

Environmental health is concerned with all aspects of the natural and built environment that may affect human health. The interactions between humans and environment affect quality of life, years of healthy life lived, and health disparities. The World Health Organization (WHO) defines environment, as it relates to health, as “all the physical, chemical, and biological factors external to a person, and all the related behaviors [5].” Environmental health consists of preventing or controlling disease, injury, and disability related to the interactions between people and their environment [31].

Lead Poisoning

- In 2016, the percentage of children ages 0-6 who were found to have blood lead levels of 5-9 ug/dL in Montgomery County was 0.8%, which is much lower than in Maryland (1.5%) (Table 32).
- There was a consistent decrease of children aged 0-6 who had blood lead levels of 5-9 ug/dL in Maryland from 2000 to 2016 (Fig. 181).
- There was also a consistently decreasing trend of children age 0-6 who had blood lead levels ≥ 10 ug/dL in Maryland from 2000 to 2016 (Fig. 182).

Table 32. Children Age 0-6 Tested for Blood Lead Level, Montgomery County and Maryland, 2016

			MoCo	MD
Children Tested	Age 0-6	Total	94,806	541,994
		No Tested	22,392	118,619
		% Tested	23.6	21.9
	Age 1-2	Total	31,877	182,177
		No Tested	13,766	81,125
		% Tested	43.2	44.5
Blood Lead Level 5-9 ug/dL				
	Age 0-6	No	180	1,729
		%	0.8	1.5
Blood Lead Level ≥ 10 ug/dL				
	Age 0-6	No	31	355
		%	0.1	0.3



Fig. 181. Percent Children Age 0-6 Tested with Blood Lead Level 5-9 ug/dL, Maryland, 2000-16

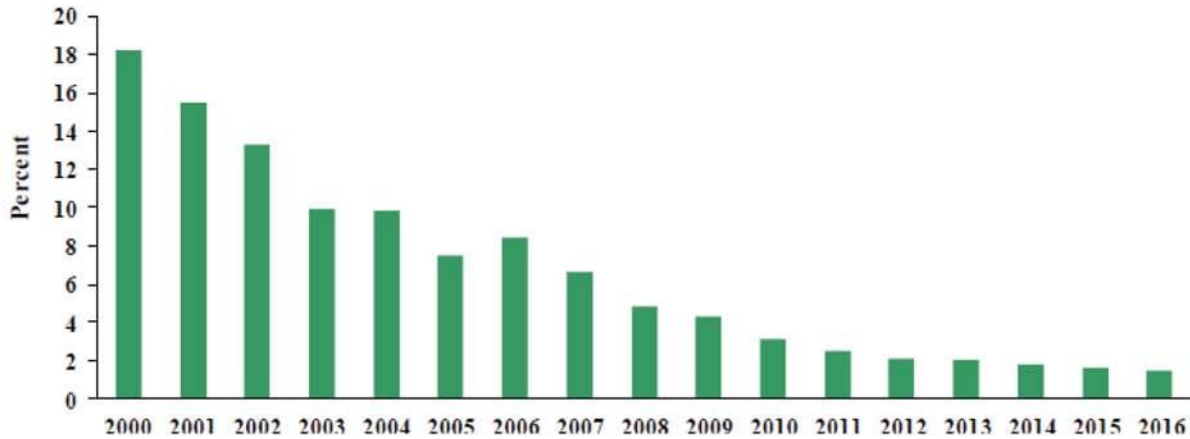
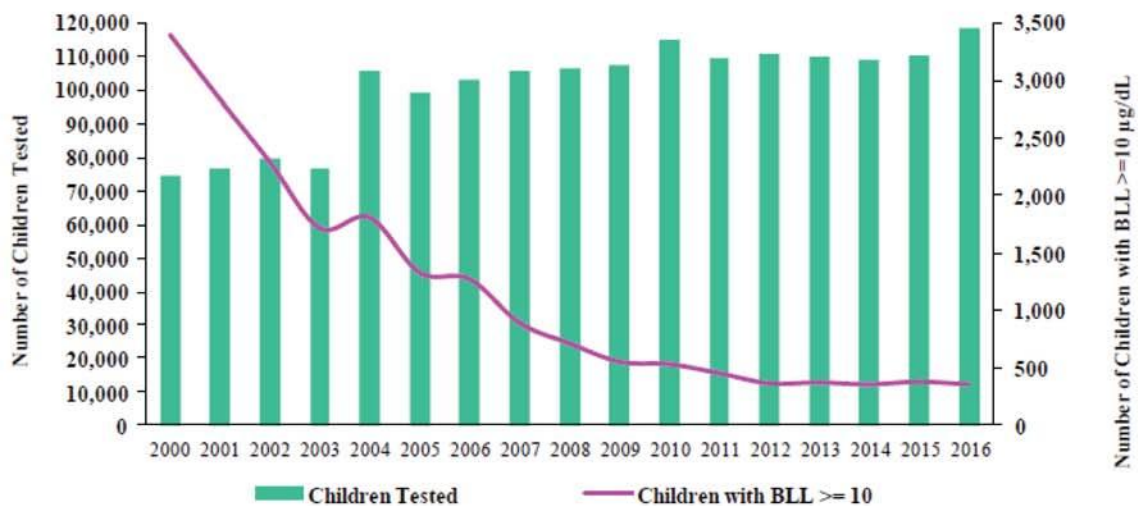


