



Adolescent Health Symposium Feb. 16-17, 2023



Welcome to the 2023 Adolescent Health Symposium!

This annual gathering of educators, youth workers, educational administrators, community leaders and health and human service professionals advances key topics in the areas of health education and adolescent wellness. We are honored to have three renowned keynote presenters with diverse perspectives, as well as dedicated breakout session facilitators presenting a diverse assortment of topics in alignment with our three symposium tracks:

Track 1 Risk Factors **Track 2** Health Promotion and Protective Factors **Track 3** Emerging Health Issues

Although the delivery format has evolved over time, the foundational goals remain the same. Please select the breakout sessions that best meet your personal and professional needs. You do not have to remain solely in one breakout session track throughout the Symposium. Engage in active learning and prepare to return to your organization with new and exciting strategies for working with today's youth.

The Symposium is offered in cooperation with the UW-La Crosse Department of Public Health and Community Health Education, UW-La Crosse Graduate & Extended Learning and the UW Oshkosh Division of Online and Continuing Education.

Keynote Presenters



Ruth Schumacher-Martinez is an assistant professor of school psychology at the University of Wisconsin-La Crosse. She has taught courses in crisis intervention, counseling individuals with disabilities, special education law, consultation, practicum, biological bases of behavior, social-emotional-behavioral assessment and intervention, qualitative methodology and participatory action community-based research. Schumacher-

Martinez identifies as a late-diagnosed autistic and dyspraxic woman. She has been in the field for over a decade, doing field work as a psychologist in the schools in therapeutic day settings as well as at high and middle schools in Chicagoland and St. Louis. She has considerable experience partnering with neurodivergent youth and adolescents in therapeutic work to build skills, autonomy, independence and self-confidence. Schumacher-Martinez believes in neurodiversity-affirming practice and embraces the brain wiring of those she serves, using a strengths-based approach. She also spends time immersed in advocacy and culturally affirming autism community work with Black and Latinx self-advocates and families. As a scholar and professor, all of what Schumacher-Martinez does centers on disability and racial justice. Her biggest aim is to train future school psychologists who are interested in innovative approaches to serving youth with complex intersectional identities so they may thrive in this world.



Annie Lisowski is the 4-H youth development educator in Buffalo County, a professor in the University of Wisconsin-Madison Positive Youth Development Institute and the department chair of the Department of Extension Faculty. For almost two decades, Lisowski's programmatic work has centered on collaborative initiatives that engage young people

in partnership with adults to address community needs. She focuses her research on youth behavioral health prevention and resiliency, equity and restorative justice and youth leadership and civic engagement. Lisowski has an undergraduate degree in secondary education from UW-Madison and a masters in youth development administration from Kansas State University. She lives in Fountain City with her partner and two children and enjoys photography.



Kabby Hong teaches high school English at Verona Area High School in Verona. He has been recognized as the *2022 Wisconsin Teacher of the Year*. Hong gained recognition as a featured presenter for the *New York Times* and its webinars on how to teach students to think critically and write strong persuasive essays. He presented with Pulitzer Prize winning *New York*

Times columnist Nicholas Kristof in a 2017 webinar on how to teach argumentative writing. His students have consistently done well in the New York Times Student Editorial Contest, with one student even being named one of the 10 winners in 2017. He received his bachelor's degree in magazine journalism from the University of Missouri – Columbia. He went on to get a master's degree in secondary education from the University of Colorado – Boulder. His work has been recognized with teaching awards from Stanford University and the University of Chicago. He is also a nationally board-certified teacher who teaches ninth-grade English along with AP Language and Composition.

Thursday, February 16, 2023

9:00-10:15 a.m. **Welcome and Keynote Presentation**

Exploring and Valuing Neurodiversity Throughout the Fabric of Our Society

Presented by: Dr. Ruth Schumacher-Martinez, Assistant Professor of School Psychology, University of Wisconsin-La Crosse

This presentation will provide attendees with a transformative foundation in utilizing a neurodiversity-affirming lens to partner with adolescents and their families in therapeutic care. Attendees will be given current innovative research and case examples to reframe the way we think about working with neurodivergent people. This session will provide attendees with information on building true accessibility and inclusivity in schools, public health and community settings. Participants will learn steps to engage in systems change to build more meaningful support for this important population with the aim of creating greater autonomy, community, connection, wellness, employment, friendship and life satisfaction for neurodivergent people.

