

Developing a country strategy and action plan for a lead-free future for every child

July 2025



END
CHILDHOOD
LEAD
POISONING

**PARTNERSHIP FOR
A LEAD-FREE FUTURE**

Tool
4

Toolkit to End Childhood
Lead Poisoning

Developing a country strategy and action plan for a lead-free future for every child

July 2025

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Disclaimer

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Photo caption: Khatuna Jeladze with her grandchildren who have been involved in the UNICEF-supported lead surveillance programme in Imereti, Georgia.

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Acronyms and abbreviations

BLL	blood lead level
LABs	lead-acid batteries
LMICs	low- and middle-income countries
NGO	non-governmental organization
PLF	Partnership for a Lead-Free Future
ToC	theory of change
ULABs	used lead-acid batteries
WHO	World Health Organization
WLABs	waste lead-acid batteries

I. Introduction

1.1 Lead background

Lead is a naturally occurring bluish-grey metal with diverse commercial and industrial applications. Exposure to lead can result in an array of adverse health outcomes, including lifelong neurological impacts in children and cardiovascular disease in adults. Symptoms are typically subclinical at the time of exposure, with poisoning best confirmed through blood testing.

Lead can compromise neurological, cardiovascular and reproductive systems, including by increasing the risk of high blood pressure and kidney damage later in life. Lead's chemical composition mimics calcium, which allows it to be stored in bones over time. During pregnancy, lead is transferred in utero to the fetus.

Sources of lead exposure in low- and middle-income countries (LMICs) include consumer products such as spices, paints and dyes, cookware and ceramics, cosmetics, toys, leaded glass, jewellery, ammunition and fishing weights. Other sources include recycling of lead-acid batteries (LABs), mining, contaminated water due to lead pipes and fittings, residual pollution from leaded gasoline, light aviation fuel, e-waste recycling, lead paint and some traditional medicines and ceremonial powders.

Lead is a main component of LABs in vehicles and other industrial applications on a global scale. Almost all the lead in used lead-acid batteries (ULABs) – also known as waste lead-acid batteries (WLABs) – can be recovered and recycled. In LMICs, however, substantial numbers of WLABs are recycled in informal and/or substandard settings that contaminate the air, water and soil in the surrounding communities.

A 2020 UNICEF/Pure Earth joint report, [The Toxic Truth](#), notes that an estimated one in three children globally have blood lead levels (BLLs) exceeding the World Health Organization (WHO) reference value of 5 µg/dL.

The economic burden of decreased productivity owing to these exposures has recently been quantified as equivalent in size to 1.6 per cent of global gross domestic product, or US\$1.38 trillion (Larsen and Sánchez-Triana, 2023).



1.2 Toolkit background

The purpose of this tool is to provide guidance to national governments developing strategies to ensure a lead-free future for every child. The tool proposes the use of a ‘whole of government’ approach – a deliberate effort to coordinate the work of multiple agencies – and a set of steps to developing country-specific strategies to end childhood lead poisoning by 2040.

This tool first describes considerations before developing a national strategy, then details the need to bring together diverse stakeholders, including a multi-government approach, and finally outlines key considerations in developing a national lead-free strategy.

This is Tool 4 of a total of 12 in the Toolkit to End Childhood Lead Poisoning that cover various topics related to lead poisoning. Together the tools form a complete primer on identifying, assessing and mitigating childhood lead exposure. The toolkit does not itself constitute adequate guidance for the development and implementation of such programmes. Rather, key considerations are outlined and a preliminary list of possible actions is presented. Further guidance should be sought from experienced organizations or experts, including local authorities, before designing or executing the work described.



II. Prerequisites to developing a national lead strategy

Before developing a national strategy, it is essential to take stock of existing knowledge, stakeholders, data and resources. This section outlines key considerations and foundational steps that should be addressed before moving into strategy design. These include assessing current efforts, learning

from regional and global experiences and identifying gaps in institutional capacity, evidence and regulatory frameworks. Laying this groundwork helps ensure that a future strategy is both context-specific and actionable – building on what already exists rather than starting from scratch.

2.1 Build on existing knowledge

Developing a national strategy to address childhood lead poisoning should begin with a review of existing knowledge, both within the country and globally. There is a growing body of evidence, guidance and country experience available.

The UNICEF publication *Five Actions to End Childhood Lead Poisoning* offers a clear framework for action, outlining practical steps governments can take to identify lead sources, strengthen surveillance, improve regulatory systems and increase public awareness. These actions can serve as a foundation for strategy development and be tailored to national or subnational priorities.

Peer learning is also essential. Many countries have already taken steps to assess lead exposure, adopt regulatory reforms and implement targeted

interventions. Learning from their successes and challenges can help accelerate action and avoid common pitfalls.

The Partnership for a Lead-Free Future (PLF) provides access to technical resources – including webinars, guidance and this toolkit – and is also a valuable platform for connecting with other governments and regional peers. Through the PLF, countries can share experiences, highlight progress and engage with a global community committed to ending childhood lead poisoning.

Building on existing work ensures that strategies are informed, efficient and grounded in proven approaches, while helping to align efforts with international best practices.

