

# The Human Health and Economic Costs of Lead in Paint

United Nations Environment Assembly

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Protection Agency*



# Lead is Poisonous

- Especially harmful to children.
- Principal pathway was leaded gasoline but PCFV's successful campaign removed that threat
- Lead paint is now a principal pathway for lead poisoning.
- US limit on lead in paint is 90 ppm, but data from developing world shows lead paint with 10,000 ppm, 20,000 ppm and more



# Lead is Not Needed in Paint

- Lead is intentionally added to paint to improve drying and color, but economically feasible alternatives are available for all lead-containing ingredients.

Average Purchase Price of White Paint

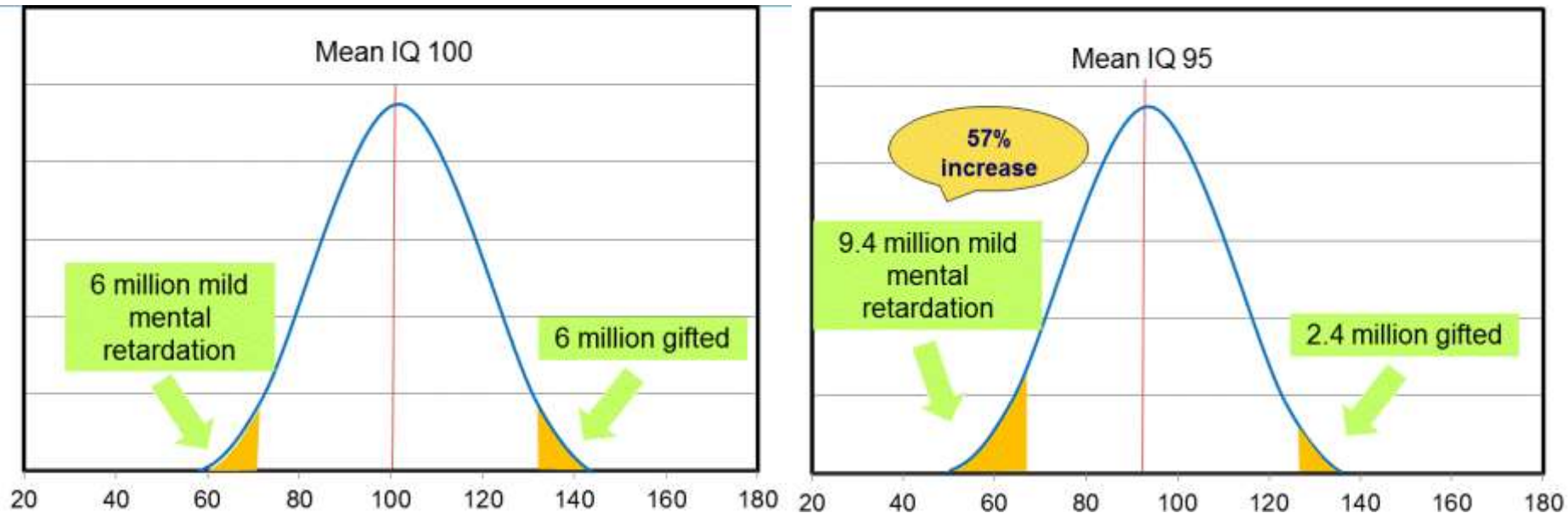
Country	Low lead content (<90 ppm)	High lead content (>90 ppm)	Price difference between paints with low and high lead content, local currency (EUR/USD)	Price difference (% of price of low lead paints compared to high lead paints)
Bangladesh	372 BDT	385 BDT	-13 (-0.12/-0.16)	97%
India	324 INR	354 INR	-30 (-0.35/-0.48)	92%
Indonesia	44423 IDR	49822 IDR	-5399 (-0.34/-0.46)	89%
Philippines	238 PHP	313 PHP	-75 (-1.23/-1.68)	76%
Sri Lanka	1018 LKR	981 LKR	37 (0.21/0.28)	104%
Thailand	170 THB	145 THB	24 (0.55/0.75)	117%

# Lead Poisoning's Economic Cost

- Exposure to lead has permanent negative impacts to children's developing brains.
- Lifelong consequences are borne by the affected children, their families, and societies at large.
- One key impact is reduction in intelligence quotient (IQ), which can be correlated with decreases in lifetime earning potential.



