SOURCES AND SCALE OF LEAD EXPOSURE IN INDONESIA

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PURE EARTH INDONESIA

Yayasan Pure Earth Indonesia

An environmental health non-profit organization with focus to mitigate impacts of toxic pollution to the environment and health through approaches which combine research, technical intervention, public education, capacity building and policy recommendation.

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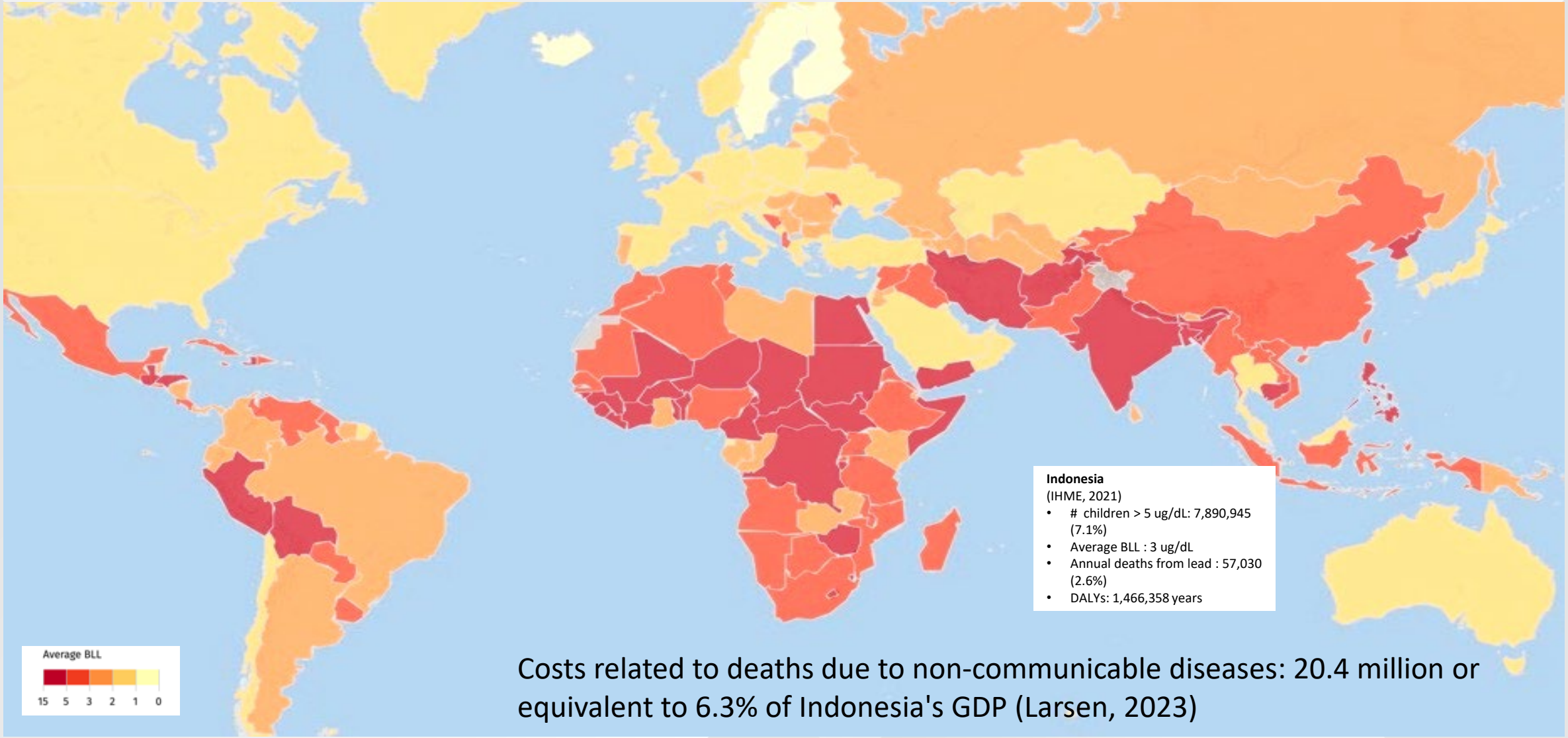

