California Breathing and Asthma Management Academy (AsMA) Model

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The State of Asthma in California and the Asthma Management Academy

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California Department of Public Health’s (CDPH) California Breathing Unit focuses on asthma surveillance and developing interventions that improve asthma self-management and environmental conditions that cause or worsen asthma in the most impacted communities.
1) Discuss the burden of asthma in California
2) Introduce the Asthma Management Academy
3) Demonstrate the impact of the Asthma Management Academy
The State of Asthma in California
Asthma in California

How many people in California have asthma?

about 1 in 7

5.7 Million People
Asthma in California (continued)

Every year, asthma causes:

- **94,000** Emergency Department Visits
- **9,700** Hospitalizations
- **351** Deaths
- **1 in 5** children with asthma to miss school
- **1 in 9** adults with asthma to miss work
Asthma in California (continued)

Asthma costs $13 Billion per year including:

- medical expenses
- premature deaths
- missed school days
- missed work days

Asthma Inequities
Lifetime and Current Asthma Prevalence by Race/Ethnicity

All ages

Data source: CHIS, 2021

Abbreviations: AI/AN = American Indian or Alaskan Native
PI = Pacific Islander

Prevalence (%)

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Lifetime Asthma</th>
<th>Current Asthma</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI/AN</td>
<td>24%</td>
<td>15%</td>
</tr>
<tr>
<td>Black</td>
<td>20%</td>
<td>12%</td>
</tr>
<tr>
<td>Latino</td>
<td>11%</td>
<td>7%</td>
</tr>
<tr>
<td>White</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>13%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Asthma Racial Inequities in California

Compared to White Californians:

- **Black Californians** are more likely to suffer from severe asthma and die from asthma:
  - 5x higher emergency department visits
  - 4x higher hospital stays
  - 3x higher deaths from asthma

- **American Indian and Alaskan Native Californians** are more likely to have asthma and suffer from severe asthma:
  - 1.3x more likely to have asthma
  - 1.4x higher emergency department visits

- **Hispanic or Latino Californians** are less likely to have asthma than White Californians, but are more likely to suffer from severe asthma:
  - 1.3x higher emergency department visits
  - 1.2x higher hospital stays
Asthma Inequities in California Children

Compared to adults, children (0-17 years old) are more likely to have severe asthma:

- 2x higher emergency department visits
- 3x higher hospital stays

Compared to White children:

- **Black children** are more likely to have asthma and suffer from severe asthma:
  - 2x more likely to have asthma
  - 6x higher emergency department visits
  - 5x higher hospital stays

- **Hispanic or Latino children** are more likely to have asthma and suffer from severe asthma:
  - 2x more likely to have asthma
  - 2x higher emergency department visits
  - 1.4x higher hospital stays
Areas with the Highest Asthma-related ED Visits
California Breathing Focus Areas

- Racial/ethnic groups with documented asthma disparities
- Children
- Areas of California with high asthma burden
Asthma Management Academy
Community Health Workers (CHWs) are trusted members of the community that leverage shared experiences and linguistic and cultural relationships to bridge their community and health services.
Who are CHWs?

Community Health Worker (CHW)

Health or Patient Advocate
Outreach Worker
Peer Educator
Community Health Representative
Community Leader

Case Manager
Care Coordinator
Community Health Advisor
Promotores de Salud
Patient Navigator
Families that receive asthma self-management education from CHWs experience improved health outcomes including:

- Reduced health care visits and costs
- Better medication adherence
- Reduced missed work or school days
- Increased confidence to self-manage asthma
- Ability to identify and reduce asthma triggers
What is the Asthma Management Academy (AsMA)?

CHWs receive training on:

• How to deliver evidence-based asthma self-management (AS-ME) education
• How to conduct an in-home trigger assessment
• Best practices for asthma home visiting

Photo source: CDPH, Environmental Health Investigations Branch
Goals of the AsMA

- Reduce the asthma burden in the most impacted communities in California
- Provide culturally and linguistically appropriate professional development for CHWs

Photo source: CDPH, Environmental Health Investigations Branch
AsMA Training Details
Training Partners

Photo source: Comite Civico del Valle, Inc., Roots Community Health Center
AsMA Curriculum

- Association of Asthma Educators’ (AAE) *Asthma Education for the CHW* curriculum
- Co-facilitated by a CHW and certified asthma educator (AE-C)
- Interactive and participatory modules
- Skill-based testing
AAE Module 1: The basics of asthma
AAE Module 2: Trigger identification and reduction
AAE Module 3: Medications
AAE Module 4: Medication delivery devices
AAE Module 5: Assessment and monitoring
CDPH Module: In-home asthma trigger assessment
CDPH Module: Best practices for asthma home visiting
AsMA Training Logistics

- ~18-20-hours of training
- virtual training or in-person
- Available in English or Spanish
- 10 participants per AsMA

Photo source: CDPH, Environmental Health Investigations Branch
Highly Interactive Training

In-person trainings

Virtual trainings via Zoom

Photo source: CDPH, Environmental Health Investigations Branch
The teach-back method is a way of checking understanding by asking clients to state in their own words what they need to know or do about their health.
AsMA Training Kits

Includes:

• Demonstration inhalers
• Spacer
• Peak flow meter
• AAE participant manual
• And more!