# Lead can cause loss in IQ



Significance of a 5 Point IQ Reduction  
in a population of 260 million people

(Picture adapted from Gilbert, Weiss B. A rationale for lowering the blood lead action level from 10 to 2 ug/dL. *Neurotoxicology*. 2006 September; 27(5): 693-701 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2212280/pdf/nihms37310.pdf> )

# Individual Children -> Global Costs

- Children's exposure to lead has staggering economic costs for countries
- \$977 billion in low and middle-income countries from children's lost IQ
  - \$ 135 billion in Africa
  - \$ 142 billion in Latin America
  - \$ 700 billion in Asia





# Costs for Selected Countries

Country	Annual Cost (I\$)	% GDP
China	227 billion	2.00
Egypt	17.8 billion	3.41
Kenya	3.75 billion	5.26
India	236 billion	5.21
Colombia	8.9 billion	1.88
Peru	10.7 billion	3.54
Pakistan	37.8 billion	7.75
Tanzania	4.13 billion	6.06

- Data available for 110 LMIC countries.
- Full report by New York University researchers available online and by request.

# About the Lead Paint Alliance

- Lead Paint Alliance is a voluntary partnership
- Secretariat is UNEP and WHO
- EPA is the Chair
- Governments, NGOs, Industry are partners and members of the Advisory Group
- Alliance is modeled on successful Partnership for Clean Fuels and Vehicles