Costs related to deaths due to non-communicable diseases: 20.4 million or equivalent to 6.3% of Indonesia's GDP (Larsen, 2023)

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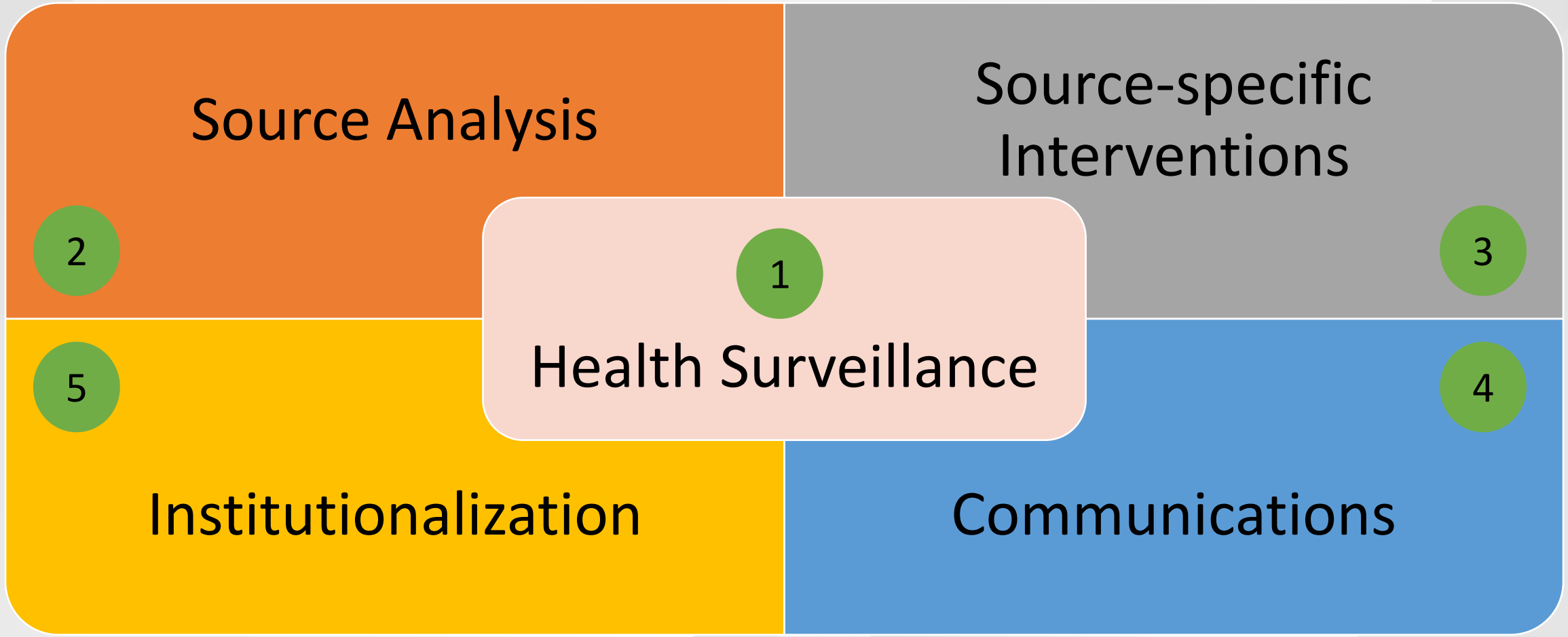
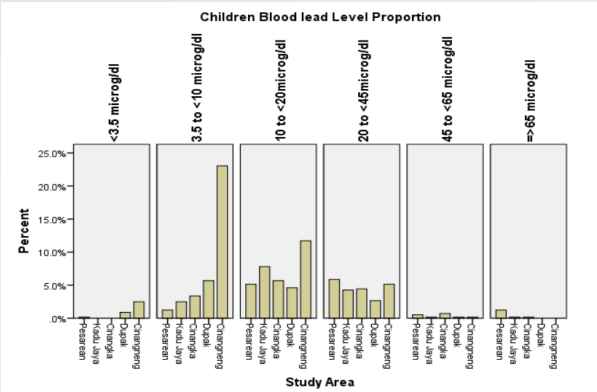
5 Steps to Solve Lead Pollution



