Disparities in Allergy & Asthma Care: Leveling The Playing Field

Vivian Hernandez-Trujillo, MD

March 2023
The mission of
ALLERGY & ASTHMA NETWORK
Is to end the needless death and suffering due to asthma, allergies and related conditions through outreach, education, advocacy and research.
This will be recorded

*The recording will be posted on our website shortly*

**CEU’s are available for a cost**
MEET OUR SPEAKER

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Disclosures

- Advisor for Sanofi/Regeneron
- Consultant for Kaleo, Amgen, Allergy & Asthma Network
- Speaker for Takeda, CSL, Kaleo
Digital Marketing Plan & Strategy

- Disparities in Hispanics – Asthma
  - Asthma in Latino/Hispanic Children
  - Asthma in Latino/Hispanic Adults
- Unidos Hablamos
- Disparities in Hispanics – Food Allergy
- Food Insecurity
What is disparity?

“Health care disparities are differences in medical care that are not due to differing clinical needs, patient preferences or the appropriateness of the intervention.”

AMA Definition

“Disparities in health care for racial and ethnic minorities in the United States are long-standing, well-documented and have complex origins, both historic and contemporary.”

Why is control of asthma important?

Asthma

- 26 MILLION Americans diagnosed
- 1 in 12 CHILDREN
- $50 BILLION annual costs
- 4,145 DEATHS annually
- 83% higher for black adults (over age 35) than white persons
- 13.8 MILLION missed school days per year
- 14.2 MILLION missed work days per year
- 3 in 5 limit physical activity
- 71% MISUSE inhalers
- 1 in 5 CANNOT AFFORD medications

AllergyAndAsthmaNetwork.org
Pediatric asthma

➢ One of the most common chronic conditions affecting over 7 million children in the US.

➢ Severe pediatric asthma is difficult to manage and utilizes a large part of the resources available for treatment of patients with asthma.

➢ A need exists to improve the treatment of patients with severe asthma
Asthma severity in children

- Patients with **persistent asthma** require **long-term controller medications** in order to control asthma symptoms.

- Almost **60% children with current asthma** have **persistent asthma**—either controlled using long-term medications or poorly controlled due to lack of response to medications or lack of medications—either not available or not being used as prescribed.

- Prevalence of persistent asthma in children varies by state from 45% in Oregon to 74.4% in Mississippi.
Prevalence in children

➢ Among children under 18 years, 8% of all Hispanic are affected by Asthma

➢ Of this group, 17% Puerto Rico and 7% Mexico

➢ Asthma cases in Puerto Rico represent twice as many asthma cases compared to other Hispanics

➢ Children of Puerto Rican origin suffer from asthma three times more than white children of non-Hispanic origin
Data table for Figure 10. Current asthma among children under age 18 years, by age and race and Hispanic origin:
United States, 2008–2018
Excel and PowerPoint: https://www.cdc.gov/nchs/hus/contents2019.htm#Figure-010

Current asthma among children under age 18 years, by age: 2008–2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Percent</th>
<th>Total SE</th>
<th>Under 5 years Percent</th>
<th>Under 5 years SE</th>
<th>5–17 years Percent</th>
<th>5–17 years SE</th>
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<td>6.2</td>
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<td>10.7</td>
<td>0.5</td>
</tr>
<tr>
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<td>6.3</td>
<td>0.6</td>
<td>11.0</td>
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<tr>
<td>2010</td>
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<td>6.0</td>
<td>0.5</td>
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<td>0.4</td>
</tr>
<tr>
<td>2011</td>
<td>9.5</td>
<td>0.3</td>
<td>6.9</td>
<td>0.5</td>
<td>10.6</td>
<td>0.4</td>
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<tr>
<td>2012</td>
<td>9.3</td>
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<td>5.4</td>
<td>0.5</td>
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</tr>
<tr>
<td>2013</td>
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<td>0.3</td>
<td>4.2</td>
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<td>9.9</td>
<td>0.4</td>
</tr>
<tr>
<td>2014</td>
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<td>4.3</td>
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<td>2015</td>
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<td>9.8</td>
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</tr>
<tr>
<td>2017</td>
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<td>4.4</td>
<td>0.6</td>
<td>9.9</td>
<td>0.5</td>
</tr>
<tr>
<td>2018</td>
<td>7.5</td>
<td>0.4</td>
<td>3.8</td>
<td>0.5</td>
<td>8.9</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Current asthma among children under age 18 years, by race and Hispanic origin: 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Hispanic or Latino</th>
<th>Not Hispanic or Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>SE</td>
</tr>
<tr>
<td>2018</td>
<td>8.0</td>
<td>0.8</td>
</tr>
</tbody>
</table>

NOTES: SE is standard error. Data are for the civilian noninstitutionalized population. Based on a parent or knowledgeable adult responding yes to both questions, "Has a doctor or other health professional ever told you that your child had asthma?" and "Does your child still have asthma?" Children of Hispanic origin may be of any race. Race-specific estimates are tabulated according to the 1997 "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity." See Appendix II, Hispanic origin; Race.