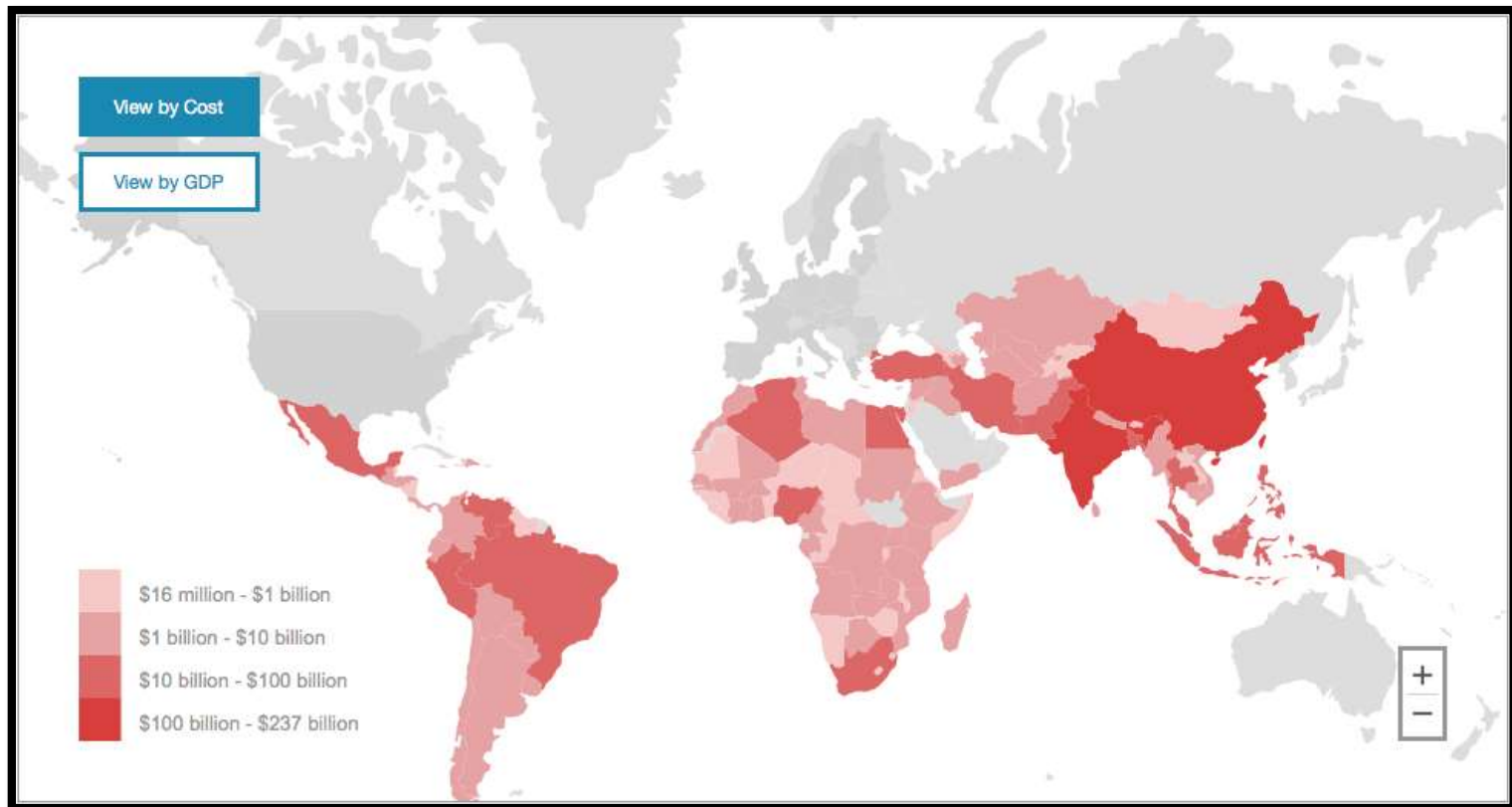
**Goal: Phase out lead paint by 2020**



# New Web-Based Awareness Tool

- **Interactive map** based on the findings of NYU analysis displays cost and corresponding percent GDP loss for 110 low and middle income countries.