Fig. 182. Children Age 0-6 Tested with Blood Lead Level ≥ 10 ug/dL, Maryland, 2000-16



* Source: Childhood blood lead surveillance report, 2016. Maryland Department of the Environment.
<http://mde.maryland.gov/programs/LAND/LeadPoisoningPrevention/Pages/index.aspx>



97.5% of the population aged 1-5 years old is below 5.2 ug/dL of lead in blood samples

Air Pollution and Water

- There is a decreasing trend of PM2.5 for both weighted mean and 98th percentile in Montgomery County during 2012-2017 (Table 33).
- Though there were a couple years with O3 8-hr Max above air quality standard, there is a decreasing trend 2012-17 in general (Table 33).
- Though consistently higher than the U.S., Montgomery County mirrors similar trend of average density of fine particulate matter in Maryland with higher averages in few years 2002-2012 (Fig. 183).
- Drinking water quality in Montgomery County meets all the required EPA standards, including inorganic contaminants, metals, disinfection byproduct, and microbial containments (Table 34).

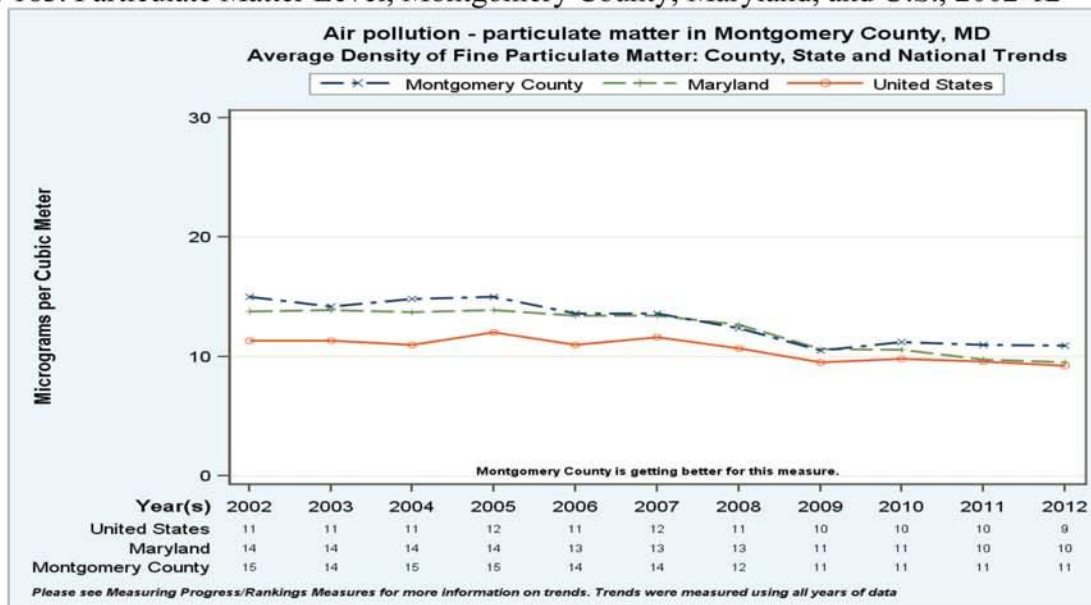
Table 33. Selected Air Quality Indicators, Montgomery County, 2012-17

	2012	2013	2014	2015	2016	2017
PM2.5 Weighted Mean	10.3	8.1	9	9.7	6.4	5.2
PM2.5 98%ile	23	21	20	22	16	12
O3 8-hr Max	0.073	0.069	0.064	0.072	0.068	0.065
% Unhealthy Days/Year	0.3	0	0	0	0	0
% Unhealthy Days for Sensitive Groups/Year	1.7	0.3	0	1.4	0	0.7

* Highlighted cells indicate above air quality standard

** Source: Air Data, U.S. Environmental Protection Agency <https://www.epa.gov/outdoor-air-quality-data>

Fig. 183. Particulate Matter Level, Montgomery County, Maryland, and U.S., 2002-12



