asthmatics according to the NHBLI guidelines

Ultimate *Reduction* in the following:

- # school of absenteeism
- # of unscheduled hospital visits
- # emergency room visits for asthma symptoms
- # hospital admittance for asthma symptoms
- # of children exposed to second hand smoke
- % of asthma prevalence and mortality in children and adults
- % usage of rescue medications
- % of asthmatic individuals who are disenfranchised, i.e. economically

3. Key Lessons Learned:

What made (makes) this work successful?

A collaborative effort between the healthcare community, state and local health/environmental agencies working together to take action to reduce health risks in indoor environments makes for beneficial health outcomes.

What obstacles were encountered? How were they overcome?

The fact that asthma is not a reportable disease makes it very difficult. We have to use the health information available through our partners (the State, HHS/CDC, non-profits, CBOs, etc.)

What would you do differently?

I would like to work with other Federal agencies and public health officials as a full-collaborative addressing asthma as a reportable disease.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? **What other resources and what other agencies/departments might be best suited to collaborate on this work?**

An inclusion of public health policy makers and implementers who can assist in bridging gaps between policies, social and economic stressors by creating an effective program and/or policy with other federal agencies, i.e. EPA, HUD, HHS/CDC that can ultimately affect the healthy outcomes of disenfranchised populations who suffer disproportionately from asthma.

5. Additional comments/reflections.

There are multi-factors in the contribution of asthma disparities. I believe the correlation between policy, social and economic stressors is the major culprit in asthma disparities.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Asthma/IAQ outreach in California and Arizona (not a real "title")

Focus: **X** Public Health Interventions **X** Policy □ Research

Summary description:
Provide training on environmental asthma triggers to health professionals, community health workers, child care providers, school nurses etc. serving underserved children and families. Serve on advisory groups and committees for CDC REACH asthma grantee (RAMP), as well as projects of the CDC-funded California Asthma program, "California Breathing." Outreach on best practices and resources for comprehensive asthma care including environmental components to a variety of audiences. Provide grants for entities serving the targeted disparities populations.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Grantees succeed in providing or facilitating more asthma-friendly environments (homes and schools). California asthma strategy and that of other major stakeholders has embraced environmental issues in their comprehensive approach to asthma.

3. Key Lessons Learned:
What made (makes) this work successful?
Excellent education and outreach tools created by EPA Indoor Environments Division, other federal agencies, our national partners, and state and local agencies and organizations.

What obstacles were encountered? How were they overcome?
Insufficient funding for projects period. This has also resulted in difficulties advancing indoor environmental issues in some areas with severe ambient air pollution issues and limited resources who have just barely moved over from a purely clinical care approach to asthma.

What would you do differently?
Nothing I can think of.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
U.S. Department of Education

5. Additional comments/reflections.
Based on our recent RFP, there has been an impressive improvement in the capability and expertise of the agencies and organizations applying for our grants to do asthma work with underserved communities. We can only fund a small fraction of it.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: (not a title): Improving awareness of asthma in Native American tribes in Arizona

Focus: **X** Public Health Interventions **X** Policy □ Research

Summary description:
We have instigated the creation of an Arizona Native American Tribal Coalition. Awareness of asthma as a problem is very poorly recognized by most Arizona tribes. Thanks in good part to scholarship support by EPA IED, attendance at the 2010 National Asthma Forum by key players enhanced our direct outreach. Active participation includes a new EPA IED national grantee, the NAU Institute for Tribal Environmental Professionals.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
- Short-term: formation of the coalition, with highly motivated participants from key academic and health agencies, including Indian Health Service.
- Intermediate: Statewide conference on asthma for tribal stakeholders
- Long-term: improvement of awareness, diagnosis and management of asthma among Arizona tribes. Best practices for comprehensive asthma care at all IHS facilities in Arizona.

3. Key Lessons Learned:
What made (makes) this work successful?
Highly motivated core coalition planning members.

What obstacles were encountered?
Prospective: a key stakeholder (AZ Asthma Coalition) is running out of funds. Tribes are preoccupied with other health and family issues (diabetes, obesity, alcoholism, domestic violence). The challenge will be to educate them about the importance of addressing asthma.

How were they overcome?
Hasn't happened yet.

What would you do differently?
Project is too new for this question; everything is on course. But Arizona doesn't currently have a state asthma program due to recent lack of burden data.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
Link to tribal schools.

5. Additional comments/reflections.
Arizona has some leading academic institutions, but there is room for growth in incorporating best practices for comprehensive asthma care, including participation in Asthmacommunitynetwork.org.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: Indoor Air Quality Tools for Schools: improving IAQ and reducing asthma triggers in schools

Focus: **X** Public Health Interventions **X** Policy □ Research

Summary description:
Training and coaching of a wide range school stakeholders on best practices for creating asthma-friendly school indoor environments.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
We have educated thousands of school stakeholders on practices to improve conditions for children with asthma. Many improvements are made, even when the IAQ Tools for Schools isn't formally instituted.