BLL Study in Lead Exposed Areas in Indonesia (2023)



BLL	Frequency n(%)	
< 5 µg/dL	64	11,3
5 to < 10 µg/dL	158	28,0
10 to < 20 µg/dL	197	34,9
20 to < 45 µg/dL	126	22,3
45 to < 65 µg/dL	10	1,8
>= 65 µg/dL	9	1,6
Total	564	100,0

The determinant factors of children BLL are :

- Low socio-economic status;
- Living in lead exposed areas;
- Using aluminum cookware and foodware;
- Not cleaning houses;
- < months breast-feeding

https://authors.elsevier.com/a/1jTNV_WjFP7mZh
https://www.pureearth.org/wp-content/uploads/2024/03/Report-Lead-Exposure-and-Indonesians-Children-Health-in-Java-Island.pdf
https://www.youtube.com/watch?v=-r6BJ9V0gA8

WHO threshold of BLL is 5 µg/dL and threshold for treatment is 45 µg/dL

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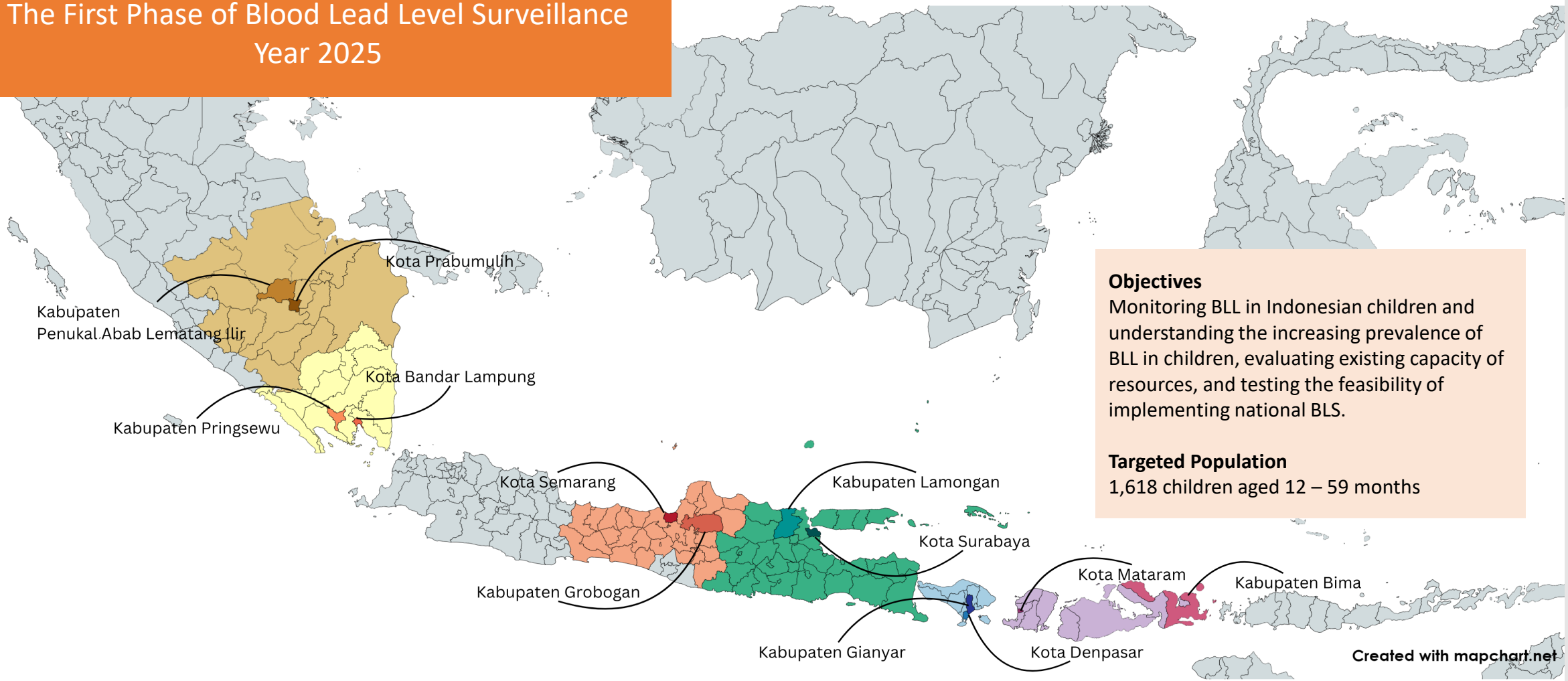
The First Phase of Blood Lead Level Surveillance Year 2025