2.2 Evidence to inform strategy development

A strong national strategy to address childhood lead poisoning begins with a clear understanding of the local context. Foundational assessments and data collection are critical steps that help identify the scale of the problem, pinpoint major sources of exposure and map the systems that can drive change.

Several tools and frameworks – such as those included in this toolkit and developed by UNICEF and other partners – can guide this process. While every country's situation is unique, drawing on these approaches can avoid duplication and accelerate progress.

2.2.1 Foundational lead assessment

The foundational assessment tool (Tool 1) from UNICEF offers a structured way to gather and synthesize existing information on lead exposure and its impacts. It includes a review of health, economic and environmental data, an analysis of known or suspected sources of lead and a mapping of government institutions involved in response efforts. The tool also supports a regulatory gap analysis to assess the strength of existing policies and identify areas for improvement or better enforcement. Understanding institutional capacity and political drivers can help identify where leadership and coordination are needed.

2.2.2 Availability of data on the levels and sources of lead poisoning

Identifying who is affected by lead exposure – and where – requires a combination of biological and environmental data. Tool 2 outlines methods for collecting BLL data through national surveys or targeted studies, ensuring quality and cost-effectiveness. Tool 3 provides guidance for

environmental risk assessments in resource-limited settings to identify the sources contributing most to exposure. Together, these data support evidence-based decision making and help prioritize interventions based on population risk and geographic focus.

2.2.3 Value chain mapping

Lead exposure often occurs across complex and fragmented supply and waste chains. Value chain mapping provides a structured way to trace lead through its entire life cycle – from import or production to use, disposal and recycling – helping to identify points of risk at each stage. This process can reveal hidden exposure sources, expose economic drivers and clarify the roles of different actors, including industries, regulators and informal sectors. It also supports alignment across ministries and agencies by highlighting where coordination is needed. Importantly, this analysis can serve as a foundation for engaging key stakeholders and building a whole-of-government and multi-stakeholder response, which are critical to effective and sustained action.



III. A whole-of-government approach is essential for a lead-free future

3.1 Why use a whole-of-government approach?

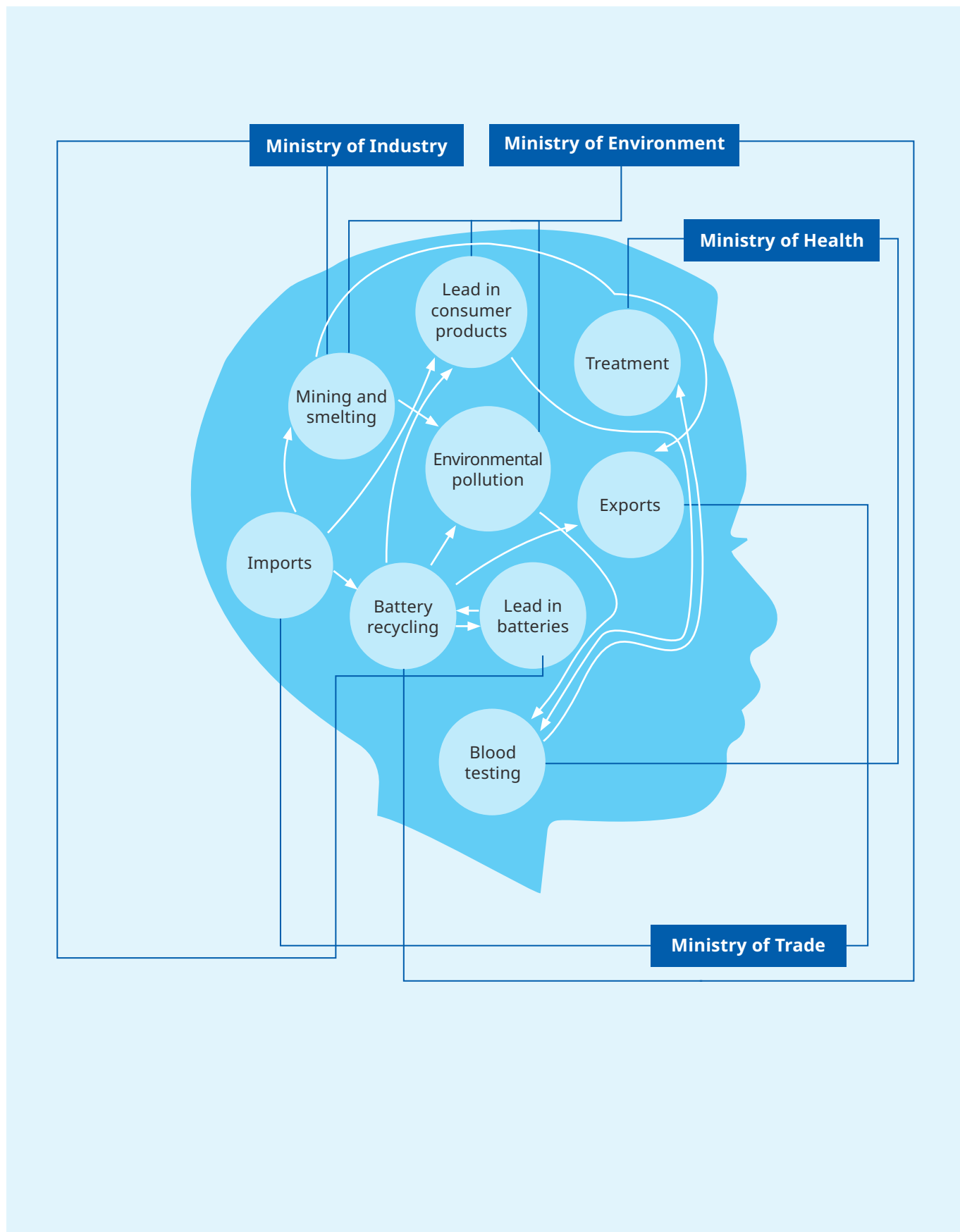
Lead exposure cannot be adequately addressed by any one agency acting alone, because the mandates for action and solutions often lie under the purview of multiple agencies, spanning from ministries of industry and trade to environment, health and others. For example, lead can be domestically mined and recycled or imported from other countries. Children then become exposed to lead through myriad disparate sources. These include traditional ceramic cookware, cosmetics, lead paint and industrial sources, among others. Once exposure occurs, its severity can be assessed through

