

**U.S. Department of Health and Human Services
National Institutes of Health
National Heart, Lung, and Blood Institute**

**National Asthma Education and Prevention Program
Coordinating Committee
Meeting Summary
July 9, 2021**

The fourth meeting of the National Asthma Education and Prevention Program Coordinating Committee (NAEPPCC) took place on Friday, July 9, 2021, from 11 a.m. to 2 p.m. ET. The meeting was open to the public.

NAEPPCC Co-chairs

James P. Kiley, Ph.D.
George A. Mensah, M.D.

Lenora Johnson, Dr.P.H.
Theresa LaMotte
Brittany Royall, M.S.

NAEPPCC Executive Secretary

Susan T. Shero, R.N., M.S.

Others in Attendance

Lorene Alba, Asthma and Allergy Foundation
of America

NAEPPCC Members Present

Joseph Kofi Berko, Jr., Ph.D.
Sheila Brown
Lynn B. Gerald, Ph.D.
Fernando Holguin, M.D., M.P.H.
Joy Hsu, M.D.
Elliot Israel, M.D.
Robert F. Lemanske, Jr., M.D.
Kenneth Mendez, M.B.A.
Giselle Sarah Mosnaim, M.D.
Gary S. Rachelefsky, M.D.
Lisa M. Wheatley, M.D., M.P.H.
Juan P. Wisnivesky, M.D., Dr.P.H.
Darryl C. Zeldin, M.D.

Deborah Brown, M.S., American Lung
Association

Michelle Cloutier, M.D., Connecticut
Children's Medical Center

Greta Gorman, Westat

Hannah Green, M.P.H., American Lung
Association

Christy Haas-Howard, M.P.H., Denver Public
Schools

Osato Idubor, M.D., M.H.S., CDC

Patricia Enright Kaplan, Westat

Sumita Khatri, M.D., M.S., American Lung
Association

Lynn Lotenberg, Elucidate Change LLC

Maria Michaels, M.B.A., CDC

Mary Nix, M.S., Agency for Healthcare
Research and Quality

Edwin Lomotan, M.D., Agency for Healthcare
Research and Quality

Tyra Stephens, M.D., Children's Hospital of
Philadelphia

Neeta Thakur, M.D., University of California,
San Francisco

Cindy Trubisky, M.S.Ed., American Lung
Association

Emma Will, American Lung Association

NAEPPCC Members Absent

Kurtis S. Elward, M.D.

National Heart, Lung, and Blood Institute

(NHLBI) Staff Members Present

Neyal Ammary-Risch, M.P.H.
Michelle Bolek, M.P.H.
Michelle Freemer, M.D., M.P.H.

Welcome

NAEPPCC executive secretary Ms. Susan T. Shero and NAEPPCC co-chair Dr. James P. Kiley welcomed members to NAEPPCC's fourth meeting.

Ms. Shero reviewed the meeting agenda and thanked the retiring NAEPPCC members for reviewing and providing feedback on the December 2020 update to the 2007 Guidelines for the Diagnosis and Management of Asthma (EPR-3). She also thanked the retiring members who agreed to extend their terms until August.

Dr. Kiley commented that although the COVID-19 pandemic has interrupted many asthma activities at the National Heart, Lung, and Blood Institute (NHLBI), the Institute's asthma activities have continued to make progress. Under the leadership of Dr. Michelle Cloutier, the NAEPPCC Expert Panel Working Group completed its update of the EPR-3 guidelines and released its [guidelines report](#) in December 2020. Now that the guidelines update is available, NHLBI and its partners are turning their attention to implementation of the guidelines by practitioners, patients, families, and other stakeholders.

Dr. Kiley called on NAEPPCC members and other meeting participants to help advance the implementation of the guidelines on an ongoing basis and not only during NAEPPCC meetings. NAEPPCC can form working groups that can include experts who are not committee members to help with the guideline-implementation activities.

Underlying Medical Conditions and Severe COVID-19

Dr. Joy Hsu, an NAEPPCC member and a medical officer at the Centers for Disease Control and Prevention (CDC), explained that although most individuals with COVID-19 have been 18–24 years old, adults aged 65 and older account for more than 80% of deaths related to COVID-19. In addition, death rates are higher in Hispanic, non-Hispanic Black, and American Indian and Alaska Native (AI/AN) populations than in non-Hispanic Whites.