10:15-10:30 a.m. **Break**

10:30-11:30 a.m. **Presentation and Interaction Sessions**

1. Health Equity: Addressing Disparities in Commercial Tobacco and Vaping Track 1

Presented by: Tacara Lovings, Health and Physical Education Consultant, Wisconsin Department of Public Instruction

Disparities within the use of commercial tobacco and vaping have been widely researched. These disparities are both individual and systemic. This session will introduce terminology and strategies to apply health equity in an educational setting. Data from the 2021 Youth Risk Behavior Survey (YRBS) will illustrate the trends and experiences of youth in Wisconsin. Participants will also review the skills-based health education lessons that feature health equity, brain health and commercial tobacco/vaping content. Participants will leave with a deeper understanding of health equity and where it shows up in our lives.

Learning outcomes:

- Recognize the importance of social determinants of health
- Brainstorm how to bring health equity into education
- Reflect on current tobacco and vaping data
- Increase knowledge of current local, state and national resources for commercial tobacco/vaping prevention and cessation

2. Shifting from Trauma-Informed Care to Healing-Centered Engagement Practices in Serving

Adolescents Track 2 **Presented by: Kenneth Bourne**, MSW, LCSW, Founder/CEO of Bourne Anew LLC

Trauma-informed care uses a treatment-based model that views trauma as a symptom of an individual rather than a symptom of a structural system. Simply focusing on the symptoms of a trauma-impacted person unintentionally strips away their power, potentially communicating that one is not more than what they have been through. A healing-centered approach is holistic involving culture, civic action and collective healing. A healing-centered approach highlights the ways in which trauma and healing are experienced collectively. Healing-Centered Engagement (HCE) expands how we think about trauma and offers a holistic approach to restore wellbeing. HCE is an inclusive salutogenic approach that is interdisciplinary and can be applied to all adolescents. This workshop is for those who are looking to take the next step toward a society that supports wellbeing.

3. Building Neurodiversity-Affirming Action Plans through Accessible, Inclusive and Transformative

Partnership Track 3 **Presented by: Dr. Ruth Schumacher-Martinez**, Assistant Professor of School Psychology, University of Wisconsin-La Crosse

This applied breakout session will provide attendees with opportunities to immerse themselves in enacting meaningful systems-level development. This session will help individuals to advance true inclusion and accessibility. Participants will be given assistance and collaboration in outlining their short- and long-term plans for enacting affirming systems of support at their locations. There will also be time allotted to showcase a lens for teaming with neurodivergent individuals in therapeutic work that values the desires of the individuals we are serving. Examples of how to demonstrate respect for communication differences will be key in this session. Opportunities for continued connection and ongoing mentoring support in advancing neurodiversity-affirming therapeutic care will be available for all attendees.

11:30-11:45 a.m. Break

11:45 a.m.-
12:45 p.m. Lunchtime Keynote Presentation

A Defining Moment – Ways a Generation of Adolescents Are Impacted by the Pandemic

Presented by: Annie Lisowski, 4-H Youth Development Educator, Buffalo County, Wisconsin; Professor, University of Wisconsin-Madison Positive Youth Development Institute; Department Chair, Department of Extension Faculty

All generations experience a defining moment during emerging adulthood that shapes their attitudes and behaviors throughout their lifetime. This presentation will discuss how the current generation of young people is marked by distinct effects of the COVID-19 pandemic. Lisowski will share behavioral health trends that illustrate how the generation is coping, data that illustrate the lasting impacts on their mental health and ways to use a restorative lens in addressing adolescent needs toward an improved future for them and our communities.

12:45-1:00 p.m. Break

1:00-2:00 p.m. Presentation and Interaction Sessions

4. A Collaborative Approach to Using ACES Research in a Middle School Track 1

Presented by: Maryann Bonneville, School Counselor, Superior Middle School; Adjunct Professor, University of Wisconsin-Superior, and **Amanda Lindquist**, 8th Grade English Language Arts (ELA), Superior Middle School

Adverse Childhood Experiences (ACES) is groundbreaking research that has been used to inform best practices in all sectors of the community. This session will focus on how ACES is used in a middle school setting with 8th grade students, staff and parents. Presenters will share their journey to becoming trauma-informed and how that has led to a strong collaboration between teachers and school counselors. This collaboration has been instrumental in supporting students in early adolescence. Participants will leave with information on how to share ACES research with the organization in which they work, including school, clinical and community settings.