Objectives

Monitoring BLL in Indonesian children and understanding the increasing prevalence of BLL in children, evaluating existing capacity of resources, and testing the feasibility of implementing national BLS.

Targeted Population

1,618 children aged 12 – 59 months

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Strengthening Health Systems to Reduce Lead Exposure in Indonesia : 2023 - 2027

Home-Based Assessment

- To identify sources of lead and pathways of exposure in individual children; and
- To identify community-level trends

1. Capacity building to monitor exposure of children to lead
2. Improvement of environmental health data collection by establishing a national system of monitoring exposure of children to lead

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Vital Strategies

3. Increasing knowledge about sources & pathways of exposure of children to lead
4. Strengthening ability of health care professionals to identify, treat and prevent lead poisoning & educate children on lead poisoning, how to avoid/mitigate risks

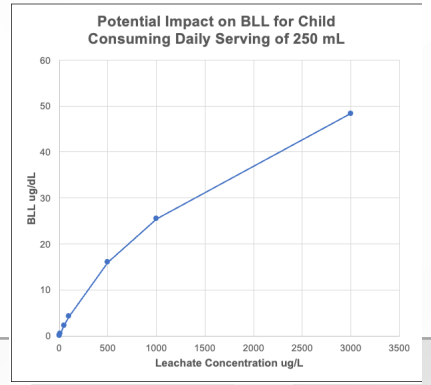
Metallic Cookware Studies

Rapid Market Screening (2022)

- 167 samples from Indonesia, i.e. Medan in Sumatra, Surabaya in Java, and Makassar in Sulawesi
- No lead detected in spices (n = 34)
- 60% cookware with lead > 100 ppm (n = 45)
- 33% cosmetics with lead > 2 ppm (n = 36)
- 10% toys with lead > 100 ppm (n = 21)
- 97% paint with lead > 90 ppm (n = 31)

Cookware Study in Educational Institutions (2024)

- 11 foster houses in the Greater Jakarta and Bandung
- Except in 1 foster house in Bandung, there is at least 1 cookware with lead > 100 ppm in every foster house
- Leachate test shows 4 of 6 samples have leachate rate > reference level (10 ppb)



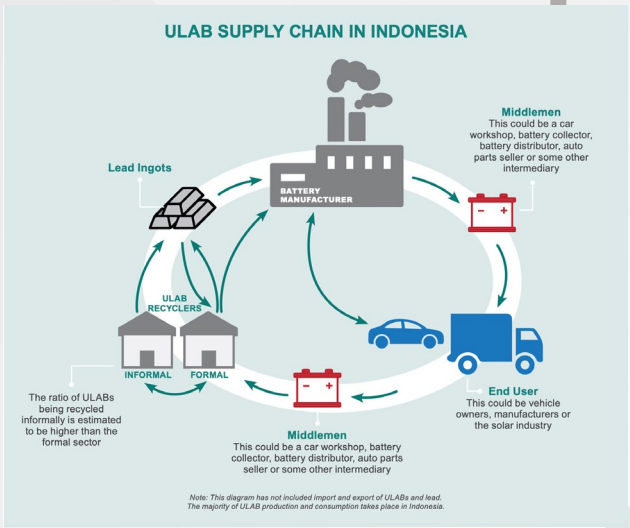
Cookware Supply Chain Analysis (2024)