Dr. Hsu and her colleagues at CDC have reviewed the published evidence on the association between severe COVID-19 and various comorbidities. CDC has published its [findings](#) online, and it continues to update this page as more evidence becomes available. This review found associations based on strong evidence (systematic reviews or meta-analyses) between severe COVID-19 and several comorbidities, including cancer, cerebrovascular disease, and heart conditions. The evidence on associations between asthma and severe COVID-19 is mixed. Several meta-analyses have found no association, others have found that a lower risk of hospitalization and death is associated with COVID-19, and one found a higher risk of intubation.

Evidence on the association between severe COVID-19 and asthma in children is limited. A [2020 systematic review](#) found almost no data on this topic, and a [2021 systematic review](#) found that among 48 children from 28 studies who required invasive mechanical ventilation for COVID-19, respiratory disease (including asthma) was associated with severe COVID-19. A [cross-sectional study](#) of 43,465 patients aged 18 years or younger with COVID-19 found that asthma was associated with a higher risk of hospitalization.

Discussion

Dr. Darryl Zeldin asked whether studies have examined the relationship between asthma medication use and severe COVID-19. He noted that people with asthma often take oral steroids or more potent anti-inflammatory agents on a chronic basis that might increase their risk of severe COVID-19. Dr. Hsu replied that data are insufficient to draw firm conclusions about associations between severe COVID-19 and the use of certain asthma medications.

Dr. Robert Lemanske noted that the proportion of children with asthma, at 10% in the study of 43,465 children with COVID-19, was similar to the proportion of all U.S. children with asthma.

Ongoing Activities for Implementation of 2020 Focused Updates to Asthma Guidelines

NHLBI and *Learn More Breathe Better*SM Rollout Activities

Ms. Neyal Ammary-Risch, Team Lead, Health Education and Research Dissemination at NHLBI, described [*Learn More Breathe Better*](#), a national health education program that increases the visibility of lung health by translating research for public and professional education programs.

Activities to promote the 2020 focused asthma guidelines update have included the following:

- Media briefing and outreach to top-tier consumer and medical media outlets
- Collaboration with partner organizations to provide guideline resources, panel participants, and NHLBI staff for continuing medical education programs
- Professional education programs by a variety of stakeholder organizations

The many NHLBI resources to support implementation of the asthma guidelines update include the following:

- A new asthma guidelines webpage
- Peer-reviewed medical journal articles, including editorials, about the guidelines
- Patient materials, including educational videos
- Social media promotions

Ms. Ammary-Risch encouraged NAEPPCC members and other meeting participants to support the development and dissemination of various resources to promote the asthma guidelines update.

American Lung Association's Guideline Implementation Efforts

Ms. Deborah Brown, Chief Mission Officer of the American Lung Association (ALA), described ALA activities to promote implementation of the 2020 asthma guidelines update. For example, the [*Asthma Guidelines-Based Care Coverage Project*](#) tracks coverage of, and barriers to, guidelines-based asthma care in every state Medicaid program and promotes collaboration among diverse stakeholder groups to increase access to guidelines-based asthma care. ALA convened a stakeholder group to update the project's benchmarks for optimal coverage of guideline-based asthma care based on the 2020 asthma guidelines update, and a [*report*](#) describing

these updated benchmarks is now available. Other resources from this project include webinars, asthma care coverage maps, a database with state-specific information, fact sheets, and issue briefs. ALA has a health promotion, education, and dissemination plan to bring awareness of the guidelines to the association's target populations, and it is providing professional education on the guidelines for ALA staff, primary care providers, and other healthcare professionals.

With NHLBI funding, ALA is conducting the Lung Health Cohort Study, which will follow 4,000 young adults for 5 years to evaluate the impact of environment, lifestyle, and physical activity on respiratory health. An ALA-funded supplement will address the impact of COVID-19 on individuals with mild asthma.

Computable and “Living” Guidelines

Ms. Maria Michaels, Public Health Advisor at CDC, pointed out that data, evidence, guidance, and action are typically siloed in today's healthcare knowledge ecosystem. In contrast, in a seamless and virtuous cycle (e.g., a learning health system), data feed evidence, which forms the basis for guidance that leads to actions, and actions provide data that start the cycle again.