Learning outcomes:

- A brief overview of ACES research and how it influenced two middle school professionals to seek further knowledge and share it with all stakeholders across Wisconsin and Minnesota
- An example of how using ACES to collaborate between teachers and school counselors can enhance support for students
- An example of a lesson designed to be co-taught by a teacher and school counselor, delivered to 8th grade students
- How that lesson meets ELA core academic standards and serves as a valuable tool when supporting students in individual and small group counseling sessions
- The importance of sharing Trauma-Informed practices with the larger community in order to support all students

5. Fiction to Fact: Utilizing Young Adult Literature to Promote Awareness and Education of Adolescent Health Issues Track 2

Presented by: Sarah Pember, MT, PhD, Assistant Professor, Department of Public Health and Community Health Education, University of Wisconsin-La Crosse

This session will focus on how to use contemporary young adult (YA) fiction as a gateway to help adolescents explore difficult and challenging health topics. Although social media apps, like TikTok, are exposing youth to a broad variety of health issues and promoting activism, there remain powerful opportunities to reach students through literature, not only supporting the development of critical thinking and comprehension, but also the exploration of health issues within their classroom community. There are so many excellent YA novels that invite connection, discussion and awareness of a variety of topics, including sexual assault, poverty, racism, gender identity, eating disorders or other mental health concerns. Novels can support teenagers in understanding both the issues they are experiencing themselves and those with which they do not have firsthand experience. Through structured discussion and lessons related to advocacy, students can further develop their empathy for those whom they may perceive as 'other' while considering how to promote awareness and support in their greater community of the issues affecting these groups. This session will address how to implement reading and discussing YA fiction as a tool for exposing students to

health-related issues and concepts, align class discussions with the National Health Education Standards and combine lessons from literature with social media advocacy from the classroom.

Learning outcomes:

- Recognize the value of reading and discussing young adult (YA) fiction as a pedagogical strategy for health education
- Align classroom discussions about YA fiction with the National Health Education Standards
- Support students in developing increased empathy for others who are experiencing health-related issues, such as racism, poverty or mental health concerns
- Facilitate discussions with students to engage youth more fully in the exploration of important health-related issues that can make a difference in their lives

6. Prevention and Intervention Strategies in Adolescent Behavioral Health Track 3

Presented by: Annie Lisowski, 4-H Youth Development Educator, Buffalo County, Wisconsin; Professor, University of Wisconsin-Madison Positive Youth Development Institute; Department Chair, Department of Extension Faculty

In the wake of a global pandemic, the key to successful, sustainable community prevention and intervention for adolescent risky behaviors is the integration of relevant data with a resiliency frame and social norms approach. Changing behavioral health perceptions requires engaging young people in authentic partnership with adults to address policy, systems and environmental needs. This interactive presentation will prepare individuals with research, best practices and models to engage youth and families in community change.

2:00-2:15 p.m.

Break

2:15-3:15 p.m.

Presentation and Interaction Sessions

7. Hidden in Plain Sight: The Existence and Changes in Youth Gambling Track 1

Presented by: Andrew Schreier, Board Member, Wisconsin Council on Problem Gambling

Gambling among youth is filled with many misconceptions that range from not being able to gamble (“they can’t get into the casino”) to denying a problem could exist (“they don’t have enough money to spend for it to be a concern”). Unfortunately, these misconceptions often continue to conceal it, which, considering other factors, can lead to not only problems with gambling, but potentially a gambling-use disorder.

Gambling has several connections with youth that include historical, cultural, social, substance use, mental health and suicide. The landscape of gambling has been and continues to change due to several different factors, including technology, COVID-19, sports betting and social media.

Do youth gamble socially? What impact does gambling have on mental health or substance use? How likely is it that someone who works with youth is going to see problems with gambling? Professionals need to be educated about youth gambling as it continues to expand.

Although problem gambling, or gambling use disorder, affects a smaller population of people in general, with the changing world of gambling, youth are among the top of the affected population. Learning about gambling behavior and paying attention for warning signs of problem gambling and gambling-use disorder is crucial in identifying individuals who may already be at risk, allowing for earlier intervention.

8. Helping Teens to Manage Stress and Increase Emotional Wellbeing Through a Holistic

Understanding of Health Track 2 Presented by: Holly Hughes Stoner, Licensed Marriage and Family Therapist and Co-Director of The Wellness Compass Initiative

In this discussion, we will explore the factors that impact teen mental health and emotional wellbeing both positively and negatively. We will examine eight areas of health (care for the body, organization, rest and play, stress resilience, school and work, spirituality, relationships and handling emotions) and explore how each impacts teen wellbeing. We will also explore the kinds of things in each area of wellness that teens can do themselves to manage their stress.

