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Tool 5 Lead-Free Future Toolkit

Clear communication to prevent and address childhood lead poisoning

March 2025

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Acknowledgements

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Contents

Acronyms and abbreviations

ATSDR	Agency for Toxic Substances and Disease Registry
BLL	blood lead level
LMICs	low- and middle-income countries
LABs	lead-acid batteries
MICS	Multiple Indicator Cluster Survey
NGO	non-governmental organization
SBCC	social and behaviour change communication
UK GCS	United Kingdom Government Communication Service
ULABs	used lead-acid batteries
UNICEF	United Nations Children's Fund
US EPA	United States Environmental Protection Agency
WHO	World Health Organization

I. Introduction

This tool is intended to be used as part of the Lead-Free Future Toolkit, under development by a working group led by UNICEF. The purpose of the Toolkit is to help accelerate action to end childhood lead exposure. Target audiences include staff members of ministries of health and environment, international organizations and non-governmental organizations (NGOs) with moderate to no experience in childhood lead poisoning and its sources.

1.1 Purpose of this tool

This tool supports communication professionals working on lead exposure issues in LMICs. It provides an overview of different communication and advocacy strategies that can be utilized according to target audiences: policymakers, service providers, caregivers and the private sector. It includes examples of best practices and applications of communication theory in different real-world case studies from work conducted in Georgia, Bangladesh, Indonesia, Ghana and the United States.

These case studies underscore the critical role of data-driven communications, from refining messages through rigorous testing to employing BLL data to capture public attention and emphasize the urgency of action. Effective strategies often involve multi-year, multifaceted approaches with phased implementation to achieve results. While communicating about childhood lead poisoning is complex, it is a solvable issue. Communication professionals can develop strategies that yield significant, positive outcomes for children.

1.2 Lead background

Lead is a naturally occurring bluish-grey metal found in small amounts in the earth's crust that has multiple commercial and industrial applications. Exposure to lead can, however, be toxic to humans and animals. There is no safe level of exposure to lead; even small amounts of lead over time can have lifelong effects on children, inflicting irreversible damage to their developing bodies and brains. Prevention is the only effective way to stop the damage caused by lead poisoning.

Nearly a third of the world's children – up to 800 million in total – are affected by lead poisoning (UNICEF and Pure Earth, 2020). It is a public health hazard in every region of the world, contributing to disease burden, disability and death. Most of the children with the highest blood lead levels (BLLs) live in Asia and Africa, but many are also affected in Central and South America and Eastern Europe, as well as in pockets within high-income countries (UNICEF and Pure Earth, 2020). Children under the age of 6 years are especially vulnerable because their growing bodies absorb more lead than adults (UNICEF and Pure Earth, 2020). In a recent study published by the World Bank, it was estimated that children under 5 lost 765 million IQ points due to exposure to lead, with 95.3 per cent of that loss occurring in low- and middle-income countries (LMICs) (Larsen and Sánchez-Triana, 2023).

The many health impacts caused by lead are often not visible or easily identifiable. For example, lead can compromise neurological, cardiovascular and reproductive systems in various ways, including increased risk of high blood pressure and kidney damage later in life. In fact, lead exposure has been

estimated to account for 5.5 million deaths due to cardiovascular disease, mostly in LMICs (Larsen and Sánchez-Triana, 2023). 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. After birth, maternal lead can be transferred to the infant through breast milk (ATSDR, 2020).

Lead can be found in the air, soil and water, as well as in consumer and industrial products. Significant levels of lead poisoning in many LMICs result from the irregular use of lead in consumer products such as spices, paints and dyes, cookware and ceramics, cosmetics, toys, leaded glass, jewellery, ammunition and fishing weights. Other potential important sources of lead include water contaminated by lead pipes and fittings, residual pollution from the previous use of leaded petrol, light aviation fuel, e-waste recycling, and some traditional medicines, ceremonial powders and folkloric traditions. For some traditional medicines, lead may be added due to the belief that it is beneficial to health. To increase profits, lead may also be added to spices and ceremonial powders to make them heavier if they are sold by weight, or for marketing to increase their physical appearance (e.g., to make ceremonial powders bright red or spices yellow).

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

The World Bank's 2023 assessment revealed that the global cost of lead exposure was US$6.0 trillion in 2019, making it an environmental risk factor on par with PM2.5 ambient and household air pollution combined, and a greater detriment than unsafe household drinking water, sanitation and handwashing (Larsen and Sánchez-Triana, 2023).

II. The need for communication on childhood lead exposure

Childhood lead exposure remains a critical yet often overlooked public health threat in LMICs, overshadowed by more visible crises such as infectious diseases and malnutrition. Despite its subtle nature, lead exposure can have devastating, lifelong impacts on children's cognitive development and overall health. Therefore, communication about this issue is very important. Some barriers to effective messaging include health outcomes that are often not immediately visible, competing health priorities, limited public awareness and deeply held cultural practices.