Four levels of knowledge are involved in the translation of knowledge to executive clinical decision support:

- L1: Narrative information, such as clinical guidelines in peer-reviewed journal articles
- L2: Semistructured information, such as decision trees that display recommendations for implementation (human readable)
- L3: Structured information, such as computer-readable versions of standards-compliant specifications that encode logic with data models, terminologies, and code sets (machine/computer readable)
- L4: Executable information, such as clinical decision support systems implemented and used in local environments (e.g., an electronic health record [EHR]) for incorporation into the clinical workflow or in applications for patients

In this model, a computable guideline can be implemented in many ways, including through clinical decision support systems. Computable guidelines can help support the implementation of clinical guidelines into practice more easily, quickly, accurately, and consistently. Because of the modular nature of computable guidelines, they also support the implementation of “living guidelines” with smaller but more frequent updates.

Clinical Decision Support Activities for 2020 Asthma Guidelines Update

Ms. Shero explained that the asthma guidelines update focused on six key areas and provided 19 new recommendations. Implementation guidance sections describe the patients to which the recommendation applies, how to implement it in clinical practice, and issues for clinicians to discuss with patients. The guidelines report also has updated, integrated step diagrams.

Most of the guidelines update is in the form of L1 knowledge, but the step diagrams are in the form of L2 knowledge. The goal of NHLBI's clinical decision support project is to produce L3 materials that can be used to develop L4 software. The scope is limited to the two medication-

related topic areas: intermittent inhaled corticosteroids (ICS) and long-acting muscarinic antagonists. The overall goal of these components and tools is to make the guidelines more useful to clinicians by incorporating them into EHRs and other point-of-care decision-support tools.

Discussion

Dr. Elliot Israel asked about integration of the computable guidelines into EHRs. Ms. Michaels replied that most, if not all, EHR vendors should be able to support this integration because the computable guidelines comply with health information technology standards.

Dr. Gary Rachelefsky pointed out that virtual learning is not accessible to many members of underserved communities who do not have internet access, and many primary care providers who serve these communities do not use the internet. Dr. George Mensah noted that no single approach will be suitable for all communities. Ms. Michaels added that collaborating with the guideline authors to translate the information into a consistent, implementable format can make guidelines easier to implement in underserved communities. This type of consistent approach can reduce the guesswork and errors often involved in translating guidelines into a form that can be implemented.

Dr. Tyra Stephens commented that federally qualified community health center (FQHC) networks are important sites for disseminating the guidelines to clinicians who care for the underserved. Dr. Stephens and colleagues developed a pathway to guide clinicians, and learning collaboratives meet monthly with practitioners to share best practices for implementing asthma guidelines. Dr. Stephens is also studying how to use community health workers to help school nurses implement guidelines in schools.

Ms. Michaels explained that the holistic approach that CDC is taking in [Adapting Clinical Guidelines for the Digital Age](#) includes people who will implement the guidelines from the beginning. These individuals can identify potential implementation challenges that might be addressed before the guidelines are published, such as the clinical workflow challenges at FQHCs.

Dr. Giselle Mosnaim commented that lack of insurance coverage for medications recommended in guidelines is a barrier to implementation. Furthermore, clinicians sometimes need to complete electronic action plans in EHRs and again in paper forms for school districts. Computer decision support systems that allow clinicians to prescribe guideline-recommended medications while completing electronic action plans at the same time would increase the likelihood that the asthma guidelines would be implemented.

Dr. Mensah asked how to address implementation in schools. Dr. Lemanske reported that the American Academy of Allergy, Asthma & Immunology's (AAAAI's) [School-Based Asthma Management Program](#) (SA³M^{PRO}TM) offers educational materials on developing a circle of support among patients, families, school personnel, and clinicians. SA³M^{PRO} has a toolkit with information for each of these populations as well as a picture-based asthma action plan for low-literacy populations, and much of the material is available in Spanish. Implementing asthma

action plans in schools is challenging, and an AAAAI committee is discussing ways to transmit asthma action plans from EHRs to schools.