SOURCE: NCHS, National Health Interview Survey. See Appendix I, National Health Interview Survey (NHIS).
Asthma prevalence in our population

- In 2018, 2.3 million Hispanics reported asthma
- Prevalence of asthma is 100% higher in Hispanics/Latinx as compared to caucasians
- In the Latinx community, among adults, 6.4% Asthma rates among all Hispanics. Of this group, 15% Puerto Rico and 5% Mexico.
- Prevalence rates are increasing, in particular, in underserved areas or with difficulty accessing medical resources
Asthma prevalence 2016-2018

https://www.cdc.gov/mmwr/volumes/70/ss/pdfs/ss7005a1-H.pdf
Health disparities in asthma are seen in Hispanics 2019-2020

https://www.cdc.gov/NHISDataQueryTool/SHS_adult/index.html
Asthma attack prevalence

FIGURE 5. Asthma attack prevalence among persons with current asthma by sex, age group, race/ethnicity, and federal poverty level — United States, 2016–2018


https://www.cdc.gov/mmwr/volumes/70/ss/pdfs/ss7005a1-H.pdf
Prevalence of ER and Urgent Care Visits

https://www.cdc.gov/mmwr/volumes/70/ss/pdfs/ss7005a1-H.pdf
Asthma Severity in Adults

➢ 60.1% of adults with current asthma had uncontrolled asthma.

➢ Percentage of uncontrolled asthma was higher among females (63.1%) than males (54.7%), Hispanics (70.1%) than non-Hispanic White adults (58.0%), and ages 55–64 years (65.5%) than ages 18–34 years (53.3%).

➢ Prevalence of asthma varies by state

Source: National Health Interview Survey (NHIS) 2019–2020

Trends in Poor Health Indicators

- Hispanic adults ranked worst across all racial/ethnic groups for access to health care during the 20-year period. Despite experiencing a lower chronic disease burden than Black adults, Hispanic men and women of all ages reported the worst perceptions of their general health of all 3 groups.

- Higher mental health challenges, suboptimal insurance coverage, physical inactivity and other factors including self-management of chronic diseases are likely involved.

Health disparities in the Latinx community

- Latinos who prefer to communicate in Spanish received fewer asthma diagnoses in community health centers in the United States compared to Latino patients who prefer to communicate in English.

- Latinos received a diagnosis of asthma less frequently the first day they presented with symptoms compared to white non-Latino patients.
Factors affecting the Latino community

Respiratory infections during the first two years of life increase the risk of developing asthma in Puerto Rican patients.

In the National Health Survey (NHIS) of Children, more visits to the Emergency Room among Asthma Patients from Puerto Rico and Mexico / Americans. ER visits and hospitalizations related to asthma in Hispanics/LatinX and African Americans are double those in caucasians and numbers of rehospitalization are 50% higher.

Among obese children, the risk of oral steroid use increases by 15%- can have long-term side effects if used over time.

Patient-Centered Outcomes Research Institute (PCORI) Eugene Washington PCORI Engagement Award #EAIN 21130
Importance of adequate asthma control – Mortality

- Mortality from asthma is higher among Latinos, especially from origin of Puerto Rico

- The death rates from asthma in Puerto Rican patients is 75% to 200% higher than in Caucasians

- Studies show that in Latino school-age children - from Puerto Rico, Mexico and Central / South America - use of rescue medications greater than in other groups

- Latino children have a 40% higher risk of dying from asthma compared to non-Hispanic whites
How can we address these disparities?

Efforts to increase participation levels of minority patients in research need to include patient engagement programs that address the many barriers:

- Distrust & Fear of influencing immigration status
- Education
- Language barrier
- Some lack of interest
Unidos Hablamos

➢ Key stakeholders and faith leaders to establish trust within the Hispanic/Latino community and to engage the community in Patient Centered Outcomes Research and clinical effectiveness research (PCOR/CER)

➢ The project convened Hispanic people with asthma, patient advocates, patients, researchers, leaders in the Hispanic community to develop a robust agenda to participate in a series of virtual, live sessions to introduce the attendees to PCOR/CER and share the needs of researchers and patients, their caregivers who have asthma and/or COVID-19.
A Project Advisory Group (PAG) was comprised of 6 Latino patients diagnosed with COVID-19 and/or asthma, a faith-based leader, healthcare providers, researchers and program evaluator.