** Source: Consumer Confidence Reports, Maryland Department of the Environment

http://mde.maryland.gov/programs/Water/water_supply/ConsumerConfidenceReports/Pages/index.aspx

Table 34. Water Quality, Montgomery County, 2016

		WSSC				
		Patuxent Tap	Potomac Tap	Rockville	Poolesville	
		MCL*				
Inorganic Contaminants						
	Barium (ppm)	2	0.027	0.034	0.038	0.488
	Nitrate (ppm)	10	0.95	1.2	1.5	8
	Fluoride (ppm)	4	0.7	0.7	0.53	
		Action Level				
Metals	Copper (ppm)	1.3	0.087		0.043	0.7
	Lead (ppb)	15	1.2		0.3	0
		MCL				
Disinfection Byproduct						
	Chlorine (ppm)	4	1.4	1.4	1	0.8
	Haloacetic acids (ppb)	60	42	42	37	4
	Trihalomethanes (ppb)	80	59	59	76	10
Microbial Containments						
		MCL				
	Turbidity (NTU)	TT=0.3	0.03	0.04	0.02	0.258
	Residual Chlorine (ppm)	TT>0.2	>0.2	>0.2	1.9	

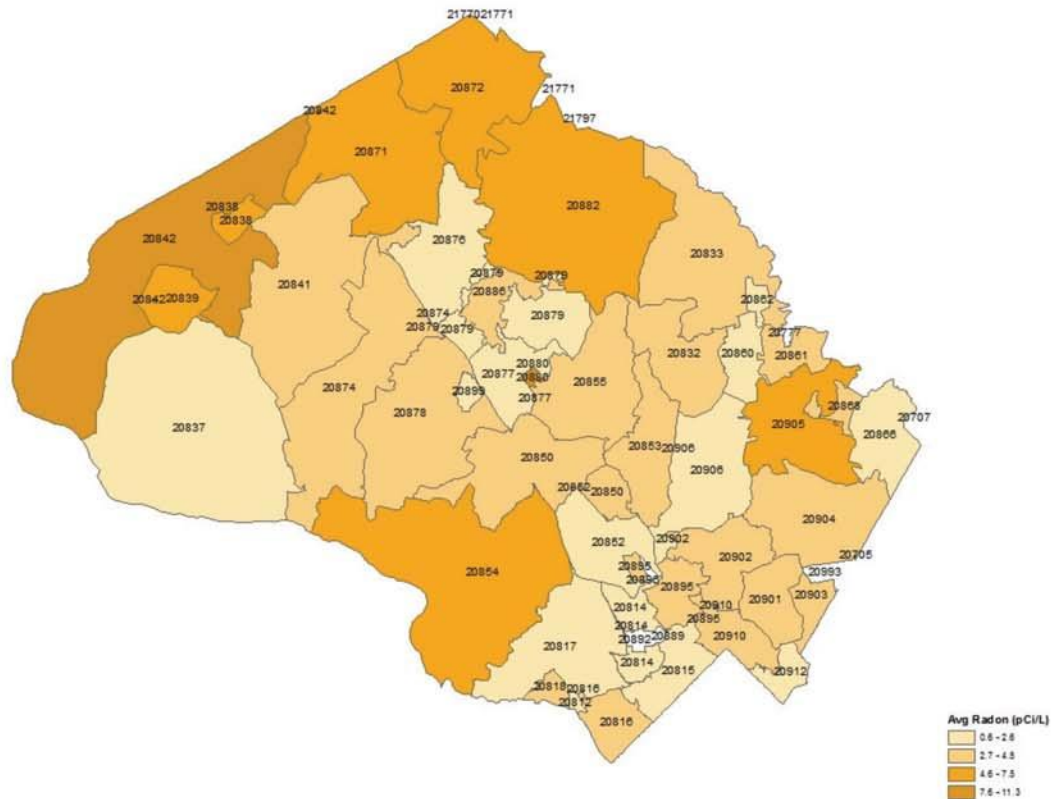
* MCL- Maximum Contaminant Level

** Source: Consumer Confidence Reports, Maryland Department of the Environment
http://mde.maryland.gov/programs/Water/water_supply/ConsumerConfidenceReports/Pages/index.aspx

Radon

- Radon is a major risk of lung cancer for non-smokers
- The areas with high average radon level included zip codes of 20854, 20905, 20882, 20872, 20871, 20838, 20939, and 20842 within the County during 2005-16 (Map 29).
- Zip code of 20842 had the highest level of average radon measurements on the northwest side of the County (Map 29).

Map 29. Average Radon Measurements by Zip Code, Montgomery County, 2005-16



Source: Radon in Maryland. Maryland Department of the Environment. <https://phpa.health.maryland.gov/OEHFP/EH/Pages/Radon.aspx>