Mr. Kenneth Mendez pointed out that many schools are seeking guidance on how to keep indoor air clean. Some schools now have funding to improve indoor air quality, which has an impact on allergies and asthma, by purchasing air purifiers. Dr. Lemanske pointed out that the SA³MPRO toolkit has a section on school environments that includes references and how-to information. Dr. Stephens noted that many school districts are so poorly funded that they are using these funds for basic repairs to improve school environments.

Ms. Michaels offered to collaborate with those interested in developing computable guidelines that can be implemented in school systems. Dr. Mensah invited those interested in submitting an application for investigator-initiated research in this area to send a short description of their idea to Ms. Shero with a copy to Dr. Michelle Freemer.

Dr. Mensah asked Ms. Michaels about ways to gather data more quickly. Ms. Michaels explained that developing computable versions of guidelines can extend the time needed to publish guidelines, but they should shorten the implementation timeline and improve the guidelines narrative. The simultaneous development of L1 through L4 knowledge can help ensure that the guidelines narrative provides the information that clinicians need for implementation.

NAEPPCC members identified several existing resources that are disseminating, or could be used to disseminate and implement, the asthma guidelines update:

- A [webinar](#) from the Asthma and Allergy Foundation of America (AAFA) that introduced the updated guidelines to people living with asthma
- The [Asthma Community Network](#) for community-based asthma programs and their sponsors
- AAAAI 2022 Annual Scientific Meeting and February 2022 *Journal of Allergy and Clinical Immunology* themes of “difficult-to-control asthma” and continued dissemination of the guidelines
- [Asthma-Friendly Schools](#) and [Vape-Free Schools](#) initiatives, which provide education, resources, and technical assistance to implement programs, procedures, and policies
- Physician education to maintain board certification

NAEPPCC Involvement in Implementation Activities and Roles

Feedback From the Field—What Are the Issues and Priorities?

Dr. Michelle Cloutier, who chaired the NAEPPCC Expert Panel Working Group that produced the 2020 asthma guidelines update, summarized the feedback received from the field. The comments shared here are anecdotal and not necessarily representative of the whole field, or the feedback and comments provided during a public comment period that was part of the guideline development process. Some commenters disagreed with the recommendations in the guidelines update because they did not support the panel’s interpretation of the evidence. This was a

focused update and not a new set of guidelines, so some readers were confused about the inclusion of recommendations from EPR-3.

According to commenters, the recommendations would have benefited from more details (e.g., doses for recommended medications and when to stop treatment) to support implementation, especially for single maintenance and reliever therapy (SMART). Commenters also requested examples of effective multicomponent dust mite interventions and simpler environmental assessment tools.

Panel members and clinicians would like a full revision of the asthma guidelines in the future as well as cost-effectiveness studies. Other suggestions included reexamining the definitions of asthma severity, outcome measures, asthma control constructs, and symptoms.

Existing Asthma Education Materials—Are Updates Needed?

Ms. Ammary-Risch reported that before *Learn More Breathe Better* began addressing asthma in 2019, NHLBI conducted focus groups with patients, providers, and caregivers to inform content development. A landscape analysis identified relevant materials used by other organizations. Subject matter experts are needed to determine which NHLBI resources that were created by NAEPP in concordance with the EPR-3 Guidelines, such as asthma tip sheets and resources for schools and community health workers, should be updated, and which ones are no longer needed because other organizations are developing similar materials. The experts will ensure that all new and updated content reflects the content of the guidelines update.

Discussion

Dr. Israel agreed with the recommendation for NHLBI to issue a full revision of the asthma guidelines and develop a mechanism for more frequent updates. To speed up implementation, the guidelines need to be incorporated into best-practice advisories and EHRs. Unless recommended medications are incorporated into EHRs, clinicians will not be able to prescribe them.

Dr. Lemanske pointed out that the National Institutes of Health funds more than 60 Clinical and Translational Science Award (CTSA) sites, many of which have implementation science programs. He suggested that NHLBI collaborate with these sites to promote implementation of the guidelines in novel ways. Ms. LaMotte noted that the CTSA sites have a useful collection of best practices and tools.

Dr. Lynn Gerald reported that schools need information on intermittent ICS use because, to comply with the guidelines update, children will need to carry these devices. Self-carry laws currently apply only to albuterol devices, and most schools are not aware of the guidelines update and are not prepared to allow children to carry ICS inhalers. SMART therapy will not be implemented until a combination medication is available that clinicians can prescribe.

