

# San Francisco Asthma Task Force



## Report to the Community on Asthma

The Board of Supervisors created the Asthma Task Force in 2001, composed of community and health professional representatives. The Task Force released their Strategic Plan on World Asthma Day 2003, and now report on local successes in reducing school and housing-related environmental risk factors for asthma.

### IMPROVING SCHOOLS

- Renewal of the US Environmental Protection Agency's Tools for Schools Indoor Air Quality Program at 28 San Francisco Unified sites.
- Orientation of new Tools for Schools coordinator and development of program evaluation.

### ENSURING ASTHMA-SAFE CLEANING

- Screening out asthma-causing and asthma-exacerbating janitorial products purchased by the City and in the future, by San Francisco Unified Custodial Services Department.

### IMPROVING HOUSING

- Building capacity of San Francisco Housing Authority, Department of Building Inspection and Mayor's Office of Housing to detect moisture problems and prevent mold, through the use of thermographic cameras.

### RAISING AWARENESS

Developing community awareness about the seriousness of asthma, through:

- Televised message from a local mother whose 4-year-old child died from asthma in San Francisco.
- Internet videos featuring five partner agencies discussing their efforts to improve asthma.

ASTHMA, AN INFLAMMATORY LUNG DISEASE, is one of the most common chronic diseases of children. Common symptoms include recurrent wheezing and coughing, difficulty breathing, and tightness of the chest. Asthma attacks can range in severity from inconvenient to life threatening. There is no known cure for asthma, but it can be controlled by following a medical management plan and by reducing exposure to environmental "triggers," such as air pollution, cockroaches, dust mites, furry pets, mold, tobacco smoke, and certain chemicals.

Asthma is a problem that needs to be addressed through policy change. Because the reduction of environmental triggers is an essential component of asthma control and prevention, individuals, communities, and policy makers must work together to find solutions. This report, which includes the latest data and research, will outline the problem of asthma in San Francisco, describe some of the work being done to address the problem, and highlight some specific policy recommendations.

## Child & Youth Population and Impact of Asthma

San Francisco has 116,883 children & youth ages 0–17 (37,890 are ages 0–5) and 14% are living below poverty. Of 56,236 students enrolled in SFUSD schools in the fall of 2005, 30% were designated as English Language Learners and 55% were Free & Reduced Lunch-Eligible. Low-income status is a risk factor for health disparities, including adverse asthma outcomes such as emergency room visits and hospitalizations. The child and youth population's ethnicity is 11% African American; 36% Asian; 23% Hispanic/Latino; 22% White; 6% Multi-racial and 2% other.<sup>1</sup>

## Lifetime Prevalence Data for Children Age 5-17: U.S., California, Regions, and Counties

### UNITED STATES

From 2003-2005, 14.2% (95% CI: 13.7-14.7) of children age 5-17 had been diagnosed with asthma at some point in their lives.<sup>2</sup>

### CALIFORNIA

In 2005, nearly 1.3 million children age 5-17, or 18.0% (95% CI: 16.8-19.1) had been diagnosed with asthma at some point in their lives.<sup>3</sup>

### GREATER BAY AREA REGION

(\*Includes the counties of Santa Clara, Alameda, Contra Costa, San Francisco, San Mateo, Sonoma, Solano, Marin, Napa)

In 2005, 233,000 or 19.8% (95% CI: 17.1-22.6) of children age 5-17 had been diagnosed with asthma at some point in their lives.<sup>4</sup>

### SAN FRANCISCO

In 2005, 26.2% (95% CI: 14.2-38.2) of children age 5-17 had been diagnosed with asthma at some point in their lives.<sup>5</sup>

## Emergency Room Visits

Disparity in Asthma ER Visit Rates: Disparity can be described by the rate ratio, meaning the ratio of one area's rate to the lowest rate of any SF zip area for this condition. For 2006 emergency room visits by zip code (all ages), five zip codes (94102, 94103, 94107, 94115, and 94124) have Emergency Room visit rates 4 to 7 times the SF zip code (94108) with the lowest rate.<sup>6</sup>

## Hospitalization

Disparity in Asthma Hospitalization Rates: Disparity can be described by the rate ratio, meaning the ratio of one area's rate to the lowest rate of any SF zip area for this condition. For 2005-2006 hospitalization by zip code (all ages), six zip codes (94102, 94103, 94107, 94112, 94124, and 94134) have Hospitalization rates 3 to 6 times the SF zip codes (94121, 94123) with the lowest rates.<sup>7</sup>