For example, health outcomes from lead exposure can include lower IQ, aggressive behaviour and attention deficits, consequences that are often not easily identifiable or obviously connected. These and other impacts, such as cardiovascular disease, can also be delayed, making the link to lead exposure that much more difficult to discern. If the health impacts of lead exposure are not immediately apparent, communities – especially those already grappling with various health and economic challenges – may perceive the risks as minimal or non-existent, making effective communication critical.

Because people cannot see lead in their environment (e.g., in soil, water or air, or in the products they use such as spices, ceramics and religious or cultural powders), it is important to find an effective way to highlight the dangers of lead, especially in products individuals regularly use (e.g., cookware and cosmetics). In some contexts, such as South Asia, many individuals grow up using these products and have a deep cultural and spiritual connection with their use. For example, products like sindoor and kumkum, to which lead is sometimes added to brighten colours, are commonly used in Hindu practices. Community members have used many of these products since childhood and see them as an essential part of their culture. In addition, their widespread use in the community further contributes to the impression that they are harmless. Thus, it may be difficult for public health practitioners to convince community members of the risks of lead exposure from these products. These factors all point to the need for effective communication about lead exposure's harmful effects on children.

In addition to connecting with the community, communicating with other stakeholders, such as the private sector, will involve its own set of considerations. This usually involves balancing economic and social priorities. For instance, businesses typically focus on the economic bottom line when considering replacing lead in their products with alternatives that are more expensive or harder to source. For some products, there are currently only limited or no alternatives. For products like these, such as LABs, the key lies in safe management throughout their life cycle, as nearly all components can be recycled to create new LABs.

Moreover, due to the variety of different sources of lead exposure – ranging from ceremonial powders and cosmetics to cookware and other consumer products – messages need to be tailored to specific products between and within countries. Further, the same or similar products such as cosmetics can have different names between countries, creating further challenges and underscoring the need for culturally sensitive communication. For example, while certain eye cosmetics may be called surma and kajal interchangeably, the name used can vary by region and lead content can vary by product type (Hore and Sedlar, 2024). Communicators must be aware of these unique variations and use culturally appropriate terms for these types of products because such distinctions can be important for effective engagement.

Overall, simplifying messages and making them relevant and actionable for communities increases the likelihood they will lead to lasting change by cutting through competing issues and overcoming the unique challenges associated with communicating about childhood lead exposure.

2.1 How to effectively communicate about lead

Linking potential health risks from lead exposure to real-life impacts that resonate with the target audience is crucial. Community members need to understand that the health effects of lead exposure may not appear immediately and can remain hidden until later in life. For instance, explaining that lead-related issues such as lower IQ and attention deficits (US EPA, 2024) can lead to struggles in school and difficulty securing jobs makes the message more relatable. Additionally, illustrating how early lead exposure might result in reproductive health problems or contribute to behavioural issues, including criminal activity (US EPA, 2024), can further emphasize the long-term consequences and make the information more impactful.

Communications are more effective when they are not only based on the scientific information about health effects but also include realistic actions that can be taken. This will help ensure the message breaks through other competing priorities and leads to lasting change. Often, other more pressing concerns may be structural in nature whereas certain aspects of lead exposure reduction are 'simpler' and do not require as many resources, such as handwashing, wet mopping to control dust/soil, or the use of personal protective equipment.

Communication professionals should emphasize small changes such as the above and point out when community members are already engaging in mitigation activities. This allows them to feel empowered; moreover, by realizing they are already engaging in one protective activity without too much effort and without dramatically impacting their daily lives, the target audience may be more likely to engage in others.

When speaking to policymakers and the private sector, a good approach is to use a data-driven strategy that shares (ideally local) data and evidence on how lead exposure directly affects the community's health.

In addition, when it comes to consumer products, it is important for messengers to provide the names of safer alternatives and information on how community members can access them. Similarly, for private sector engagement, it is important to provide information on alternative business practices or create a forum that fosters discussion about alternatives or local solutions. Lasting change is more likely when viable alternatives are accessible and/or similar in price and quality.

2.2 What channels to use to disseminate information

Multiple channels may be needed to reach a 'critical mass' of people for an awareness-raising campaign, including niche channels when hyper-targeting your audience. Even when targeting within the government, for example, many ministries will have multiple channels that could be used to communicate to staff, from e-newsletters to internal web portals and staff meetings. In addition, communication channels successful in one country may not be successful or applicable in another country, and communication channels successful in one community within a country may not be successful or applicable in another community within the same country. Determining the best channels for disseminating messages on childhood lead exposure can be more challenging than it initially seems. Communicators can start by first considering which channels their target audiences are most likely to use, the desired outcomes and the available resources. Channels may include, but are not limited to, social media; mass and traditional media such as radio, television and newspapers; outdoor advertising; and community-focused spaces, such as places of worship, schools, workplaces, health fairs and community meetings or cultural events. Another channel may involve schoolteachers and health workers leveraging their relationship with students, patients and parents to disseminate messages on lead exposure reduction. Using multiple channels to disseminate the same message increases the chance for the message to 'stick' with target audiences. Providing training and communication resources to those groups responsible for disseminating information is critical to ensure accurate and actionable information is shared.