biological testing, with severe cases requiring medical intervention.

When exposure sources are identified, agencies with jurisdiction in those areas can take steps to develop or enforce regulation to address them. In this way, multiple agencies working across jurisdictions have some level of responsibility to address different aspects of lead poisoning. No single agency, however, has the mandate or authority to address lead across its entire life cycle. Thus, a whole-of-government approach offers a practical mechanism to address the issue.



Figure 1: Closed loop diagram of lead value chain and examples of key regulators



3.2 What is a whole-of-government approach?

A whole-of-government approach can be defined as the deliberate cooperation of distinct ministries, departments or agencies (henceforth referred to as 'government agencies') on an issue or set of issues. The topics addressed by a whole-of-government approach often straddle the boundaries of these agencies' responsibilities, not necessarily being fully within the mandate of any one government agency.

This approach ensures coordinated actions between multiple actors and in this way is intended to draw from the relevant expertise in each agency and thus result in more holistic responses. It can include interdepartmental (between departments), intra-departmental (within departments), inter-agency (between agencies) and/or intersectoral coordination (between public and private sectors). Examples include new cabinet committees, interministerial units, multisectoral task forces, technical committees and other similar initiatives (Christensen and Lægheid, 2007). For the purpose of this tool, the term 'task force' is used throughout.

3.3 Benefits of a whole-of-government approach

At its core, this approach is intended to improve coordination between traditionally siloed workflows. The issues on which a whole-of-government approach focuses often fall at least partially within the mandate of multiple agencies. As a result, these issues may be addressed in a piecemeal and/or redundant fashion. By coordinating work, this approach can be both more effective and more cost-efficient than existing mechanisms. A separate but related benefit has to do with the sharing of information between agencies. Owing to overlapping jurisdictions, agencies often hold information that is relevant to the missions of other groups. The process of a whole-of-government approach enables agencies to share information, resources and facilities. In this way, it can help individual agencies operate more effectively on their existing mandates.

3.4 Challenges in developing a whole-of-government approach

Multiple barriers exist to the implementation of a whole-of-government approach. Perhaps the most significant relates to jump-starting efforts to establish systems. Siloed workflows exist in part because of a focus on vertical coordination and performance. By contrast, horizontal coordination is inherently less hierarchical and more bureaucratic, requiring additional initial effort to organize and manage. A second challenge relates to accountability. Each government agency has its own standards, practices and budget. There is therefore an inherent challenge in balancing hierarchical accountability with horizontal and downward accountability. Additionally, interpersonal relationships based on a mutual sense of trust are central to effective deployment of a whole-of-government approach. Each organization brings with it its own culture and shared ethos. Concerted effort is required to establish a similar – or new – ethos to be shared by all members of the task force (Christensen and Lægheid, 2007; Hunt, 2005).



IV. Establishing a multi-stakeholder task force

In addition to a whole-of-government approach, the government must engage the private sector and civil society to end childhood lead poisoning because it is a complex, multifaceted issue with widespread societal consequences. Governments hold the regulatory authority to enforce policies that eliminate lead exposure sources, such as consumer products and industrial emissions. Further, governments can carry out surveillance and treatment of lead exposure. The private sector, including industries working with lead, has the

resources and innovation to transition to safer alternatives. Finally, civil society organizations bring grassroots expertise and advocacy, ensuring that the most vulnerable communities are identified and supported. Working in isolation, no single entity can effectively address the problem, but through a multi-stakeholder task force they can pool expertise, enforce accountability and secure sustainable funding. This unified approach ensures a healthier future for children, protects public health and reduces the long-term economic burden on society.