- Done in the Greater Jakarta, West Java and Central Java Provinces
- Formal & informal producers
- Aluminum comes from formal & informal suppliers
- In informal sector, aluminum comes from scrap metal recycling and used perfume bottles
- Cookware is distributed to Java, Sumatra and exported around Southeast Asia
- There has been a standard of lead content in food packaging in Indonesia

Mitigating Lead Exposure from ULAB Recycling in Indonesia : 2024 - 2027

Background

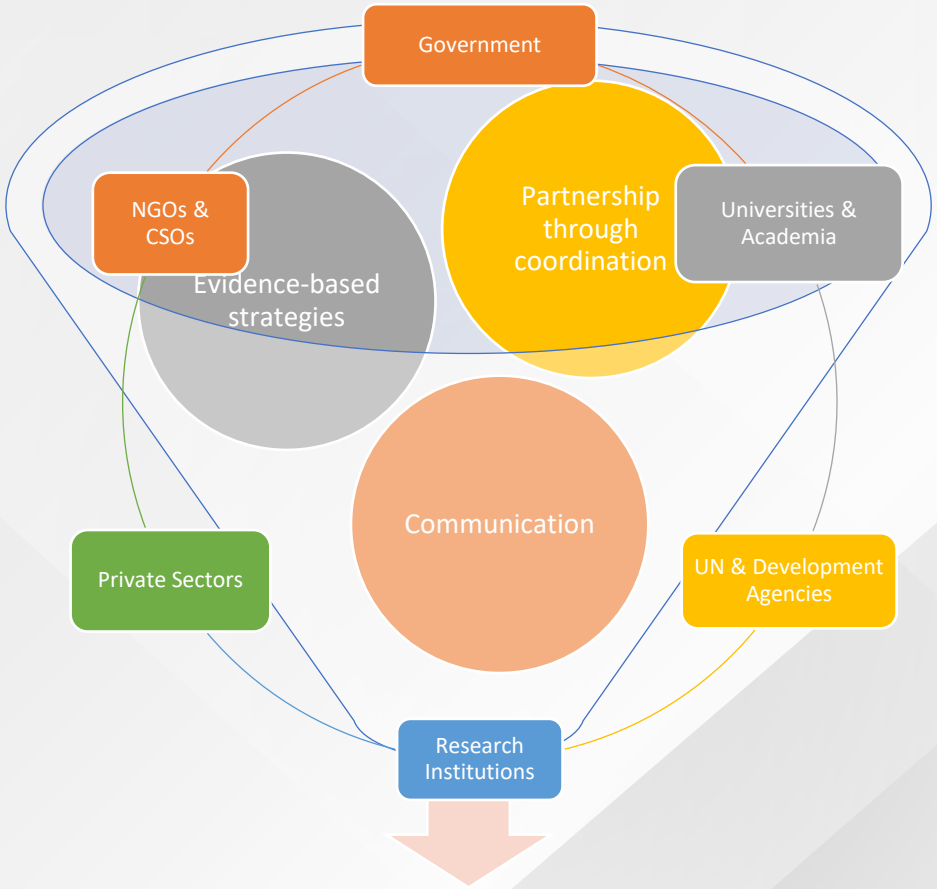
- 570,000 tons of ULAB annually
- > 50% are recycled in the informal sector
- 63% of 95 locations on Java and Sumatra Islands with lead in soil > 300 ppm



https://www.unicef.org/indonesia

- ULAB ecosystem stakeholders mapping, supply chain analysis, review hazardous waste management regulations & requirements to be adapted to ULAB sector
- Research estimated baseline of volume of ULAB produced & recycled in formal & informal facilities, produce recommendations & policy brief
- Regulatory guidance & capacity development to sub-national government & LAB producers for ULAB collection
- Technical support to government & formal recyclers on regulatory development & enforcement : operations, trade analysis & occupational risk monitoring
- Awareness raising & community education in ULAB polluted areas
- Support adoption of new Basel Convention Technical Guidelines

Towards the Golden Indonesia 2045



LEAD EXPOSURES CAN BE MINIMIZED

AND IMPACTS CAN BE PREVENTED

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Thank You

Pibi si Timbal

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