3. Key Lessons Learned:
What made (makes) this work successful?
Educating non-health personnel about the realities of asthma makes a big difference. In California, every single relevant agency and organization endorses Tools for Schools.

What obstacles were encountered?
We have overcome many obstacles which can be addressed without money. However, the biggest obstacle is terrible school funding, and this hasn't been overcome, even when we and others explain how much can be done without extra funds.

What would you do differently?
We've tried everything. Successes come in unusual situations (a big IAQ problem), extraordinary individual advocates at the school district, or special funding for implementation or technical support. Such funding is very limited.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
U.S. Dept of Education.

5. Additional comments/reflections.

- The shortage of funding for school nurses in most of our region is a critical barrier – they are the natural advocates for addressing IAQ and asthma.
- The public needs to be better educated on the importance of clean, dry and well ventilated (and trigger free) school facilities, particularly for disadvantaged populations who may difficult environmental conditions in their communities and in housing.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: "Break The Cycle of Environmental Health Disparities"

Focus: **X** Public Health Interventions □ Policy **X** Research

Summary description:
Break the Cycle is a collaborative, interdisciplinary research and training program designed by the Southeast Pediatric Environmental Health Specialty Unit (PEHSU). Faculty from southeastern universities mentor undergraduate and graduate students in academic tracks that focus on the environmental impact on children's health. The target populations are communities where the environmental hazards are related to circumstances of social and economic disadvantage. Each student develops a project that reduces or prevents environmentally-related illnesses for children who live in these communities.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.
Short-term term impacts include educating and empowering students to impact the community on environmental health disparities. Long term impacts include developing sustainable, community run programs to tackle environmental health disparities issues such as asthma disparities and cultivating interest, skills and leadership among young aspiring academics, professionals and advocates.

3. Key Lessons Learned:
What made (makes) this work successful?
The Southeast PEHSU is now on its 6th iteration of Break the Cycle since 2005. To date, they have partnered with seventeen different universities in four states and have supported research for 40 students. Students from the previous Break the Cycle projects have had their research papers published in the International Journal of Child and Adolescent Health. Many students have found career interest and direction in the work they have done on these projects.

What obstacles were encountered?
The first obstacle is to get funding to support the project. Although the funding is modest for the potential short term and long term benefit, it remains a challenge to secure funds on an annual basis for the program. The second is to make contact with the respective and relevant departments within universities and colleges who may have courses where students have a research opportunity with appropriate mentor support.

How were they overcome?
The funding has been secured in part through special project related funding from EPA and ATSDR through the AOEC which administers the funding of the PEHSU's. Although this funding has provided the necessary basic funds for an annual project, it has become increasingly insufficient to meet the growing needs of the program. With each passing year the number of applications has grown and the number of proposal from students has grown. The has necessitated funding from partner organizations and other local and regional sources.
The contacts with university and college departments has proceeded with word of mouth and personal outreach to more academic centers in a greater diversity of departments though presentations and personal connections.

What would you do differently?
Up until the 4th annual Cycle, the participants were exclusively in Region 4 in the Southeast. This program has been extended to the DC area by the PEHSU program last year for the 5th Cycle, which was a great success. At the time of writing, the applications for the 6th Cycle are coming from other parts of the country where awareness of the program has reached. It could be further expanded with active outreach to other minority academic institutions, medical and nursing schools, and community colleges that are located in minority or low income communities as well as other PEHSU programs

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?
The advantage of this program is that it is relatively low cost and it aims at young, eager and energetic students who are looking for a way to develop their career potentials while learning academic skills of research, presentations and writing of journal articles. It offers an opportunity for them not only to accomplish each of these skills but also gives them the insight and inspiration to pursue a career with a passion to make a difference in the world. Potential resources would include the richness of university and college interdepartmental interactions as well as government and community agencies to promote the growth and expansion of the model as one that can be adopted and adapted to a variety of settings.

5. Additional comments/reflections.
http://www.sph.emory.edu/pehsu/
The issues addressed in the Cycle are not merely local or regional but national and global. This may be a way to reach out to many countries around the world to begin to inspire and equip the researchers, advocates and doers of the future – to make the world a better place.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?