4.1 Stakeholder mapping and engagement

Stakeholder mapping is the exercise of identifying and analysing individual actors or organizations and their relevant differences in experience, influence and power in the context of the task force. UNICEF and WHO, among others, provide detailed guidance on stakeholder mapping and engagement (WHO and UNICEF, 2020). This process builds on the foundational assessment – outlined in [Tool 1](#) and referenced in section 2.2 of this document – as well as value chain mapping to identify the various actors and processes involved in the production of a given product. Other considerations include the resources each stakeholder brings and their responsibilities within the task force. As noted above, stakeholders can come from a range of sectors including government agencies, health clinics, the community, non-governmental organizations (NGOs) and donors. Stakeholder mapping in the context of a whole-

of-government approach includes an emphasis on organizational jurisdiction and responsibilities as part of a lead task force. Overlaps that exist between agencies should be identified and highlighted. The objective of this exercise is to effectively map out how the task force will be implemented, including roles, capacity, accountability, funding and need. A preliminary mapping should be carried out then supplemented by in-depth consultations with individual organizations alongside an institutional capacity assessment. Stakeholders can be meaningfully organized into public sector, private sector and civil society groupings. A task force – typically government-led – can serve as the coordinating body that brings these groups together, ensuring all perspectives are represented while maintaining public sector leadership.

4.1.1 Public sector

Public sector organizations (i.e., government agencies) are the primary implementers of a whole-of-government approach and members of the task force. Within the context of work on lead exposure, key stakeholders will include ministries of environment, health, industry, housing and trade. Other potential partners include ministries of education, consumer protection, food, finance, agriculture, forestry, fisheries, and workers', women's and human rights ministries where they exist. The public sector develops and implements regulatory frameworks and ancillary activities that support compliance with those frameworks. Furthermore, the public sector covers the majority of health-care services.

4.1.2 Private sector

The private sector will be directly affected by any action taken on lead and should be engaged early as a partner. Private sector stakeholders include entities working with lead (e.g., refineries, paint manufacturers, mechanics, ceramicists) as well as those that could support the overall effort (e.g., laboratories, environmental engineers). The private sector can help inform the development and implementation of effective regulatory frameworks

or voluntary standards. Moreover, they often have more capacity than others to support innovation and the transition to safer alternatives or processes.

4.1.3 Civil society

Civil society organizations include NGOs, religious groups, workers' associations, academics and affected communities. Possible roles include conducting community education and awareness activities and providing independent scientific rigor and accountability.



4.2 Establishing a task force

The establishment of a cross-sectoral task force is the central component of a whole-of-government, multi-stakeholder approach. The overall approach of the task force should be laid out in a national lead-free strategy, presenting a cohesive vision, shared objective and interim targets.

Task force members should be accountable for the production of time-bound deliverables that fall within their capacity and mandate. These deliverables should be both near and medium term with clear linkages to longer-term objectives. Activities should be realistic

and within the operational constraints of task force members, thus allowing for early successes.

As part of the task force, a focal point or unit should be tasked with leading the implementation of the national strategy. This person or group will be tasked with ensuring accountability to the strategy, ensuring lead programming and priorities are included in relevant ongoing conversations, and elevating progress and issues to appropriate task leads.

Further detail on key sections of the strategy is detailed in Section 5.4 of this tool.

4.3 Information management systems

Increased sharing of data can help facilitate interministerial coordination. Each organization regularly collects, stores and uses information that may be relevant to the task force. For example, ministries of trade maintain data on the quantities of lead entering or leaving the country. These data may include an indication of where and how that lead will be used. Ministries of environment may collect and store data on releases to air, water and soil, while ministries of health often maintain clinical data, all of

which could be used to identify lead poisoning cases or estimate population BLLs. These data will likely be stored in different formats, organized in different structures and use the same words – or syntax – to mean different things. Moreover, each agency will maintain its own levels of data privacy and security. Task force leadership can facilitate the useful and secure exchange of data between agencies (Health Resources and Services Administration, 2021; Cheng et al., 2024).

4.4 Communication

The majority of communication within and between organizations is conducted in an ad hoc or informal manner, taking place through email, phone or similar means. In the context of a task force, this type of communication can result in reliance on personalities in establishing and maintaining contact. This can be improved upon through regular meetings and clear roles, such as creating subgroups or identifying an agency as the main coordinator of the group. It is

also suggested to include lead as an agenda item in relevant standing meetings or engagements to ensure continuity of progress and conversation. A task force may also choose to adopt standardized and centralized reporting systems. Finally, members can introduce new staff and refer to the task force in orientation documents when new staff are brought on board.



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V. Developing a national lead-free strategy

With prerequisites complete – such as assembling a multisectoral taskforce, conducting a foundational lead assessment, gathering data on exposure sources and engaging key stakeholders – the conditions are in place to begin drafting a national lead-free strategy.

A well-designed planning process now becomes critical to translate assessment findings into a clear road map for action and ensure that implementation is grounded in local realities. Cross-sectoral engagement remains central at this stage, helping to:

- ensure government ownership and coordination across ministries, agencies and local authorities;

- reflect insights from civil society, the private sector and affected communities;
- align technical solutions with political, economic and operational realities; and
- maintain a strong foundation in data and evidence.

With this shared understanding and stakeholder alignment, countries can move from assessment to action – designing strategies that are feasible, inclusive and positioned for long-term success.