## Demographics of zip codes with disparities in adverse asthma outcomes

Statewide, emergency room visits and hospitalizations for asthma occur more frequently for populations that are low-income and people of color, and in particular, African American and Latino/Hispanic ethnicities. U.S. Census 2000<sup>8</sup> data for the zip codes highlighted above (94102, 94103, 94107, 94112, 94115, 94124 and 94134) shows that:

- African Americans range from 6.3% to 48.0% of the population in these zip codes, as compared to 7.8% of San Francisco's total population.
- Latino/Hispanics range from 5.5% to 27.8% of the population in these zip codes, as compared to 14.1% of San Francisco's total population.
- Asian American/Pacific Islanders range from 16.2% to 53.3% of the population in these zip codes, as compared to 31.3% of San Francisco's total population.
- The seven zip codes named above all contain census tracts with the highest percentage of people living below the Federal Poverty Level.

## Environmental Risk Factors & Task Force Interventions

### HEALTHY HOMES

Poor indoor air can be caused by a variety of conditions, such as mold and mildew that grow as a result of moisture infiltration or condensation; combustion products from cigarettes or wood-burning fireplaces; off-gassing of volatile organic compounds (VOCs) found in many building materials (paints, floor finishes, adhesives and sealants, and particleboard or medium density fiberboard used for cabinets, shelving and furniture). In addition, residents often unknowingly use air fresheners, scented and toxic cleaning products, disinfectants and pesticides with volatile ingredients that cause or exacerbate asthma.

A "healthy home" has good indoor air quality because it is well ventilated; free of pests, toxics, and dangerous gases; dry; clean; comfortable; and affordable. In a "healthy home," asthma triggers are eliminated or well controlled. New research suggests that being exposed to things like tobacco smoke, infections, and some allergens early in life may increase one's chances of developing asthma.

Examples of SF Health Code violations which also act as asthma triggers are listed below, with the related number of complaints received by Environmental Health (Department of Public Health) from 2003-2007.

- **Rat, Mice & General Rodent Infestation:** Such infestation causes the presence of allergens from rodent hair and

skin particles, urine and saliva that trigger asthma [2408 complaints].

- **Cockroach Infestation:** Such infestation causes the presence of allergens from cockroach saliva, fecal material, secretions, skin casts, and body parts that trigger asthma [802 complaints].
- **Water Intrusion & Mold:** Water intrusion causes higher relative humidity, which promotes growth of mold, mildew, bacteria, dust mite and cockroach allergens that trigger asthma. [431 complaints].
- **Inadequate Ventilation:** This condition increases relative humidity, which promotes growth of mold, mildew, bacteria, dust mite and cockroach allergens that trigger asthma [309 complaints].
- **Worn or Soiled Carpets:** Such carpets are reservoirs for dust, dust mites, cockroach parts, mold spores, animal hair and skin allergens that trigger asthma [69 complaints].
- **Second-Hand Smoke:** Second-hand smoke is a well-documented lung irritant directly associated with asthma causation and exacerbation [143 complaints].
- **Noise:** Noise stress increases the body's generation of cortisol, which can trigger asthma in two ways. First, cortisol influences the expression of genes associated with asthma. Secondly, cortisol lowers immunity, thereby increasing susceptibility to upper respiratory infections. Viral infections can bring on asthma symptoms and lead to asthma attacks [157 complaints].

Renters tend to have less control than homeowners over many asthma triggers in the home. For example, for many tenants using the government to enforce housing habitability codes is a choice of last resort, because they fear unjust eviction or retaliation related to their status as immigrants.

## HOUSING INTERVENTIONS

The Task Force provided the Board of Supervisors testimony regarding deplorable housing conditions adversely affecting Housing Authority (SFHA) tenants with asthma. With Board-allocated funding, the Task Force then provided technical assistance over a three-year period to SFHA, which manages 6,575 units for low-income tenants. By providing SFHA three thermographic cameras and certification training for 10 Maintenance and Modernization staff, the Task Force helped SFHA staff increase their ability to identify moisture sources and solve mold problems that are unrelated to tenant housekeeping behaviors. The Task Force also provided SFHA Property Management with a half-day training and camera demonstration, as well as trilingual fact sheets to promote tenant awareness of mold prevention strategies within their control. The Task Force also assisted the Department of Building Inspection and the

Mayor's Office of Housing to gain capacity in thermographic camera use.