2.3 Who are the trusted partners?

When well-known sources communicate a message that is culturally, economically and socially relevant to the target audience, they are more likely to be trusted. In some communities, government agencies or NGOs may be less trusted than religious leaders, teachers, community health-care providers, community elders or local business owners. For maximum impact, trusted partners or influencers should not only disseminate the message themselves but also work with public health practitioners, policymakers, advocates and others to help develop and craft the messages and interventions.

In many communities, a trusted messenger is one who shares the same lived experiences as the target audience and therefore has more credibility when speaking about complex issues such as lead, especially if they are speaking about lead in culturally significant products. It's helpful if messengers have used these products themselves so they can speak to community members from a place of not only shared experience but also concern and empathy. The training-of-trainers model is often deployed to support trusted messengers who may need capacity building on a specific topic like childhood lead poisoning before they train other trusted messengers in the community to help spread the message at a grassroots level.

Example: In South Asian communities, messengers need to speak to the importance of products such as sindoor (used in marriage and religious ceremonies) and kajal (used for warding off 'evil eye' in infants and young children or for good luck) with cultural respect and legitimacy. Asking community members to simply stop using these products is unlikely to be successful. Trusted messengers who understand this will instead focus on educating and working with community members on safer alternatives.

Example: In Mexico, research shows that a significant source of lead poisoning comes from the glaze used in traditional artisanal pottery, a practice deeply rooted in Indigenous and family-run workshops. While lead in the glaze gives the pottery its characteristic colour and shine and prevents leaching, it poses serious health risks to both artisans and their customers. The solution lies in transitioning to lead-free glazes, which are comparable in cost and appearance, but their use requires training due to differences in technique and sourcing. Upgrading kilns and remediating surrounding areas are also necessary steps to ensure a safer environment, but can be costly. Recognizing these barriers to change in culturally appropriate communication in the community is important to change behaviour and reduce lead exposure in Mexico.

Table 1: Lead exposure communication challenges and approaches

Challenge	Description
Competing priorities	Residents of LMICs typically have more immediate concerns such as availability of appropriate shelter, enough food, clean drinking water and other basic infrastructure.
Asymptomatic/delayed	Lead poisoning in children is typically not immediately apparent, and/or has delayed impacts.
Not visible	People cannot see lead in their environment (e.g., in air, soil, water or consumer products).
Tradition	Many people grew up using cultural products or spices potentially containing lead without apparent health impacts and therefore believe they are harmless and concern is overblown.
Economic impacts	Lead may be used in industries common to LMICs, such as smelting or LAB manufacturing, and there may be a fear that regulation of lead sources may result in job loss.

Communication approaches

- Connect the potential adverse health effects to real-world consequences that are relevant to the lives of the target audience.
- Include realistic actions that can be taken, focusing on existing alternative products that are safe and still culturally appropriate.
- When speaking to policymakers and the private sector, use a data-driven strategy that shares (ideally local) data and evidence on how lead exposure directly affects the community's health.
- For private sector engagement, provide information on alternative business practices or create a forum that fosters discussion to find a solution that works locally to help reduce childhood lead poisoning.
- Develop engaging narratives that highlight real-life stories of children and families affected by lead poisoning.
- Use powerful visuals, such as photos and videos, to illustrate the consequences of lead exposure on individuals and communities.

III. Developing a communication strategy

A communication strategy is a critical component in any effort to address public health issues, such as childhood lead poisoning. It serves as a roadmap for conveying key messages to target audiences, ensuring the information is understood, retained and acted upon. This chapter outlines the basic elements of a good communication strategy.

3.1 Five basic elements of a communication strategy

A robust communication strategy consists of five main elements (UK GCS, 2024):

1. Objective
2. Audience
3. Strategy
4. Implementation
5. Monitoring and evaluation

1. Objective

Goals such as ending childhood lead poisoning are broad. Objectives, however, should be narrow in scope so that a detailed plan can be more effectively built around it. Clear, measurable objectives are the foundation of an effective communication strategy. Objectives should be 'SMART': specific, measurable, achievable, relevant and time-bound (Health Communication Capacity Collaborative, n.d.). For instance, an objective might be to increase awareness of lead poisoning risks among parents and other caregivers in a specific community by 30 per cent within six months, measured by the number of caregivers bringing their children into the local health facility and asking about lead exposure risks. Within a multi-year communication campaign, you may have multiple phases with different objectives for each.

2. Audience

Understanding the target audience is essential. This may even involve identifying different segments of the target audience, along with their respective needs, preferences and behaviours. One effective method for determining the target audience is to conduct a stakeholder analysis. The more precisely the audience is defined, the better.

For instance, is the goal to influence government policies? Can this be broken down even further? The ministry of health will have different priorities from the ministry of environment, and different messages and tactics may work better with one than the other. It is also important to consider who the audience listens to for advice (e.g., a trusted messenger as discussed in chapter II) and who is perceived as authoritative and credible, as well as where the audience obtains their information.