The group of patients were tasked with identifying the appropriate platform for hosting the virtual series, identified the theme of the virtual series, determined the agendas, selection of presenters, review of objectives, and developed titles of the sessions.

All sessions were delivered using the Zoom™ Language Interpretation feature so attendees could choose to hear the presentation in either English or Spanish.

All attendees were offered the following in English or Spanish: pre and post knowledge surveys, polling questions during each session and session evaluations.

Each PAG member, the faith leader, guest presenters and consultants and 100 patients or caregivers were compensated after each session.
Results

On average 700 registered and 382 unique people attended the sessions between October 2021– March 2022.

Between October and January there was a 6% increase in attendees identifying as Hispanic patients or caregivers, and a 20% increase in the attendees requesting the handouts in Spanish.

When asked if whether they would be willing to be a research subject in an asthma study, 66.4% agreed, while 15.6% did not agree and 18% would depend on whether their doctor thought it was a good idea.

We found 77.6% would be willing to be a patient partner/advisor for an asthma study while only 3.2% did not agree and the remaining 20% were either unsure or participation would depend on whether their doctor thought it was a good idea.
Future plans – Allergy and Asthma Network

➢ A biannual re-convening virtual conference for those who participated in the Unidos Hablemos virtual series.

➢ A Facebook Group was created for anyone who has an interest in the Hispanic/Latino community, asthma, or Patient centered outcomes research and sharing experiences, research outcomes, future events, artwork (like Dr. Gil’s artwork), poems, readings

➢ Look for funding for capacity building to draw upon the Hispanic/Latino community and develop patient research experts or ambassadors who are provided with education about all aspects of research from developing a research question to being involved in research as a subject or advisory to the project.

➢ Anticipate sharing with researchers about the “pool” of future patient experts and encourage them to involve these new patient experts to participate in their research programs.
Outcomes

The Unidos Hablemos de / United Let’s Talk About webinar series engaged patients in their native language and invited them to not only learn about asthma and COVID-19, but more importantly provided them with tools to participate in patient centered outcomes research and clinical effectiveness research. (PCOR/CER)
Disparities in Food Allergy

➢ Race/ethnicity associated with sensitization to more than one of the food allergens

➢ Hispanic children higher odds of corn, fish, shellfish

➢ Prevalence of physician-diagnosed food allergy in urban minority children was 3.4% lower than national estimates in school children in NYC

➢ Physician-diagnosis FA higher private school respondents (17.5%) compared with public school respondents (7.4%)

➢ Even when history of severe reaction, half children in public schools lacked physician diagnosis

Joseph CL. Annals 2016 116:219
Sampson HA. JACI 2001 107: 891
Mahdavinia M et al, JACI Pract 2017 5: 351
Bilaver LA et al Pediatrics 2016 137:e20153678
Food Allergy in patients of different races

- Food allergy in the US has increased in recent years
- The increased prevalence is seen among all groups

The increase in food allergy per decade by race/ethnicity
- Non-Hispanic blacks 2.1%
- Hispanics 1.2%
- Non-Hispanic whites 1.0%
Recent national data on food allergy:

- Food allergy (overall and for all common allergens except soy and wheat) are greater in blacks compared to whites.
- Whites have lower prevalence of food allergy than Hispanics and Asians.
- Minority pediatric patients and those in high poverty counties were less likely to see allergist for FA or receive diagnostic testing.

Disparities in food allergy management

- Minority patients were less likely to have a FA action plan and shorter specialist follow-up
- Black and Hispanic parents less likely to correctly identify signs of food allergy reactions and less likely to identify triggers
- Fewer epinephrine auto-injectors in schools was associated with higher prevalence of Hispanic children and limited English proficiency in low- socioeconomic schools
- Massachusetts school nurse survey- white children were 5 times more likely to have epinephrine auto-injectors dispensed
Healthcare utilization in FA by race/ethnicity

➢ White, Hispanics and other race/ethnicity lower medical costs with increasing household income

➢ Hispanics had higher increase in rate of ED visits for food-induced anaphylaxis than other children

➢ Medicaid enrolled children presenting to ED for food-induced anaphylaxis less likely to receive epinephrine before ED arrival and white children more likely to have early epinephrine treatment

➢ Need exists to improve FA management – lowest income children greatest costs for ED visits and hospitalization with lower spending on specialty care and out of pocket expenses indicating access is different for these patients

Food insecurity – definition

➢ USDA defines **food insecurity** as “households that were, at times, unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food”