Dr. Lemanske suggested working with the insurance industry to ensure coverage of SMART, which is necessary to implement the new recommendation. Dr. Cloutier reported that a company that manufactures a SMART product does not plan to ask the U.S. Food and Drug

Administration (FDA) to change the package insert for this product to reflect the new recommendation regarding SMART. Dr. Mosnaim added that in AAAAI meetings, she repeatedly hears that clinicians cannot implement the SMART recommendation because of insurance barriers. Dr. Gerald suggested collaborating with advocacy groups. Dr. Hsu reported that CDC and the Centers for Medicare & Medicaid Services (CMS) lead the [Improving Asthma Control Learning Collaborative](#), which includes some state Medicaid agencies.

Dr. Hsu explained that payers have devoted a large amount of resources to determining how to process claims related to COVID-19, so discussing the guidelines update with payers at this time could be challenging. She asked for more specific information to share with payers about challenges with asthma guidelines implementation. Dr. Cloutier replied that because the SMART recommendation is strong, it should be included in health policies. In addition, insurance companies do not cover enough inhaler doses to provide guideline-compliant therapy. Inhalers typically include only 60 doses, which insurance companies treat as a month's supply, even though the recommendation is for patients to use these inhalers twice daily. Dr. Cloutier suggested that NHLBI host a meeting of groups that work with insurance companies, and CMS to discuss a coordinated approach to SMART coverage. NAEPPCC members offered assistance from AAAAI and AAFA to address the need for insurance coverage of SMART.

Dr. Mosnaim pointed out that ICS-formoterol inhalers are not included in most formularies. Many insurance companies only cover one brand of ICS and a long-acting beta₂-agonist that is not formoterol.

Dr. Cloutier suggested determining how Virginia and Vermont Medicaid programs decided to cover SMART, and using the same approach in other states.

Dr. Lemanske commented that although pediatricians may prescribe medications for their patients that have not been tested in children, they could be sued if these patients have adverse effects. However, if a product has a package insert, the pharmaceutical company and not the physician is sued when an adverse event occurs.

Dr. Cloutier suggested that NHLBI field-test resources for patients. Ms. Ammary-Risch explained that NHLBI plans to use the results of its formative research with patients and families to move the *Learn More Breathe Better* program forward. NHLBI always tries to test materials with target audiences.

Dr. Mosnaim reported that AAAAI is very concerned about health disparities, and it has a task force that is addressing disparities, including in asthma and allergy care. A working group report was published in a *Journal of Allergy and Clinical Immunology* issue on health disparities. Dr. Mosnaim offered to continue the conversation about ways to improve asthma care for underrepresented minority patients.

Dr. Gerald reported that the American Pediatric Society has a Health Equity and Diversity Committee and reminded NAEPPCC that low-income and minority populations include AI/ANs. Up to 30% of children in these communities have asthma, and implementation of the guidelines by clinicians who serve these children can be challenging because they are so busy. Mr. Mendez

reported that an AAFA committee is reviewing the literature on effective programs for addressing asthma health disparities.

Closing Remarks

Dr. Kiley encouraged NAEPPCC members to volunteer to help NHLBI address the issues discussed at this meeting. Dr. Mensah thanked the committee for participating in this meeting and for its recommendations to develop strategies for implementing the updated asthma guidelines in populations that do not have internet access, as well as in schools. Other recommendations addressed the need for implementation strategies for underserved populations without increasing the burden on clinicians, such as through clinical decision support tools that are well integrated into workflows. Dr. Mensah asked NAEPPCC to identify new strategies for NHLBI to consider, including potential topics for investigator-initiated research.

The meeting was adjourned at 2:03 p.m.

Certification

I hereby certify that the foregoing minutes are accurate and complete.

Susan T. Shero -S Digitally signed by Susan T. Shero -S
Date: 2021.08.09 12:52:35 -04'00'

Susan T. Shero, R.N., M.S.
NAEPPCC Executive Secretary

Gail G. Weinmann -S Digitally signed by Gail G. Weinmann -S
Date: 2021.08.11 09:52:04 -04'00'

Gail G. Weinmann for
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NAEPPCC Co-chair

George A. Mensah -S Digitally signed by George A. Mensah -S
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