Resource

Section 2 in the UNICEF and World Health Organization (WHO) module *Integrating Stakeholder and Community Engagement in Quality of Care Initiatives for Maternal, Newborn and Child Health* has guidance on how to conduct stakeholder mapping and analysis.

3. Strategy

The strategy is essentially the plan that outlines how to influence the target audience to reach the objective, which may be, for example, behaviour change or increased awareness. Within the strategy, there are several elements to consider:

- **Key messages:** These are core messages that need to be communicated to the target audience. They should be clear, concise and tailored to resonate with each audience segment. Conducting focus groups to test different messages is an effective way to refine key messages and maximize their impact.
- **Budget:** Allocation of financial and human resources is required to implement the strategy. These can include resources for content creation, distribution and evaluation.
- **Risks and mitigation:** Identify potential risks and challenges that could impact the strategy, along with plans to mitigate them. For example, conducting a strengths, weaknesses, opportunities and threats (SWOT) analysis can be useful to identify risks so that mitigation tactics can be integrated into the communication strategy.

Resource

Download a toolkit from UNICEF on how to conduct a strengths, weaknesses, opportunities and threats (SWOT) analysis.

Core to the strategy is identifying your **tactics** and **channels**.

Tactics

How can you communicate your key messages effectively for your audience (e.g., storytelling, data visualization, interactive content, etc.)? Different communication tactics can be used based on the target audience, the channel and the desired outcome. For example, storytelling can be a powerful approach to elevate the human element of the issue and engage audiences' emotions. Storytelling could take the form of a documentary, children's book, blog or art. When communicating about childhood lead poisoning through storytelling and focusing on a child's story, provide the 5 C's: character, context, conflict, climax and closure.

Examples of tactics used for storytelling, data visualization and interactive content

- **Storytelling:** 'Young Mohin's Fight against a Silent but Fatal Adversary'
- **Data visualization:** *MICS – Blood lead level in children age 2–10*
- **Interactive content:** 3Ts for Reducing Lead in Drinking Water

Examples of communication tactics:

- **Media relations:** Press releases, media kits, press conferences/briefings, op-eds, exclusive interviews
- **Advertising:** Paid ads in newspapers, TV, radio, social media, websites, billboards and others
- **Social media:** Influencer collaborations, livestreaming on social media, videos on YouTube, videos and graphics for Facebook, Twitter, Instagram, WhatsApp, TikTok, Line, WeChat and other social platforms
- **Events:** Webinars and online workshops, conferences/seminars, volunteer opportunities in a community, film screenings, trade shows, art exhibitions or poetry slams
- **Content marketing:** Blogging, infographics, reports/case studies, policy briefs, email marketing, newsletters, brochures/flyers, podcasts, videos or photo essays
- **Direct communications:** SMS/texting, direct mailings to people's homes (or email marketing if digital), handing out materials at in-person activities, face-to-face conversations
- **Sensitive communications:** When addressing childhood lead poisoning, employing sensitive communication tactics can be crucial. Sensitive communications deal with difficult or negative information that may be received poorly by the target audience, such as informing a family that their child has high BLLs which may endanger the child's health. For example, in many LMICs, it's important to share this information carefully while still offering appropriate options that are available to the family and community. Sensitive communications are best delivered in-person. There are, however, written forms of sensitive communication, such as a letter from a doctor to a patient.

Here are some considerations for effectively delivering potentially distressing information:

- **Prepare in advance:** Plan your conversation carefully. Who should deliver the message to the family: a community health worker, teacher or someone else? Outline the major points you need to convey and anticipate possible reactions.
- **Set clear goals:** Define what you want to achieve with the discussion.
- **Choose the right setting:** Conduct the conversation in a private, comfortable environment to ensure confidentiality and reduce anxiety.
- **Use open-ended questions:** Encourage dialogue by asking questions that invite detailed responses. This helps you gauge understanding and address concerns.
- **Practise active listening:** Show empathy and understanding by actively listening to the person's concerns and reactions.
- **Deliver main points clearly:** Communicate the core messages succinctly and avoid overwhelming details.
- **Check for understanding:** Verify that the person has understood the information throughout the conversation. Ask clarifying questions if needed.
- **Acknowledge reactions:** Recognize and validate their emotional responses. This builds trust and demonstrates empathy.
- **Discuss next steps:** Provide clear steps to protect children from lead poisoning, including recommendations to lower BLLs. These may include preventive actions like increasing the child's calcium intake. Ensure your recommendations are culturally and contextually sensitive to the situation.

Resources

- EPA curriculum: *Lead Awareness in Indian Country: Keeping our children healthy!*
- UNICEF e-course: Communicating Effectively with Vulnerable Children and Young People

Tactics can be combined to form a strategy. For example:

- **Social and behaviour change communication (SBCC):** This is an evidence-based approach that uses communication to influence behaviours and social norms to improve health and well-being. It incorporates behavioural science and psychology to understand human behaviour and decision making. SBCC combines various communication tactics, including interpersonal communication, community engagement and mass media, to drive positive changes in knowledge, attitudes, practices and norms. This approach to communication will also consider gender bias, cultural context and other socio-economic factors.