➢ **Limitations for food allergic patients include:**
  ➢ Higher cost of allergen-free foods

➢ Estimated 21% children with FA in US experiencing Food Insecurity (Johns et al)

➢ **Food deserts**- “areas with limited access to nutritious and affordable food”

Shroba et al. JACI in pract 2022: 10: 81; Humphrey et al JACI 2015 135:AB255
Food insecurity and race

➢ In a study clinics at Arkansas Children’s, African Americans had significantly higher food insecurity rates when compared to Caucasians

➢ One in five children from center with FA had FI

➢ Health literacy rates were significantly associated with race- Caucasians higher overall health literacy

➢ Lower health literacy associated with knowledge gaps regarding management of allergic reactions and epinephrine autoinjector use

➢ Health literacy higher in patients with food security as compared to those with food insecurity

➢ Reminder of the need for support for these families and need to better understand disparities among different patient populations with food allergy
Food insecurity – Hispanics

- Study of a low-income Puerto Rican population Hartford, CT
- Latino families were 22.8% more likely than non-Latino whites 7.7% to live under poverty level
- Attending cultural events/church- indicator of stronger social networks and food security
- Spanish-speaking only households- risk factor for food insecurity
- Food stamps appeared to be major proportion of monthly household expenditure, as opposed to supplemental- likely education on management of food stamps would be helpful. Referral to social work likely to be helpful.

Food insecurity and mental health in Hispanics

- Survey of low-income pregnant Latina (majority Puerto Rico) women in Hartford, CT

- More than 66% participated in WIC (Supplemental Nutrition Program for Women, Infants and Children)

- 1/3 uninsured, ½ bilingual and 1/3 food insecurity prior to survey

- Elevated symptoms of depression when household experienced food insecurity

- Medical team can ensure information regarding WIC and other support is available- offer materials in native/preferred language

Food insecurity in different groups – allergy

- Latin X, Native Americans and Blacks disproportionately affected by food insecurity
- During the pandemic, AAAAI ARFC surveyed membership regarding screening of patients with food allergy and food security
- Pandemic has resulted in many people experiencing food insecurity for the first time – over 50 million affected
- Majority of allergists do not screen for food insecurity
- Of 59 Allergist respondents, they/staff don’t have knowledge or resources to optimize their help to patients

Shroba et al. JACI in pract 2022: 10: 81
Food deserts – interactive tool using low income and low access by mileage

https://www.usda.gov/media/blog/2011/05/03/interactive-web-tool-maps-food-deserts-provides-key-data
Food insecurity and food allergy

- Resources like Emergency Food Assistance Program-program helps families during pandemic- often no food allergy friendly foods

- Of 60,000 food pantries and soup kitchens only 4 exclusively stock allergen-free foods consistently-and only 2 were operational during pandemic

- Of the two operating during pandemic- one offered shipments through USPS and the other sends gift cards so they can make online purchases of allergen-safe foods

Brown E et al. JACI in Pract 2020 8: 2149
The cost of food

➢ For patients who are socially or economically disadvantaged, going to the grocery store may be particularly challenging

➢ The cost of food is high, and the cost of food alternatives is even higher

➢ Our patients need us to be aware of the cost differences - resources are needed for our patients

2/$7.00
versus
$5.99 each

Land O’Lakes Butter 7 oz tub $2.77
A need exists to improve the medical care of patients with asthma.

Resources to improve the understanding of the disease and thereby improve treatment in Latino communities.

Outreach is needed to improve the outcomes of our asthmatic patients in our communities, improve health equity and decrease the healthcare disparities that disproportionately affect our communities by increasing representation in research.

Recognize that differences exist in patients of different races/ethnicity with food allergy.

We have a responsibility to advocate for our patients with food allergy, especially those experiencing disparities in health care- work with primary care, referring to social work.

Allergists can help screen and identify patients at risk of food insecurity.

Resources

- Asthma and Allergy Network website: https://www.allergyasthmanetwork.org/
- Updated resources in Spanish and English are available to patients with asthma and families of people with asthma
- Communication with the medical team is very important
Acknowledgment

Allergy and Asthma Network for the use of slides and graphics

Eugene Washington Engagement Award- Engaging Hispanic Asthma Patients in PCOR/CER Nationwide- PCORI grant

Thank you for your attention
Put your questions in the question box
We’ll get to as many as we can!
Thank you!

Please remain online for 2 – 3 minutes to complete an evaluation survey!

Thank you!
Next Webinar

Join us for our next webinar:

Let’s Clear the Air: The Impact of Poor Air Quality on Allergies and Sleep

Wednesday, March 29th, 2023
3:00 PM ET