5.1 Authors of the lead-free strategy

The development of a national strategy for a lead-free future should be led by the multisectoral task force. This group – typically composed of representatives from government ministries, the private sector, civil society, academic institutions and technical experts – is best positioned to ensure the strategy reflects a broad base of expertise, priorities and ownership.

Responsibility for drafting the strategy should rest with the task force as a whole, though specific sections may be delegated to individual members

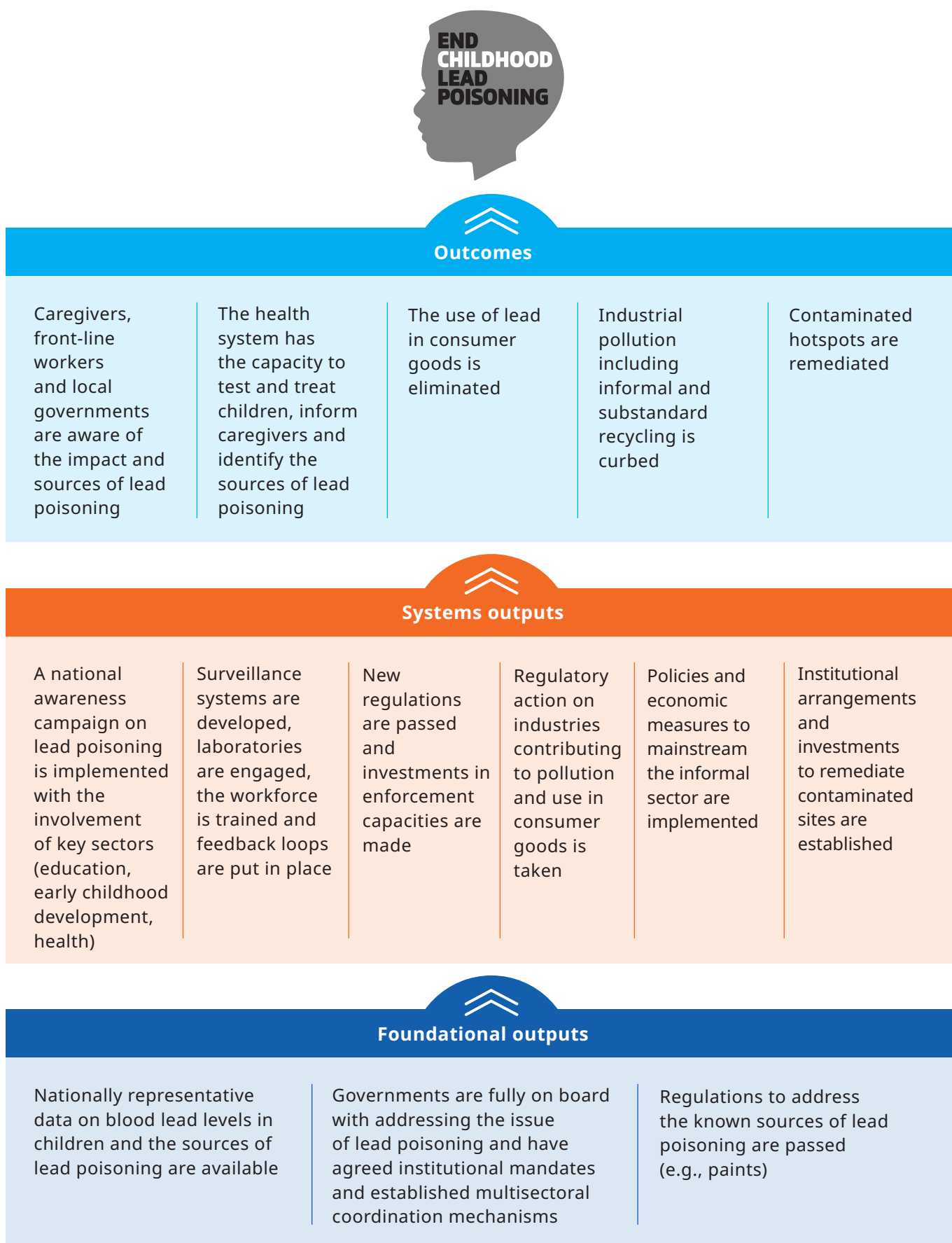
or subgroups based on their areas of focus or institutional mandate. For example, health officials may draft sections related to surveillance and case management, while environmental regulators may contribute to sections on compliance and enforcement. This collaborative process reinforces accountability and ensures that all relevant sectors are both represented in the content and invested in the strategy's success. Engaging a local consultant or institution can be helpful to support the planning process and drafting of the strategy.

5.2 Conceptual model for ending childhood lead poisoning

A national lead-free strategy should follow a clear conceptual model that responds to the baseline context from the foundational assessment. An

example of such a model is the theory of change (ToC) in Figure 2, which was the conceptual basis for the PLF.

Figure 2: Example of a generic theory of change to guide country-led strategy development



In the model presented in Figure 2, the ‘foundational outputs’ – such as BLL surveys and environmental assessments – contribute to the production of ‘systems outputs’. In the case of a national lead-free strategy, these foundational outputs could be the foundational lead assessment described above and in [Tool 1](#).