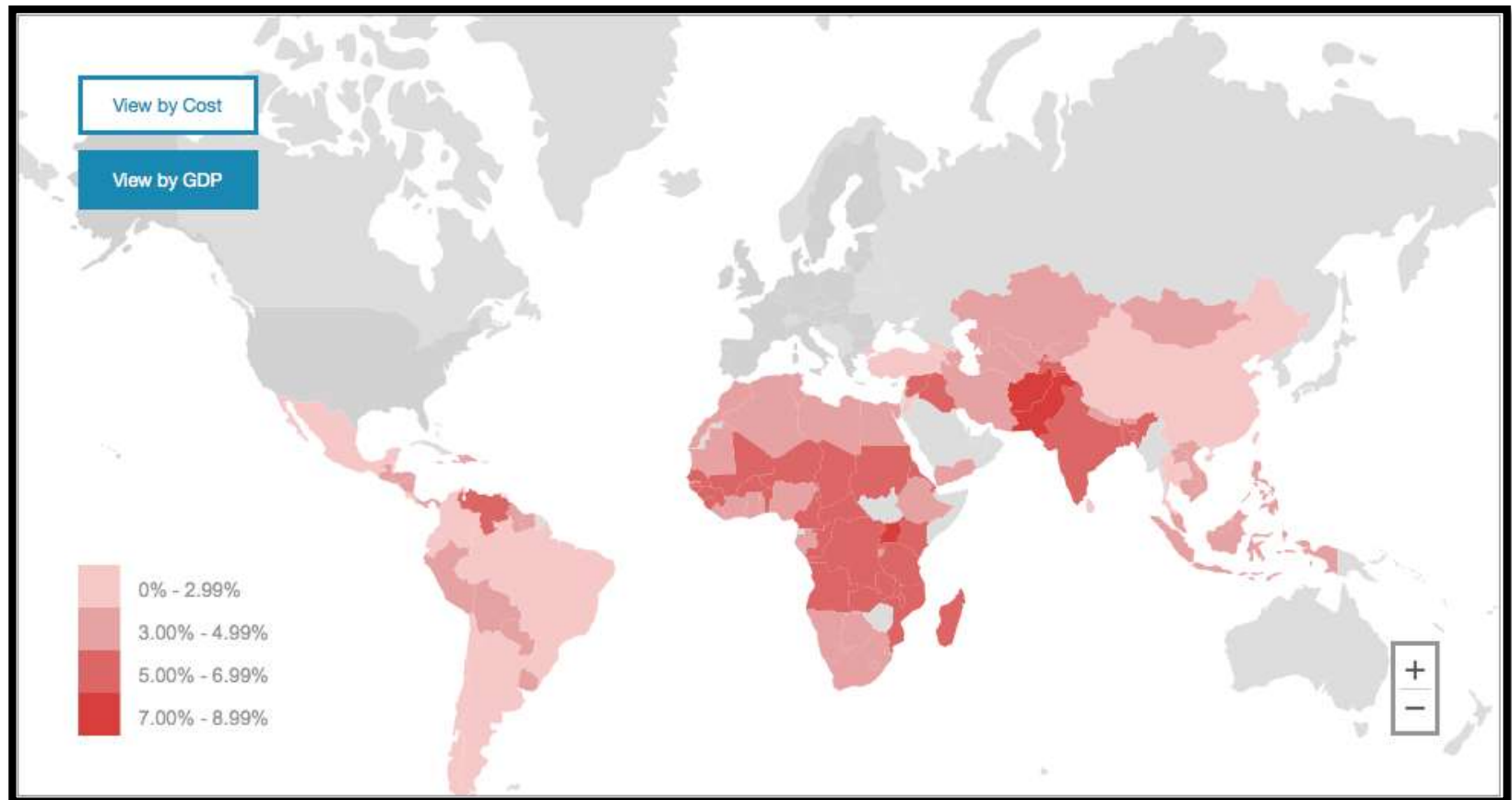
View by Cost to Countries



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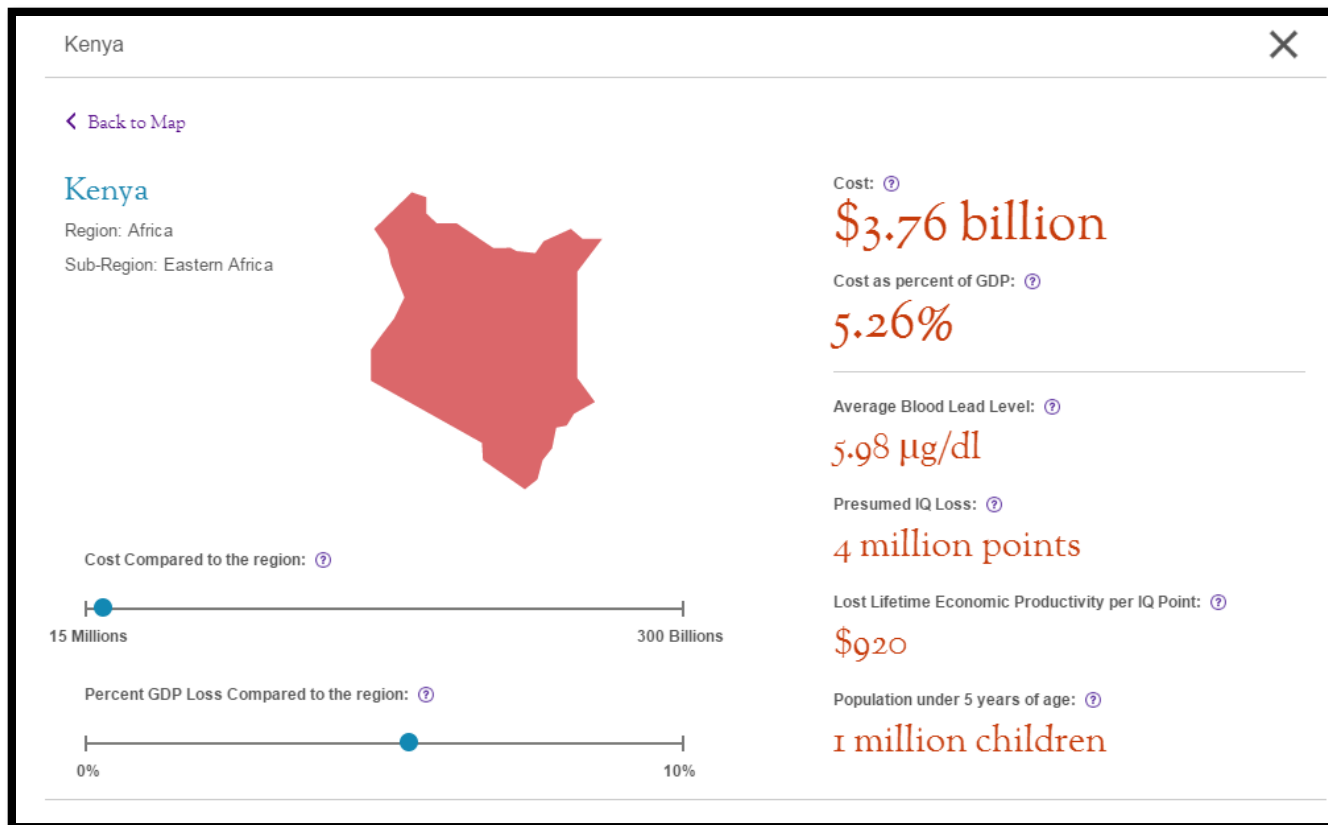
View by Percent GDP