Resources

UNICEF: Social and Behaviour Change Communication

Compendiums of SBC Best Practices

UNICEF e-course: Social and Behaviour Change (SBC) Theory and Practice

- **Intersection of advocacy and communication:** Advocacy is the deliberate process of actively supporting, promoting and arguing for a cause, policy or idea to bring about change. It involves strategic actions designed to influence decision makers, stakeholders and the public on issues like ending childhood lead poisoning. Advocacy can be carried out by individuals, groups, organizations or coalitions and typically uses various communication tactics to raise awareness, shape public opinion and drive policy change. These tactics may include writing policy or technical briefs, organizing events, or other efforts to directly and indirectly influence key audiences based on demonstrated evidence.

Resources

The *UNICEF Youth Advocacy Guide* can be a useful tool for planning youth engagement.

An example of youth engagement in action is the US EPA's National Environmental Youth Advisory Council.

- **Youth advocacy:** In addition, promoting the inclusion of children and adolescents in debates, decision making and mobilization processes can be very helpful, especially on issues that directly impact them. By engaging young people, the next generation is empowered with knowledge, making them active advocates who can make informed decisions and positively influence their communities. Their inclusion can help ensure greater legitimacy and representation in policies and actions, fostering a long-term commitment to sustainability. For example, in a campaign against childhood lead poisoning, youth advocacy can be particularly powerful, raising awareness and inspiring action for healthier, safer environments for the next generation.

Channels

Another important consideration is which channel(s) to use to disseminate key messages.

Depending on tactics, the best channel to use will vary widely. For example, content marketing tactics can be deployed on social media, websites, at events and more. An SMS marketing campaign, on the other hand, takes a mobile-first approach to reach the audience, while media relation tactics leverage news outlets to disseminate information. In a low-income context, in-person events at community centres, schools and other similar types of locations may work best because many community members may not have access to the internet. Some tactics may also require trusted voices to deliver the information to your target audience.

4. Implementation

After developing a communication strategy, creating a detailed activity plan that outlines the tactics, timeline and people responsible for execution is crucial to ensure the strategy is successfully deployed.

Sample activity plan

Target audience	Communication channel	Tactic	Date to initiate	Frequency	Task owner	Date completed	Notes

5. Monitoring and evaluation

Methods to assess the effectiveness of the communication efforts include setting benchmarks, tracking metrics and analysing feedback to determine if the objectives are being met, and making adjustments as needed. Establishing baseline data before communications and interventions occur will help to understand changes in knowledge and behaviour. For example, conducting a knowledge, attitude and practices survey before and after a campaign could be one way to measure change.[1] Measuring reach and engagement on social media platforms and through traditional media outlets is another example of evaluation. Depending on the timeline of the communication strategy, monitoring and evaluation could occur daily, weekly, monthly or at another cadence that aligns with the overall strategy. Most strategies should be periodically adjusted, especially if the timeline covers an extended period.

Resources

Developing an effective communication strategy to address childhood lead poisoning requires a thorough understanding of the target audience, clear and compelling key messages, and the strategic use of various communication channels.

These additional resources further explain the theory behind communicating effectively on important issues like childhood lead poisoning:

- US EPA: The SALT Framework: A process framework to guide risk communication
- WHO: *Effective Communications: Participant handbook for WHO staff*
- UNEP: *Communicating Sustainability: How to produce effective public campaigns*

1 For an example, see this survey which was conducted in Bangladesh: Sultana, Jesmin, et al., 'Knowledge, Attitude, and Practices Related to Lead Pollution among Adolescents and Caregivers of Young Children Living near Used Lead Acid Battery (ULAB) Recycling Sites in Bangladesh: A cross-sectional study', *BMC Public Health*, vol. 24, art. 2108, 5 August 2024.

IV. Childhood lead poisoning communications case studies

This chapter provides real-life examples of strategic communications for addressing childhood lead poisoning. These case studies of successful strategies offer key lessons and inspiration.

The chapter is divided into four sections, each focused on crafting a communication strategy for a different type of audience:

- Policymakers
- Service providers
- Caregivers
- Private sector

Resources

- UNICEF: 'Childhood Lead Exposure: Key messages'
- Children's Environmental Health Collaborative: *Five Actions to End Childhood Lead Poisoning*

4.1 Policymakers

Policymakers can include government officials at the national, regional and local level, as well as other implementers. This can include both elected officials and career staff, such as technical or programmatic experts within government agencies, as well as external advisers from fields like academia.

Data- and evidence-driven messaging that is based on economic, scientific or human health research can be an effective way to reach policymakers. Specific information could include health and economic impacts of lead exposure; sources of lead exposure; or various policy options including examples of implementation of lead reduction strategies in other countries. Given that policymakers can include officials and others at multiple levels of government or authority, data and messaging should be tailored to the target audience.