Systems outputs in this ToC refer to operations, procedures or structures that have been produced. In the context of a national lead-free strategy, these systems outputs are country specific and respond to the information collected in the foundational outputs. Systems outputs can include new lead awareness campaigns, capacity development of laboratories or the development and adoption of new regulations.

5.3 Operational considerations

5.3.1 Resource considerations

By developing a national strategy and action plans, governments can better identify and itemize discrete tasks and deliverables. This allows for clearer identification of required activities and associated costs, making it easier to align and maximize existing resources, coordinate efforts across sectors and pinpoint where additional support or investment is needed. While a well-planned strategy can lead to greater efficiency and better use of current resources, these gains alone are unlikely to fully close the gap – additional support will almost certainly be required to achieve the strategy’s goals.

By coordinating efforts towards common goals, government agencies can use resources more efficiently. In addition, task force members may opt to support the work of other partners through direct resource transfer or secondment of staff. Lastly, development assistance projects may be widened in scope to include non-traditional government or non-government recipients.

5.3.2 Establishing a time-bound goal and interim targets

Measures outlined in the strategy and action plans should be time-bound and practical. Childhood lead poisoning is a recalcitrant public health issue that persists in countries with even the strictest regulatory regimes. The strategy should establish an overall objective for the task force with an ambitious but

The ‘outcomes’ of the task force – such as the elimination of lead in consumer products – are produced by the systems outputs. They are, in effect, the long-term results from the implementation of the plan. Conceptual models such as ToCs can also include the identification of assumptions, drivers and interim states, among other considerations. ToCs should adequately capture the conceptual basis of the task force without being overly complicated.

A ToC with inputs from stakeholders should be a part of a national lead-free strategy. Organization-specific activities, outputs and outcomes are then developed in a manner consistent with the overarching conceptual model. This helps ensure that each organization is working as an integrated partner in the overall objective of the task force.

achievable time frame. For example, members of the PLF are working to end childhood lead poisoning by 2040. Task forces may choose to align themselves with this timeline to facilitate cooperation and coordination with other PLF partners.

In addition to a time-bound overall objective, it can be helpful for the strategy to lay out interim targets and action plans, for example in five-year increments. Agencies may elect to develop their own action plans with discrete and measurable deliverables that feed into the overall action plan.

5.3.3 Policy coherence

Deliberate effort should be made to coordinate policy coherence across organizations in the task force and, where appropriate, with international organizations. This can include coherence across regulatory standards and enforcement as well as jurisdictions. For example, organizations may seek to utilize immediately comparable standards within the context of clear mandates and responsibilities. This can help achieve coherence across a range of criteria – from units used in regulatory values and standards to penalties levied for comparable violations. In this way, the task force can minimize redundancy across organizations and lack of clarity in actors being regulated, resulting in improved compliance and costs reduction. Coordination can further occur across the spectrum of organizational activities including research and communication objectives.

5.3.4 Action plans to drive near- and medium-term progress

There is a useful distinction to be made between a 'strategy' and an 'action plan'. In short, a strategy outlines the overarching vision, goals and priorities of the task force. It focuses on the 'what' and 'why' – identifying objectives and desired outcomes over the long term. Action plans, by contrast, provide detailed step-by-step instructions for implementing the strategy or parts of the strategy. It is the 'how' and 'when' – specifying tasks, timelines, costs and responsibilities. Action plans are concrete, focus on the near or medium term and are designed for immediate execution and accountability. As such, the task force

will have multiple action plans of different durations, all linked to the overarching strategy and objectives.

Action plans can focus on a local or subnational level, or on a national level. The task force can create guidance based on existing tools for how to create action plans at the local level. This guidance can be stepwise and prescriptive, facilitating action by non-expert personnel. The United States Environmental Protection Agency provides such guidance to local communities in the form of a Local [Lead Action Plan](#), comprised of a series of checklists that provide clear guidance on acting on known sources of lead exposure. These checklists can be customized for use at the local, subnational or national level in other countries.



5.4 Contents of the strategy

The strategy should be clearly laid out in a concise document. There is no standard template for the development of such a document as it should be specific in nature, responding to the relevant country context.

An 11-point checklist for a national lead-free strategy



Employs a whole-of-government approach:

A dedicated task force has been established to oversee strategy development and implementation, ensuring alignment across government agencies and sectors.



Sets clear objectives and targets:

Specific, measurable, achievable, relevant and timebound (SMART) goals, focusing on short-term, medium-term and long-term outcomes have been defined and are communicated.



Strengthens regulatory measures:

The action plan includes urgent actions to strengthen laws and regulations to eliminate lead exposure from all known sources.



Develops enforcement capacity:

The action plan prioritizes the strengthening of enforcement capacities across government agencies.



Includes private sector accountability:

The plan includes activities to mandate the use of safer alternatives and technologies while encouraging industries to adopt responsible practices through incentives and enforcement mechanisms.