Activity	Public Health Intervention	Policy	Research
WIC Asthma Module	X		
Cross Cultural Case Studies	X		
Evaluation Study- Cross Cultural Case Studies			X
Asthma Blowout Day (County-wide asthma education fair)	X		
Study on Health Beliefs of Parents of Children with Asthma		X	
"Asthma" Chapter in American Dietetic Association's Pediatric Nutrition Care Manual	X		
Recruitment of Respiratory Care Professionals from FAMU and other HBCUs	X	X	
Regional Asthma Summit	X	X	
TA to DOH Florida Asthma Prevention and Control Program	X	X	
Outreach clinics to remote rural areas with limited access to care	X		
Provision of expert direct service to pediatric asthma patients from diverse backgrounds	X		
Development of Guidelines for the Delegation of Care for Students with Asthma In Florida Schools	X	X	
Statewide distance education about School Asthma Guidelines (school nurses, DOH, DOE)	X		
Multiple asthma education sessions in Health Departments, Schools, agencies, distance format	X		
Red Alert Program for Pediatric Asthma Patients with severe, sudden onset, life threatening asthma	X		
Advocacy Packet on cuts in Florida program for CSHCN, impact on asthma in diverse populations.		X	
Expert testimony (pharmacist) on asthma medications to FDA		X	
Advocacy for asthma medications not currently on formulary		X	

Pediatric Pulmonary Outreach Clinics	X		
Camp Not-A-Wheeze	X		
Annual School Health Conference	X		
Arizona Asthma Coalition Partnership	X		
Asthma Clinical Research Center			X
Participation on Alachua Tobacco Free Coalition		X	

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible.

- Assistance with development of Florida Asthma Plan
- Assistance to Florida DOH in obtaining CDC Asthma Grant
- Better care of asthma in rural/diverse areas
- Better knowledge of asthma among providers caring for low income/diverse populations
- Development Guidelines for the Delegation of Care for Students with Asthma in Florida Schools
- Increased number respiratory care providers with specialty training from underserved backgrounds
- Evidence on efficacy of WIC Nutrition and Asthma module
- Evidence on efficacy of Cross Cultural Case Studies related to asthma
- Red Alert Program resulted in patients getting sufficient preventive care that program was no longer necessary
- Significantly reduced number of inpatient hospitalizations and ER visits for diverse pediatric patients.
- Provide clinical care to extremely financially challenged, medically underserved populations (Native Americans, migrant farm workers)
- Allow children with asthma to attend camp; train volunteers to treat/educate children with asthma
- Training school nurses on managing uncontrolled asthma

3. Key Lessons Learned:

- What made (makes) this work successful?
- Develop network- of public and private stakeholders
- Go to meet stakeholders in person first time
- Interdisciplinary team
- PPC grant funding
- Early investment in training of key stakeholders
- Tailor programs to sociodemographic needs of significant populations served
- Enlist assistance and input from families
- Importance of education for line workers in asthma prevention and treatment

What obstacles were encountered? How were they overcome?

- Limited funding
- Geographic distance and diversity

What would you do differently?

Increase PPC trainees' participation in activities

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

- CDC Asthma Grant—allows us reach more people affected by disparities
- Use CDC grant as model for other states/regions (Health Departments and PPCs)
- Collaborate with other PPCs to share best practices and effective approaches
- Use Departments of Health and Education to disseminate asthma education to all populations
- More NIH, CDC funding for collaborative efforts.

5. Additional comments/reflections.

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Inventory of Key Agency/Department Assets for Reducing Asthma Disparities

1. What activity does your agency/department currently have in place that addresses asthma disparities through public health interventions, policy, or research?
Title: The role of Mycoplasma pneumoniae and Chlamydophila pneumoniae in asthma pathogenesis and exacerbations.

Focus: **X** Public Health Interventions □ Policy **X** Research

Summary description:
Mycoplasma pneumoniae and *Chlamydophila pneumonia* cause a significant proportion of community acquired pneumonia among both children and adults. Research in human and animal models has suggested a possible role of these pathogens in acute and chronic asthma conditions. RDB is developing new research protocols to investigate the relationship between *Mycoplasma* or *Chlamydophila* and asthma.

2. What is the major accomplishment or impact (or anticipated impact) of this work? Include short-term, intermediate, and long-term impacts when possible. (<75 words)
- *Short-term:* Characterize the relationship between *Mycoplasma* or *Chlamydophila* and asthma (if any) and identify groups at risk.
- *Intermediate:* Develop and assess public health interventions geared towards preventing asthma by preventing *Mycoplasma* and *Chlamydophila*-related disease.
- *Long term:* Provide the basis from which future work can be established, including rapid testing and possible vaccine development.

3. Key Lessons Learned:
What made (makes) this work successful?
This work is in the early stages of development; however its success will largely be determined by collaboration with partner organizations.

What obstacles were encountered? How were they overcome?
Not yet applicable.

What would you do differently?
Not yet applicable.

4. What opportunities do you see for extending or expanding this work through cross-agency collaboration? What other resources and what other agencies/departments might be best suited to collaborate on this work?

This work would involve partners internal and external to CDC who are involved with surveillance of acute respiratory illness (e.g. state and local health departments).

5. Additional comments/reflections.