Resource

WHO's *Guidance on Organizing an Advocacy or Awareness-Raising Campaign on Lead Paint* provides a helpful example of communicating and advocating for lead paint laws to policymakers.

Policymakers face many demands, so it's important to distil complex ideas into concise, easily digestible formats, such as policy briefs and videos.

Active, sustained communication is important to get through to policymakers with competing demands on their time and attention. Advocacy and communications can be conducted by various groups, enabling policymakers to be targeted by a diverse range of their constituents, including youth.

Below is a case study demonstrating how the communication approaches for policymakers were applied in a real-world scenario.

Examples of tactics used for engaging policymakers

- Policy brief: 'Reducing Childhood Lead Poisoning in Indonesia'
- Video: *How Lead Affects Children and Lifelong Health*
- Video: *New York City Works to End Childhood Lead Poisoning*

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Case study

A comprehensive communication strategy to protect children from lead exposure in Georgia

Georgia Takes a Comprehensive Approach to Tackling the Lead Poisoning Crisis in the Country

UNICEF Georgia collaborated with the Government of Georgia to protect children from lead exposure through a multi-year campaign on data-driven advocacy targeting policymakers, ultimately supporting the establishment of a national lead surveillance system (UNICEF Georgia, 2023).

UNICEF's Multiple Indicator Cluster Survey (MICS) revealed in 2018 that a shocking 41 per cent of children in Georgia had elevated BLLs. Over the last five years, Georgia has significantly upgraded its institutional capabilities, laboratory and surveillance capacity, front line services, regulatory action, enforcement and accountability mechanisms.

This case study captures the communications strategy the UNICEF Georgia office used from 2018 to 2024, which was broken into different phases to sustain strategic communications.

1. Objective

In the first phase, UNICEF Georgia's objective was to raise awareness of childhood lead poisoning among Government stakeholders to urge them to take action. The objective of the second phase was to raise public awareness of the issue, including information on comprehensive prevention measures and encouraging constituents to advocate for policy changes with their lawmakers. The objective of the third phase has been to improve the technical knowledge of the Government and other stakeholders in order to support the establishment of a sustainable lead surveillance system.

2. Audience

Primary audience:

- Government stakeholders (Ministry of Health, National Center for Disease Control and Public Health, regional health authorities, Parliament)

Secondary audience:

- Families with young children

3. Strategy

UNICEF Georgia's strategy focused on engaging the Ministry of Health, the National Center for Disease Control and Public Health, and regional health authorities. They also partnered with the Parliament of Georgia, through the Parliamentary Council of Health Promotion and Disease Prevention as well as the Committee of Health Care and Social Issues, to monitor the progress on combating lead exposure in the country.

The first phase of the strategy was data-driven communication. The New York City Department of Health and Mental Hygiene provided the scientific evidence that stirred initial discussions on childhood lead poisoning in Georgia (ScienceDaily, 2018), helping influence policymakers and driving the inclusion of BLL testing in MICS. The data from MICS then provided the local evidence to help persuade the Government to take the issue seriously. This involved carrying out a large-scale communication campaign to inform policymakers and the general public about the upcoming survey which included the first-ever module on BLLs. UNICEF Georgia used risk communication tactics while visiting families to take blood samples from children. This required a comprehensive education campaign to inform and motivate parents to participate in the sampling and understand its importance and value to them.

The next phase was the dissemination of the MICS findings. The team used communications approaches sensitive to potential concerns in speaking with families and communities where BLLs were highest. The data were also shared bilaterally with Government stakeholders, along with recommendations for solutions. At the same time, media relations were leveraged to secure wide coverage of the findings in many national as well as regional media outlets. The media exposure of the impact of lead poisoning on children in Georgia helped to influence Government stakeholders.

Then, communication and advocacy shifted to the launch of the Chemical Risk-Factor Research Laboratory, with the capacity to test toxicants in different specimens to advance Georgia's independent ability to conduct BLL analysis. This phase focused on sharing technical information to a select group of stakeholders.

The most recent phase of communication and advocacy has been focused on the establishment of an environmental health surveillance system that will be scaled up nationwide in Georgia by 2025. As part of this phase, an education campaign to gain the support of more politicians and other government stakeholders has been important. UNICEF Georgia has been working closely with parliamentarians to help share the news among their peers.

Approaches:

- **Data-driven advocacy:** Leveraging MICS findings to influence policy changes and secure resources.
- **Public awareness campaign:** Utilizing traditional and digital media, as well as interpersonal communication, to educate the public about the MICS findings, the dangers of lead poisoning and the relevant prevention measures.
- **Community engagement:** Mobilizing and empowering communities with knowledge and tools to protect children from lead exposure.
- **Capacity building:** Enhancing the capabilities of national health authorities to detect and respond to lead contamination through educational content.
- **Partnerships:** Mobilizing government support, high-level international partners and experts around the issue.