Includes public awareness and education:

The plan includes the implementation of national campaigns to educate communities about lead poisoning risks, prevention measures and the importance of regular testing.



Develops health sector capacity:

The plan includes measures to strengthen health systems to prevent and manage lead poisoning, including health worker capacity, laboratory capacity, surveillance systems, essential supplies and procedures, and follow-up capacity.



Develops environmental sector capacity:

The plan provides for environmental protection capacity to identify and address the sources of lead poisoning.



Is funded: Implementing agencies have budgets allocated to ensure the implementation of the plan.



Includes actions to address evidence gaps:

The plan includes actions to fill in evidence gaps. This may include identifying the primary sources of lead exposure, vulnerable populations or the extent of the problem through evidence-based studies and data collection.



Establishes a review mechanism for the plan:

The plan has a robust monitoring and evaluation framework to track progress, measure impacts, learn and adapt interventions based on findings and emerging challenges.

5.4.1 Principles

The document may contain a preamble highlighting certain principles of the task force. This can include considerations such as the importance of intersectoral collaboration and community engagement. It can also describe the additional effort that may be required of task force members, including resource implications, improved communications and sharing of data.

5.4.2 Long-term and interim targets

At a minimum, the strategy should state its overall objective and the interim targets required to meet that objective. A shared vision held by all task force members helps ensure a cohesive and coherent approach across organizations. The objective should be aspirational in nature, while interim targets should be time-bound and practical.

5.4.3 Blood lead level monitoring

Any national strategy should include regular BLL monitoring of the population. BLLs are essential for understanding the baseline context for the strategy as well as documenting improvement made against targets. BLLs measure the current exposure of a population and change over time as exposure increases or decreases. Regular monitoring then provides immediate feedback on the effectiveness of interventions. Tool 2 on BLL measurements provides important contextual information on how to carry out these surveys.

5.4.4 Environmental sources

In addition to understanding the level of exposure (i.e., the dose) of a given population, it is necessary to determine key sources of that exposure. These are known to differ between regions, countries and populations. Thus, a nationally specific investigation is required. Guidance for environmental assessment is provided in [Tool 3](#) of this toolkit. The strategy should acknowledge the importance of environmental assessment and indicate responsible parties.

5.4.5 Risk communication

Relatively little is known about the extent and severity of lead poisoning in most countries. As new information becomes available it should be shared with the public in a deliberate and coordinated fashion. Assistance should be provided to the public to understand the risk of lead exposure and their capacity to mitigate it.

A risk communication strategy is essential in public health initiatives, including efforts to address

childhood lead poisoning. It provides a road map to deliver key messages to target audiences, ensuring information is understood, retained and acted upon. Sensitive communication is particularly important when sharing difficult news – such as a child’s elevated BLLs – and should be delivered with care, compassion and practical solutions tailored to low-resource settings in LMICs. A well-articulated risk communication plan not only helps people understand the risks they face but also builds trust and engagement in the collective effort to eliminate lead exposure. More information is provided in [Tool 5](#) of this toolkit.

5.4.6 Importance of regulation and enforcement

The strategy should acknowledge the role of regulatory frameworks in the mitigation of lead poisoning. It is likely that new laws, regulations and standards will need to be adopted and implemented as part of any strategy. Improvements to the enforcement of existing laws, regulations and standards may also be identified as a key element of the strategy.



VI. Case studies

Case study

6.1 US Presidential Task Force on Environmental Health Risks and Safety Risks to Children

The United States Government addresses childhood lead exposures through inter-agency coordination under the [President's Task Force on Environmental Health Risks and Safety Risks to Children Lead Exposures Subcommittee](#). The Lead Exposures Subcommittee coordinates the Task Force's inter-agency efforts to better understand and prevent childhood exposure to lead and the diseases and disabilities associated with lead exposures. The Subcommittee has established working groups on data mapping, international lead exposure and occupational take-home exposures, and supports the commitments of the [2018 Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts](#).

The Action Plan is aimed at reducing lead exposure through collaboration across the federal government and with a range of stakeholders, including states, Tribes and local communities, along with businesses (both for-profit and non-profit), property owners, political decision makers, voluntary organizations and the public. The Action Plan helps the federal government work strategically and collaboratively to reduce exposure to lead and improve children's health across national and local scales. For example, the [EPA Strategy to Reduce Lead Exposures and Disparities in US Communities](#) builds on the goals and objectives set forth in the Action Plan and emphasizes efforts to protect children's health while also addressing the racial and socio-economic disparities of lead exposures in US communities. A video summarizing this work is available [here](#).



[What is the US Presidential Task Force and how does it work?](#)
Healthy Tomorrows



[A lead case study from the US Presidential Task Force](#)
Healthy Tomorrows



Case study

6.2 The Government of Georgia's efforts to reduce childhood lead levels

Following multiple anecdotal reports of elevated BLLs, the Government of Georgia and UNICEF decided to include BLL testing in the 2018 Multiple Indicator Cluster Survey (MICS). In total, 1,578 randomly selected children (aged 2–7 years) were tested. The results revealed that more than 40 per cent of children had BLLs exceeding 5 µg/dL. In response, the Government of Georgia formed a multisectoral state health programme, comprised of the Ministries of Health, Environment, Economy and others.