Learning outcomes:

- Learn about the holistic nature of stress and emotional wellbeing (everything is connected)
- Increase awareness of how daily habits contribute to stress levels and our emotional wellbeing
- Learn ways to empower teens to advocate for and increase their ability to manage stress and be in more control of their own emotional wellbeing

9. So you want to be VERY helpful! Track 3 Presented by: **Laura Saunders**, MSSW, Member of the Motivational Interviewing Network of Trainers; State of Wisconsin Program Coordinator, Great Lakes Addictions, Mental Health and Prevention Technology Centers

Interest in providing adolescent-specific, evidence-based services continues to grow because practitioners seek to be effective, funders expect good outcomes and teens and young adults hope their lives improve. Thus, for key stakeholders, challenging the current services status quo and working to achieve the highest quality services possible are critically important. Although each program/practice offers a unique set of therapeutic techniques and strategies, one commonality exists above all: a practitioner is attempting to be helpful.

In the groundbreaking new book, "Effective Psychotherapists: Clinical Skills that Improve Client Outcomes", researchers William R. Miller and Theresa Moyers identify eight characteristics of effective helpers. According to Miller and Moyers, specific techniques and strategies are much less important than a practitioner's way of being and interpersonal skills because human services are "inseparable from the people who provide them." These characteristics can be taught, learned and improved. The not-so-good news is that our current approach to professional development tends to gloss over these characteristics and fall short of the learning required for delivering high-quality services.

Through experiential and self-reflection activities, we will deepen our understanding of effective helper characteristics, identify effective methods of professional growth and learning and consider potential next steps for you to become the helper that you seek to be.

Learning outcomes:

- Be able to identify and describe the eight characteristics of effective helpers with differentiation between high and low skill examples
- Be able to identify at least two methods of effective professional growth and learning in becoming an effective helper
- Consider a professional development plan with two next steps

3:15-3:30 p.m.

Break

3:30-4:30 p.m.

Presentation and Interaction Sessions

10. E-cigarettes and the Shifting Landscape of Adolescent Tobacco Use Track 1
Presented by: **Dr. Brian Williams**, MD, Assistant Professor of Pediatrics and Medicine, University of Wisconsin School of Medicine and Public Health, and the UW Center for Tobacco Research and Intervention

E-cigarettes have been very popular among adolescents over the past eight years. Balancing health harms in young people with their potential role as a smoking cessation aid has led to intense public health debate. We will explore e-cigarettes, their evolution, trends in use, associated health harms and clinical approaches to treating addiction.

Learning outcomes:

- Understand current trends in e-cigarette use among adolescents
- Recognize the harms that e-cigarettes pose to adolescent health
- Appreciate current evidence supporting e-cigarettes as a smoking cessation aid
- Identify ways to prevent and treat adolescent e-cigarette use

11. Including School Staff and Families in Health Discussions With Adolescents Track 2
Presented by: **Holly Hughes Stoner**, Licensed Marriage and Family Therapist and Co-Director of The Wellness Compass Initiative

Teaching our teens about the components of health and guiding them as they develop habits that will impact their life-long health undoubtedly is important work. If we can include their families and school staff in our discussions about healthy habits and lifestyle choices, we will have an even greater chance of influencing them and our greater community. In this gathering, we will explore the opportunities we uniquely have to influence our teens and the wellbeing of all those involved in the community that surrounds them. We will explore the benefits of doing so, study several methods for doing so and introduce materials that will help you by adopting a common language for all groups included in this mission – teens, parents and other adults alike. Come to both dream and brainstorm about how you could broaden your reach regarding the health of the teens in your life.

Learning outcomes:

- Participants will learn about a holistic understanding of healthy living and how it universally applies to teens, families and adults
- Participants as a group will discuss and debate the benefits of including all three audiences in a coordinated effort system-wide and can thus help an entire community
- Participants will be introduced to several ideas of ways all three audiences can be included in this effort
- In small groups, participants will brainstorm ways they might create this approach in their setting and then will share their ideas with the group

12. Youth Work in Community Advocacy: The PATCH Youth Advocacy Fellowship Model Track 3

Presented by: Faith Ogungbe, General Health and Wellness Youth Advocacy Fellowship Coordinator, Providers and Teens Communicating for Health (PATCH)

This presentation will provide an overview of the youth advocacy program model as implemented by the PATCH Youth Advocacy Fellowship. In the Youth Advocacy Fellowship, PATCH partners with and centers the voices of youth ages 12-21 throughout the State of Wisconsin to learn about and practice advocacy at various levels for health topics salient to this demographic. The presentation will illuminate the values of the organization and how youth are empowered to use their voices for advocacy while involved in the program and beyond. The presentation will include an icebreaker activity typically used in youth advocate training and sometimes at enrichment meetings and a question-and-answer session with a current youth advocate about their experience in the program involving the development of a community advocacy plan. Time for questions and comments from participants will be built in throughout the presentation.