4. Implementation

The communication activities included the following examples:

- Conducted evidence-based awareness campaigns, including on digital platforms, and leveraged International Lead Poisoning Prevention Week as a communication and advocacy moment to disseminate policy briefs, reports and presentations such as Findings of the Multiple Indicator Cluster Survey (MICS) in Georgia, Georgia's MICS 2018 statistical snapshot, 'Ending Childhood Lead Poisoning in Georgia: Progress and lessons learned between 2017 and 2023', Chemical Risk Factor Research Laboratory Testing Blood on Lead and Other Chemical Elements and Lead Surveillance System Launched in 2 Regions of Georgia

- Shared stories of affected children to humanize the issue, e.g., How the Kids from Batumi Were Treated for High Blood Lead Level, Lead Surveillance in Imereti and Adjara and Georgia: Elevated levels of lead in children's blood
- Organized press conferences and media briefings with national as well as regional media, pitched stories and issued press releases: 'Lead Prevalence in Children's Blood in Georgia', 'UNICEF Welcomes the Recognition of the Progress Achieved in Ending Childhood Lead Poisoning in Georgia at the World Economic Forum', 'UNICEF Supports the Government in Launching a Lead Surveillance System in Georgia'
- Improved capacity through trainings for health professionals; shared educational materials, including this interactive course from UNICEF and WHO on children's environmental health
- Implemented community workshops and home visits; engaged in direct, in-person communication, using risk and sensitive communication approaches

5. Monitoring and evaluation

The team tracked key indicators such as media coverage, anecdotal evidence at events, and mentions about lead poisoning on platforms such as social media. An example of one of their key performance indicators was a reach of 85,000 people through digital platforms from 2019 to 2024.

While comprehensive evaluation is ongoing, anecdotal evidence and policy advocacy results, so far, include:

- The Government's national response package launched in 2019 with support from UNICEF and the US Agency for International Development (USAID), including the awareness campaign.
- Social listening indicated an increase in conversations about lead poisoning on social media platforms in Georgia.
- There were voluntary groups and organizations which started monitoring lead exposure in toys and other materials to define sources, and launched advocacy campaigns for introduction of specific regulations.
- The Public Defender called on the Government to introduce regulations to ensure the safety of toys, and started monitoring the process.
- In 2020, the Government introduced regulations to ensure lead safety in toys.
- Since July 2023, the Government has introduced strict regulations controlling lead in the manufacture, sale and importation of construction paints.
- A legal framework has been made to ensure that lead-containing products are aligned with European Union Association Agreements.
- To improve air quality monitoring in the country, the Government has started continuous sampling and analysis of airborne heavy metals, including the lead content of the air in major cities.
- The Prime Minister of Georgia highlighted the importance of a lead-free future in a high-level discussion at the World Economic Forum in January 2024. The Prime Minister acknowledged the role of UNICEF in monitoring, building laboratory capacity, establishing surveillance models, developing communication campaigns and training human resources. He also expressed his strong commitment to further develop the lab surveillance systems, conduct thorough research on sources of lead poisoning, implement effective mitigation strategies and contribute progressively to the reduction of the burden of lead exposure.

Lessons learned and why this case study was important

This case study highlights the critical role of data-driven communication and advocacy in achieving effective policy change. Using fact-based messaging along with compelling human-interest stories, UNICEF Georgia successfully persuaded Government policymakers to take action against childhood lead poisoning. A multifaceted approach that included working closely with Government stakeholders and combining advocacy, community engagement, and digital and traditional media proved essential in raising awareness and driving change.

Continuous monitoring and adaptation at each phase were key to the success of this strategy, as different approaches and messaging were deployed at different stages. While resource mobilization through outreach to key partners for financial and technical support was also part of the strategy, the analysis here is focused on communicating with policymakers.

This case study underscores the value of providing policymakers with clear, data-driven evidence of the health impacts and sources of lead exposure to drive meaningful policy action.[2]

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2 Based on author interview with Maya Kurtsikidze, Communications Specialist at UNICEF Georgia, on 13 September 2024.

4.2 Service providers

Service providers can include early childhood educators working in day care centres, teachers, and front-line health workers like nurses, midwives, traditional healers and mental health workers.

Messaging for service providers may be more educationally focused, and more oriented towards providing them with tools to convey directly to families the message about the threat of childhood lead poisoning.

The case study below from Indonesia highlights a communication strategy that targets both the health sector and caregivers.

Case study

Engaging Indonesia's health system on childhood lead poisoning

In Indonesia, it is estimated that more than 8 million children have BLLs above 5 micrograms per decilitre (µg/dL), a level which requires action (UNICEF and Pure Earth, 2020).

Therefore, UNICEF Indonesia, in collaboration with WHO and the Indonesian Ministry of Health, has made significant strides in enhancing the primary health care system's capacity to manage and prevent lead poisoning among children. One pivotal accomplishment is the finalization of the national guideline on clinical management of lead poisoning, based on the *WHO Guideline for Clinical Management of Exposure to Lead*. As of September 2024, the national guidelines are awaiting the issuance of a ministerial decree to make them official government policy.

Complementing this work is a comprehensive training module on lead for health-care professionals at primary care facilities that was developed and rolled out in 2024. This training initiative was successfully piloted in Tegal and Bogor, training 56 health providers.