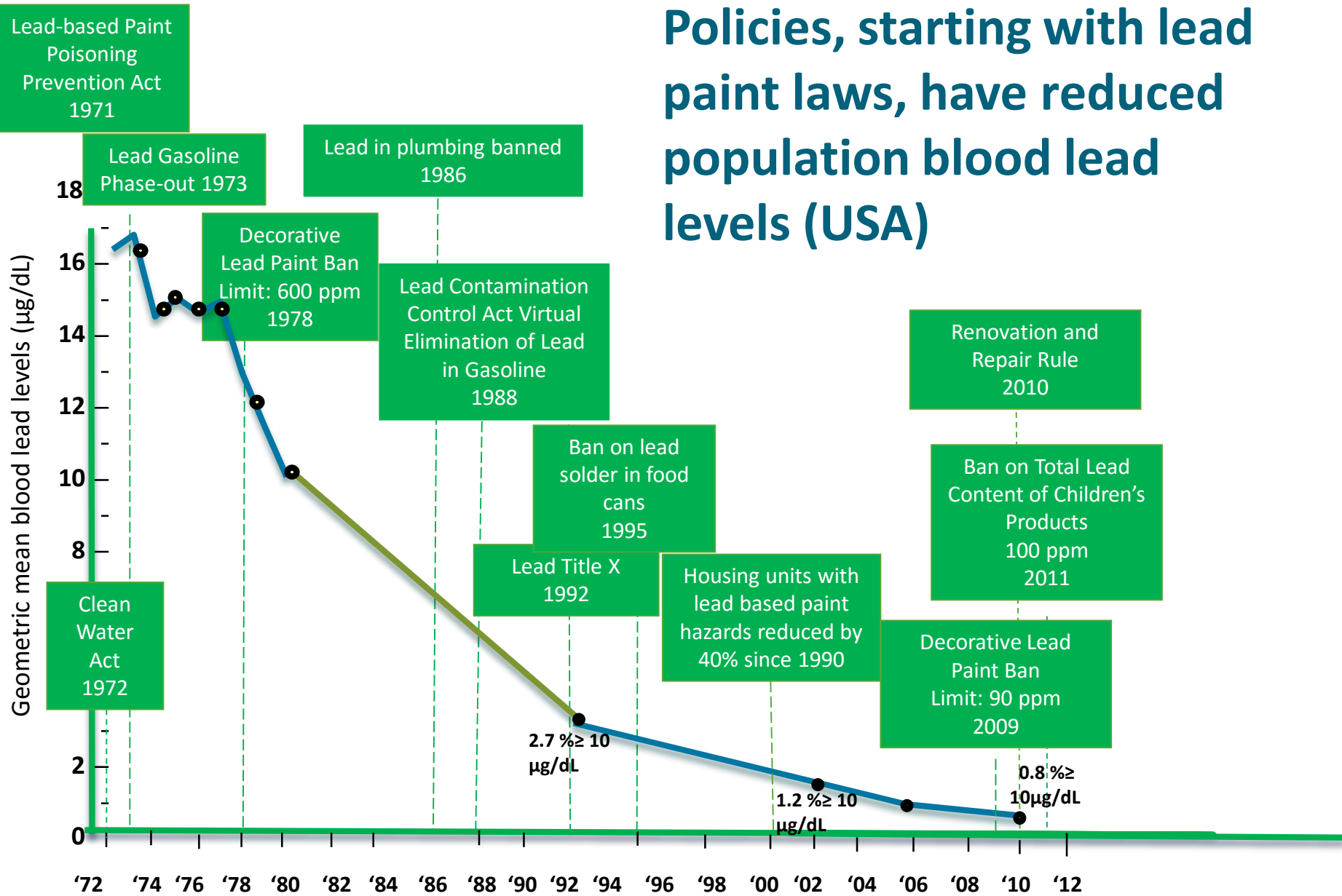
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## View Specific Country Details



# Policies, starting with lead paint laws, have reduced population blood lead levels (USA)



Source: CDC

# What Can You Do?

- Both industry and governments agree that the solution is enacting and enforcing laws to ban lead in paint in countries worldwide.
- The Lead Paint Alliance can work with your country to establish and enforce lead paint laws.
- Join the Lead Paint Alliance to support the *global effort to eliminate Lead in Paint by 2020*.
- Additional information and tools available from the Lead Paint Alliance:

[www.unep.org/noleadinpaint](http://www.unep.org/noleadinpaint)

# Summary

- Lead is poisonous. No level of exposure is considered safe.
- Lead paint is now a principal pathway for lead poisoning, with a staggering cost including loss of children's IQ.
- Lead is not needed in paint and can be replaced relatively cheaply and easily. This is a problem that can be solved!
- New tools can help you learn about the specific impact to your country, and the Lead Paint Alliance can help your country establish laws.





**Thank you!**