Learning outcomes:

- Add to your knowledge of PATCH by introducing the Youth Advocacy Fellowship
- Learn about the Youth Advocacy Fellowship, including: the statewide, three-team Fellowship model; the seven-step Advocacy Learning Series (an overview of each step will be given); examples of youth community advocacy projects that are ongoing or have been completed; an overview of enrichment meetings; an overview of consulting work done by youth advocates; and how the work done in the Fellowship relates to PATCH's vision and mission
- Explore opportunities for partnerships with the Youth Advocacy Fellowship

Friday, February 17, 2023

8:15-9:30 a.m.

Keynote Presentation

The Power of Visibility – Normalizing Humanity and Excellence Across All Identities

Presented by: Kabby Hong, 2022 Wisconsin Teacher of the Year, English Teacher, Verona Area High School

As the pandemic moves to the rearview mirror, two public health crises are looming in full view – racism and mental health. Anti-Asian hate continues to climb to record levels, and the catastrophic state of our youth's mental health fuels grave concerns. The lack of visibility of Asian American Pacific Islanders (AAPI) is making these crises worse. This presentation will discuss the importance of raising the visibility of AAPI stories, achievements and contributions to the overall mental, emotional and physical health of AAPI students and community members. It will also present the latest research on American attitudes towards the AAPI community, as well as highlight the mental health challenges that are particular to AAPI teenagers. Insights for carryover to interactivity with other adolescents will also be explored.

Learning outcomes:

- Understand the scope of anti-Asian sentiment and hate in America today
- Understand the connection between invisibility in schools/society and hate crimes against the AAPI community
- Understand the mental health challenges of AAPI students
- Explore ways to make AAPI more "visible" in your practice
- Learn more about the AAPI education resources available today
- Derive insights from the important AAPI focus that might be carried over to interactivity with other adolescents

9:30-9:45 a.m.

Break

9:45-10:45 a.m.

Presentation and Interaction Sessions

13. The Health Impacts of Invisibility and Model Minority Status for Asian American Pacific Islander (AAPI) Youth Track 1 **Presented by: Kabby Hong**, 2022 Wisconsin Teacher of the Year, English Teacher, Verona Area High School

According to data from the Centers for Disease Control and Prevention, suicide is the 12th leading cause of death in the United States. When broken down by race, suicide is the first leading cause of death among Asian American young adults aged 15-24. This is true of no other racial group in this age range in America. While the factors creating this crisis are complicated, the invisibility of Asian Americans in our schools, culture and the corrosive effects of the "model minority" myth make tackling this issue even harder. Join Kabby Hong, 2022 Wisconsin Teacher of the Year, and the first Asian American to represent the state nationally in a breakout session examining the impact of invisibility in schools, and on adolescents overall.

14. A Harm Reduction Approach to Underage Tobacco Citations Track 2

Presented by: **Nikki Ripp**, Community Health Specialist, Adams County Health and Human Services – Division of Public Health; **Suzanne Schreiner**, Community Health Specialist; and **Brooke VanBeek**, School Resource Officer, Adams County Sheriff's Office

ASPIRE is a multimedia interactive curriculum for tobacco prevention and cessation for middle and high school students. ASPIRE was developed with funding from the National Cancer Institute in 2002. The program aims to motivate teens to be tobacco-free by offering videos, animations and interactive activities. Module-specific content includes testimonies from peers, doctors, smokers and non-smokers; information on health, financial and environmental consequences of tobacco; content on new and emerging products (e-cigs, hookah, synthetic marijuana); and tips and resources to avoid the temptation to smoke.

In October of 2019, partners from Adams County Health and Human Services – Division of Public Health, Adams County Sheriff's Office, Adams-Friendship Area School District, Town of Rome Police Department, City of Adams Police Department, Adams County Corporation Counsel, Adams County District Attorney's Office, Adams County Clerk of Courts, Adams County Circuit Court and the South Central Wisconsin Tobacco-Free Coalition came together to discuss implementation of a new Alternative-to-Citation Underage Tobacco program. If a minor has been cited for first offense underage tobacco, they may participate in the optional underage tobacco program by completing the ASPIRE 2.0 course on the MD Anderson website and appear at their court date with proof of completion. Successful completion of the course will result in the citation being dismissed. This workshop will walk participants through a module of the ASPIRE program.