Photo source: CDPH, Environmental Health Investigations Branch
Certificates of Completion

- Certificate of Completion from CDPH California Breathing
- Certificate of Completion from AAE
  - Pass with 80% or higher
  - Scenario-based competency test
  - Not a certification exam

San Bernardino County, 2018
Impact of the AsMA
AsMA Partner Organizations and Participants

The AsMA has trained 634 CHWs from 91 organizations including:

- Federally Qualified Health Centers
- Community-Based Organizations
- Managed Care Plans
- Local Health Departments
- Hospitals

Images source: Noun Project
Asthma Burden and AsMA Activities

91 partner organizations

Data Sources:
Office of Environmental Health Hazard Assessment (census tracts >75th percentile for asthma ED visits)
California Department of Health Care Services (health plan coverage areas)

Legend
- County boundaries
- Census tracts >75th percentile for asthma ED visit rates, all ages, 2015-2017
- Current CDPH training partner
- Coverage areas of managed care organizations trained by CDPH
- AsMA partner organizations trained by CDPH
# AsMA Data Collection

## AsMA participants

### CHW Knowledge and Skills

- **Knowledge-based questions**
  - Pre and Post-tests
  - Post-test quizzes after Modules

- **Skill-based metrics**
  - Teach-back rubrics
  - Competency test (Scenario-based)

## Client Asthma Outcomes

### Client data from AsMA partners

- Emergency Department (ED) Visits & Hospitalizations
- Improved asthma control
  - Asthma Control Test (ACT)
  - Self-reported improvement
- Missed work or school days
CHW Knowledge and Skills

AsMA participants increased their asthma knowledge and skills. On average, participants scored **98%** on a competency test covering:

- The scope of asthma
- Asthma triggers, such as mold, pests, and smoking
- Asthma medications and teaching proper use of asthma medication delivery devices
- Using asthma assessment and monitoring tools, such as the ACT, AAP
Impact on Individuals with Asthma

Among individuals with poorly controlled asthma who completed at least one asthma education session taught by AsMA-trained CHWs:

- 83% had reduced emergency department visits and hospitalizations
- 70% had fewer missed work or school days
- 70% had improved asthma control
• Asthma continues to be a health concern in California, especially for Black Californians.
• The AsMA is a peer-lead training for CHWs where they learn how to deliver evidence-based asthma education.
• Asthma education delivered by AsMA-trained CHWs improved asthma outcomes in patients with poorly controlled asthma.
Thank you to all who make the Asthma Management Academy possible!

• AsMA Facilitators
  – Comite Civico del Valle
  – Roots Community Health Center
  – Certified Asthma Educators

• AsMA Participants and Partner Organizations

• Association of Asthma Educators

• Centers for Disease Control and Prevention
Contact Information

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www.cdph.ca.gov/asma
510-620-3624
California Breathing Asthma Surveillance

Data sources:

- CHIS (California Health Interview Survey)
- HCAi (Department of Health Care Access and Information)
- VITAL RECORDS

Asthma indicators:

- Prevalence
- Missed work and school days
- Management practices
- Emergency Department Visits
- Hospital Discharges
- Deaths
Asthma Prevalence

Data source: CHIS, 2001-2021
Asthma-related Emergency Department (ED) Visits
Age-Adjusted Asthma ED Visits per 10,000 Residents
California and the U.S., 2005–2021

Data sources: CA data from the Office of Statewide Health Planning and Development (OSHPD), 2005–2021
Note: Diagnosis codes changed from ICD-CM-9 to ICD-CM-10 on October 1, 2015. Direct comparisons should not be made between data collected prior to and after this change.
Asthma-related Hospitalizations
Age-Adjusted Asthma Hospitalizations per 10,000 Residents
California and the U.S., 1995–2021

Data sources: Department of Health Care Access and Information (HCAI), 2005–2021

Note: Diagnosis codes changed from ICD-CM-9 to ICD-CM-10 on October 1, 2015. Direct comparisons should not be made between data collected prior to and after this change.
Asthma-related Deaths
Age-Adjusted Asthma Deaths per 1,000,000 Residents California and the U.S., 2000–2021

Data sources: CA data from CDPH Vital Records, 2000–2021
Organization that can provide asthma self-management education (AS-ME) to clients

Has CHWs in the organization

If possible, provides de-identified client-level data to measure impact of AsMA
Client Ages

57% Children 0-17 years old

33% Adults 18 years old and older

10% Unknown age

Graphics source: Getty Images, Noun Project