The Asthma Task Force is refining Healthy Housing policy proposals gathered from stakeholder input, to be drafted by the City Attorney as legislation for the consideration of the Board of Supervisors

## HEALTHY SCHOOLS

Asthma is a major problem for school-aged children and is the number one cause of school absences due to chronic disease in the U.S. During the time that children are in schools, they are often exposed to poor indoor air quality, which can trigger asthma attacks. Many schools across the country and in California have been found to have poor indoor air and environmental quality. One study found significant indoor air quality problems, including problems with ventilation, temperature and humidity, air pollutants, floor dust contaminants, moisture, mold, noise, and lighting in California's classrooms. The US Environmental Protection Agency promotes the use of their Tools for Schools program, aimed at providing schools with low cost/no cost solutions for improving indoor air quality in the school environment. The Green Schools Alliance promotes integrated pest management to reduce pesticide use and substituting less toxic cleaning and teaching materials, particularly reducing or eliminating any "asthmagens," i.e. chemicals that sensitize the lungs and lead to new-onset asthma.

## SCHOOLS INTERVENTIONS

The Task Force advocated for the passage of a Board of Education resolution requiring the implementation of Tools for Schools in all District schools, because indoor air quality is a problem in many SFUSD sites. The Task Force has helped SF Unified School District (SFUSD) implement this program by providing stipends and initial training for school site liaisons, and orienting a newly hired Coordinator. The next steps are for the site liaisons to work with the Coordinator to conduct indoor air quality walkthroughs and act on findings. The Task Force will advocate for the District to immediately fix those issues, and to have the District apply for Williams Settlement funds whenever the site and the nature of the repair match the criteria for Williams funding.

The Task Force also brought together and funded collaboration between the SF Department of Environment, SF Department of Public Health, and SFUSD Custodial Services to work with SFUSD to pilot the purchase of cleaning products with reduced asthmagen content and further promote the District's use of closed-loop dilution systems and microfiber mops, which reduce the product volume used.

## POLICY RECOMMENDATIONS

### GENERAL

The Mayor and Board of Supervisors should:

- 1 Adopt Report Card recommendations as policy, with funding as needed.
- 2 Continue to fund operating costs within the Department of Public Health and staff a dedicated program to provide oversight of these initiatives.
- 3 Continue to provide financial assistance to SF Housing Authority and SF Unified School District to improve environmental conditions affecting people with asthma.

### HOUSING

The Mayor and Board of Supervisors should:

- 1 Establish Citizen Advisory Committee to promote public awareness and outreach projects that promote toxic use reduction through safe housecleaning, integrated pest management and safe house furnishings.
- 2 Amend specific SF Health, Housing and Building codes to improve current healthy housing requirements. Subsequently, produce and mail Healthy Housing Guide for rental property owners, promoting their knowledge of modified Health, Housing and Building code requirements.
- 3 Establish targeted and proactive use of City code enforcement resources for housing habitability.
- 4 Use City resources to establish private property owner incentives that promote healthy housing best practices.
- 5 Adopt healthy housing best practices for HOPE SF Task Force-guided Housing Authority repairs and rebuilds, and include a SF Department of Public Health healthy housing expert in an ongoing manner as a member of the HOPE SF Task Force to amplify knowledge of healthy housing best practices that support good indoor air quality and occupant health.
- 6 Use City resources to promote developer healthy housing best practices and use of state tax credits related to healthy housing (e.g. smoke-free unit set asides) for affordable housing development and low-income owner-occupied housing rehabilitation. Integrated with the City's Green Building initiatives for market

rate housing development, create requirements and incentives to promote developer healthy housing best practices, particularly in urban infill areas.

### SCHOOLS

The Superintendent of SFUSD and the Board of Education should:

- 1 Implement Tools for Schools within all SFUSD child development and K-12 school sites, and apply for grants if the repairs meet the Williams Settlement criteria (includes emergency repairs that improve indoor air quality at underperforming schools).
- 2 Continue to fund half-time position for Tools for Schools coordinator (contracted through DPH), and when feasible, convert to full-time position.
- 3 Create sustainable funding for SFUSD Custodial Services to further eliminate asthmagens in all institutional cleaning products used, and for the benefit of all SFUSD child development and K-12 school sites. Specifically: a) Implement microfiber mops and mini-washer system at all SFUSD sites; and b) Switch to non-asthmagen cleaner and disinfectant available in closed-loop dilution system.

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