15. The Future is Nonbinary and Queer Track 3 Presented by: Willem Van Roosenbeek, Pride Center Director, University of Wisconsin-La Crosse

LGBTQIAAAP2S – just to name a few identities within the community. Recent 2020 research showed 9.5% (1,994,000) of the U.S. population of youth aged 13-17 identify as part of the LGBTQ+ community (Conron). This number continues to go up every year. LGBTQ+ youth are coming out at younger and younger ages. More than half (56%) of LGBTQ youth say they are out to their immediate family and 25% are out to their extended family (Human Rights Campaign). Young people are embracing their identities and are more open to other youth who come out. Are we ready as a society? Are you? Come learn about the LGBTQ+ community, today's youth and the struggles they face.

Learning outcomes:

- Identify terminology and examples of identities within the LGBTQ+ community
- Illustrate the barriers and the needs of LGBTQ+ youth
- Discuss inclusive practices for LGBTQ+ youth

10:45-11:00 a.m. Break

11:00 a.m.-Noon Presentation and Interaction Sessions

16. Wisconsin Drug Trends Track 1 Presented by: Sgt. Joseph Tenor, Deputy Sheriff/Drug Recognition Expert (DRE) Instructor, Calumet County Sheriff's Office

Today's youth have more access to drugs and impairing substances than ever before. The internet, local dispensaries, vape shops and vending machines are selling impairing substances and have no legal requirement to prohibit underage sales. These substances are ending up in our schools, in our homes and in motor vehicles. This session will provide an overview of Wisconsin's most likely drugs of abuse that threaten adolescent health.

Learning outcomes:

- Identify the latest in drug trends in youth
- Become acquainted with common drug paraphernalia, drug packaging and what today's drugs look like
- Increase awareness in red flags that could cause harm to youth
- Become aware of signs and symptoms of drug use
- Learn about additional classes and resources to further your knowledge about youth drug use

17. Teaching About Cultures vs. Teaching Culturally: First Nations Studies Track 2

Presented by: David O'Connor, Education Consultant, American Indian Studies Program, Wisconsin Department of Public Instruction

This workshop will help participants understand how to incorporate American Indian Studies into their teaching and learning. Many educators have been taught to teach about cultures; however, students will be better engaged and retain more information when educators teach culturally. In this session, not only will resources and materials about the American Indian nations' histories, treaty rights, sovereignty and cultures be shared, but participants will also be given ideas, examples and direction regarding teaching culturally. Participants will gain knowledge and information needed to integrate the components of First Nations Studies into lesson plans, pedagogical practices, material selections and district curriculum.

Learning outcome:

- Learn to incorporate teaching culturally into teaching in order to see student achievement increase and improve

18. Air Pollution, Human Health and Climate Change Track 3 Presented by: Dr. Bruce R. Krawisz, MD, Emeritus Researcher and Pathologist, Marshfield Clinic Research Institute

The World Health Organization (WHO) estimates that 4.2 million people die prematurely from air pollution worldwide each year. Air pollution causes these deaths by increasing the severity of other diseases. For example, an elderly individual with cardiovascular disease may suffer a stroke or heart attack when exposed to air pollution or a child with asthma may suffer an asthmatic attack instigated by air pollution.

Air pollution and climate change are closely related health problems. Climate change is likely to be the single greatest health problem of this century and is probably the greatest future health threat to today's adolescents.

Any action we take to reduce air pollution also reduces climate change. Any action taken to reduce climate change also reduces air pollution.

Learning outcomes:

- To see how air pollution nanoparticles deposit in human brain, heart and placental tissues
- To understand that deposits of pollution nanoparticles may be the mechanism by which air pollution increases the severity of particular diseases such as cardiovascular disease or dementia
- To perceive that adolescents today face an uncertain and unsafe future because of global heating, climate destabilization and air pollution. Greenhouse gases in 2021 sequestered 49% more heat than they did in 1990
- To learn that because fossil fuel combustion causes most air pollution and most of the greenhouse gas emissions, an action to reduce air pollution almost always reduces climate change and vice versa
- To consider actions we might take as individuals and actions organizations might take to reduce air pollution and climate change



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