Social Determinants of Asthma
(or, They Let Me In To This Conference)

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Declaration

• I have no relevant conflicts of interest to disclose

Objectives

• Learn about social determinants of health
• Understand how social determinants impact asthma
• Learn about new models of care that address social determinants of health for asthma
What the heck is a primary care physician doing here?

Children’s Health

“The extent to which individual children or groups of children are able or enabled to
a) develop and realize their potential,
b) satisfy their needs, and
c) develop the capacities that allow them to interact successfully with their biological, physical and social environment.”

Social Determinants of Health

• “Health starts in our homes, schools, workplaces, neighborhoods, and communities... Our health is also determined in part by access to social and economic opportunities; the resources and supports available in our homes, neighborhoods, and communities; the quality of our schooling; the safety of our workplaces; the cleanliness of our water, food, and air; and the nature of our social interactions and relationships.”
Health equity

• “Attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally, with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities.”
The children of today

- Are increasingly children of color and children of/who are immigrants
- Have unacceptably high rates of poverty
- Increasingly have chronic and complex conditions, including co-morbidity with mental health conditions
Special health care needs

Health care spending continues to outpace inflation
What causes asthma?

- Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role, in particular, mast cells, eosinophils, neutrophils (especially in sudden onset, fatal exacerbations, occupational asthma, and patients who smoke), T lymphocytes, macrophages, and epithelial cells. In susceptible individuals, this inflammation causes recurrent episodes of coughing (particularly at night or early in the morning), wheezing, breathlessness, and chest tightness. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.

- Airflow limitation is caused by a variety of changes in the airway, all influenced by airway inflammation:
  - Bronchoconstriction—bronchial smooth muscle contraction that quickly narrows the airways in response to exposure to a variety of stimuli, including allergens or irritants.
  - Airway hyperresponsiveness—an exaggerated bronchoconstrictor response to stimuli.
  - Airway edema—as the disease becomes more persistent and inflammation becomes more progressive, edema, mucus hypersecretion, and formation of inspissated mucus plugs further limit airflow.

- Remodeling of airways may occur. Thrombosis may be irreversible in some patients, resulting in persistent airflow limitation, and fibrosis, which narrows the airways (bronchiectasis).

- Recent studies provide insights on different phenotypes of asthma that exist. Different manifestations of asthma may have specific and varying patterns of inflammation (e.g., varying intensity, cellular mediator pattern, and therapeutic response). Further studies will determine whether different treatment approaches benefit the different patterns of inflammation.

https://www.jacionline.org/article/S0091-6749(07)01823-4/fulltext#sec2.1

Journal of Allergy and Clinical Immunology 2007 120, S94-S138
DOI: (10.1016/j.jaci.2007.09.029)
Known risk factors for asthma

- Genetics / family history
- Atopy
- Exposure to bacteria
- Family history
- Early lung injury/function
- Allergens
- Race/ethnicity?
- Pollution?
- Secondhand smoke?
- Obesity?
- Lack of breastfeeding?
- Community and where you live?
- Other chronic condition?

Social determinants influence health and wellness

- Strong association with race, poverty
- Presence of community violence
- Adverse childhood experiences accumulate
- Historical segregation produces a concentration of poverty and pathogenic conditions
  - Food deserts
  - Environmental hazards – housing quality, tobacco smoke, etc
  - Access to high quality medical care

Asthma disparities

- Children
  - Higher emergency room visit rate
- Poverty
- Race/ethnicity
  - 2015 data from National Health Interview Survey: 8.4% <18 years
  - Non-Hispanic African-American children: 13.4%
  - Minorities – lower use of control medications

http://www.nhlbi.nih.gov/health-pro/resources/ Lung/asthma/disparities.htm
Psychosocial factors and the effect on chronic disease (including asthma)

- Food insecurity
- Housing instability
- Family conflict
- Untreated mental health concerns
- Trajectory of disease (accumulation of ACEs)

Impacts on asthma

- Environmental triggers
- Increased stress / cortisol levels
- Management (control) of comorbid conditions
- Access to health care
  - Physical distance
  - Quality of care
  - Cultural competency (e.g. language services)

Resiliency

- Supportive factors can also protect against disease
- Cohesive families and communities help with coping
- Positive parenting beliefs help engage parents in appropriate care
One cannot address asthma...

- ...without addressing the social determinants of health
- ...at the very least, you need to be aware of the social determinants and
  - Practice family-centered, community-based care
  - Culturally competent care

Silos are not just a tourist attraction in Buffalo

- Health care is highly siloed
- Lack of universal and equitable coverage
- Fee-for-service rewards illness, not health

“Advanced Primary Care”

- Other terms include:
  - Medical Home
  - Patient-Centered Medical Home
  - Comprehensive Primary Care
  - Chronic Care Model

- The term’s not as important as understanding that promoting health and wellness in childhood, given today’s understanding of the drivers of health, entails a life-course approach to health
And just what IS that Life Course Model?

- Children and families are affected by biological and ecological exposures that either promote health or increase risk
- Health care professionals should identify family, neighborhood, and community determinants that influence lifelong health of patients
- Tailor the scope of practice to include:
  - Screening, care coordination, treatment plans, and health promotion
  - Collaborate with community partners and families
  - Promote strengths and mitigate risk factors

How is primary care changing in the face of social determinants of health?

- Psychosocial screening
- Positive parenting
- Team-based care
- Medical neighborhoods
- Integrated care
- ...specialty care co-management?

Psychosocial screening

- Developmental
- Food insecurity
- Housing
- Mental health / depression
Positive parenting
• Reach Out and Read
• Healthy Steps
• Cultural competency

Team-based care
• Care coordinator
• Social worker
• Teams and panels
• Asthma educators

Integrated care
• Integrated behavioral health
• Case manager
Medical neighborhoods

- School based health clinics
- School health
- Community-based case manager
- Environment
- Public policy

Implementing advanced primary care...

- ...is a big cultural shift
- ...it’s a move towards taking care of populations instead of individual encounters
- ...uses data, teams, screeners, referrals, and follow-ups
- ...requires an understanding of the drivers of health, that protective factors can be encouraged, and that risk factors can be mitigated

Thank you!