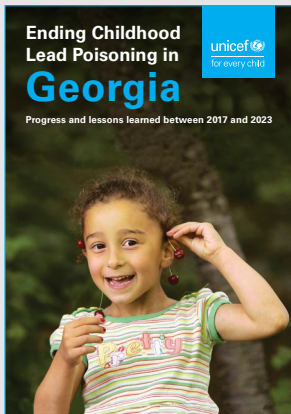
The programme helped train clinicians in the early detection and management of lead poisoning and built national capacity to identify and control sources of lead. As a result of this work, children's BLLs rapidly declined, with a median decrease of 2.8 µg/dL observed between the 2018 MICS and follow-up testing in December 2019. A more [recent study](#) of pregnant women in the province of Adjara found that BLLs decreased from a mean of 8.8 µg/dL in 2020 to 3.6 µg/dL in 2023. Over the next five years the multisectoral state health programme will continue to expand surveillance and early detection and build capacity to control sources of exposure. A document summarizing this work is available for download [here](#).



[Ending Childhood Lead Poisoning in Georgia: Progress and lessons learned between 2017 and 2023](#)



[Healthy Tomorrows: Using multiple lines of evidence to identify priority lead \(Pb\) sources](#)





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Nino Dzotsenidze, the Environmental Health Officer at UNICEF Georgia, with five-year-old Nutsa in Batumi, Georgia. Nutsa was one of more than 1,000 children in Adjara who were randomly selected to participate in the lead surveillance system supported by UNICEF.

Annex

Principles for developing a country strategy

In 2023 UNICEF published *Five Actions to End Childhood Lead Poisoning*. The brief guidance document outlines indicative groups of actions for government, the private sector and civil society to take on the issue. These actions – outlined below – can provide the overarching framework for a national lead-free strategy.

1. Assess childhood lead exposure and its sources

A national lead-free strategy should include a discussion on the importance of understanding the severity, extent and sources of childhood lead poisoning in the country. Collecting these data can be helpful to provide a baseline to inform the task force's efforts. Moreover, the process of collecting these data – through ministries of health and environment, local clinics and others – helps develop the interest and capacities within the country to sustain a longer programmatic commitment to ending childhood lead poisoning.

2. Act decisively across sectors

As noted above, lead poisoning is a cross-cutting issue falling within multiple jurisdictions and mandates but not fully addressed within the scope of any one organization. Work on childhood lead poisoning requires the involvement of multiple actors and ministries from trade to environment, from health to the private sector. For this reason, a whole-of-government approach, which is intended to address issues on the boundaries of existing mandates in a coordinated fashion, is essential to begin to adequately address the issue.

Stakeholders should have a thorough grasp of the benefits and challenges of a whole-of-government approach and the level of commitment required.

Ideally, a balanced approach that draws on the relative strengths and resources of multiple organizations is implemented in a transparent and coordinated manner.

In the context of the task force, organizational objectives of the member ministries and agencies should consider the overarching objective of the task force. A review of each organization's capacity, resources and motivation can be conducted via the institutional capacity assessment which is part of the foundational lead assessment. This review allows for the identification of the role of each organization in the context of the task force. Where appropriate, members of the task force can help each other to develop capacity through training, procurement of equipment, secondment of staff, direct resource transfer or other means.

3. Develop capacities to protect children

The strategy should address the central role of health systems. Countries' health systems should have the capacity to diagnose and respond to childhood lead poisoning. Most cases will present asymptotically, meaning that the only effective method of diagnosis is through blood testing. Tool 2 describes considerations for the development of screening programmes including the different methods available for collecting and analysing BLLs. Once an elevated BLL has been identified, health systems should have the capacity to respond in line with the *WHO Guideline for Clinical Management of Exposure to Lead* (WHO, 2021). Depending on the individual patient, the response could include vitamin supplementation or, in extreme cases, chelation. In addition, children may develop adverse intellectual and behavioural outcomes not noticeable until school age. These children will require support to mitigate these impacts.

4. Toughen measures to reduce lead in the environment

A central component of the foundational lead assessment is the evaluation of the country's regulatory framework. This includes an assessment of existing laws and regulations as well as the identification of any areas where the framework may be inadequate. Tool 8 of this toolkit provides examples of how different countries have opted to address lead poisoning. The strategy should lay out an overarching plan to develop a holistic regulatory framework that is both practical and comprehensive.

5. Eliminate the sources of lead poisoning

The complete implementation of existing regulatory frameworks remains a challenge for many governments. Multiple countries with statutory lead-based paint bans have been found to openly produce or sell banned paint on the market (Sargsyan et al., 2024). Likewise, nearly all countries have in place some sort of industrial emissions regulatory regime, covering releases to air, water and soil. Nevertheless, lead emissions from substandard and informal facilities continue to pose a global risk to human health. A national lead-free strategy should include the necessary measures to ensure compliance with an overarching and comprehensive regulatory framework.

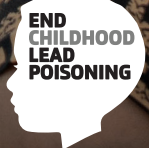


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