1. Objective

UNICEF Indonesia's goal was to raise public awareness about the dangers of lead poisoning, promote safe practices to reduce lead exposure, and advocate for stronger government regulations and industry accountability to eliminate lead poisoning across Indonesia. In particular, the team focused on improving the awareness level and capacity of the health sector in Indonesia to mitigate and treat childhood lead poisoning, as well as targeting caregivers to encourage them to get their children treated.

2. Audience

Primary audience:

- Health-care professionals tasked with diagnosing, treating and educating patients about lead poisoning
- Families and communities, especially those in high-risk areas such as informal recycling zones and industrial regions, including youths

Secondary audience:

- Government stakeholders, including policymakers
- Industry and other private sector stakeholders

3. Strategy

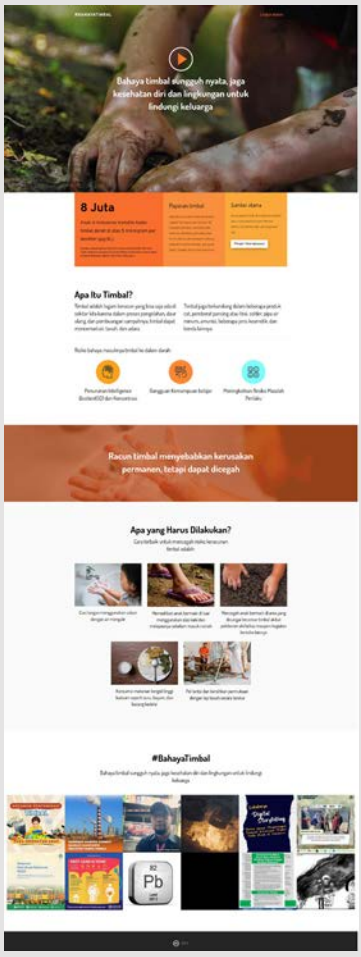
The communication and advocacy strategy was designed over a four-year period. The strategy was divided into three phases:

- Year 1–2: Awareness building
- Year 2–3: Advocacy and capacity building communication
- Year 3–4: Continue tactics and monitor progress

The strategy was designed to reach both urban and rural communities, leveraging digital platforms, traditional media and community-based initiatives to ensure broad coverage.

4. Implementation

- **Mass media:** Billboards, videos, flyers and posters at public facilities, as well as social media, to broadcast messages about the risks of lead exposure, focusing on the health impacts on children and how families can protect themselves.

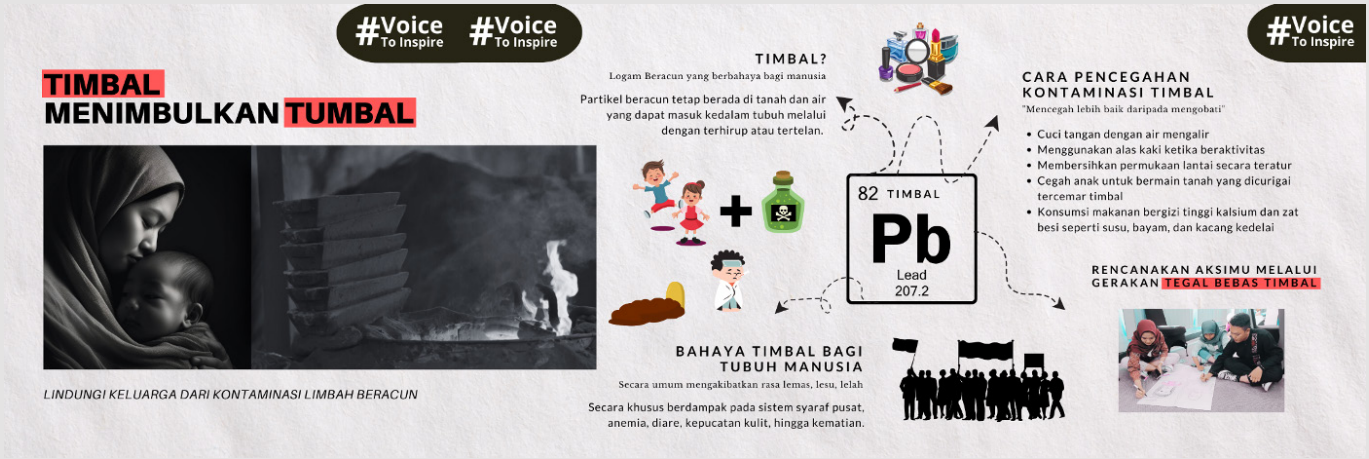


- **Community engagement:** Distributed educational brochures in high-risk areas and organized workshops for local government stakeholders and health workers to educate caregivers on safe practices and lead exposure risks.

- **Schools and health facilities:** Developed educational materials (based on feedback collected in a study) for schools and health-care facilities to ensure that awareness extended to students, teachers, caregivers and health workers. This also included providing a workshop on storytelling and social media to help the target audience use their own channels to raise awareness and promote the prevention of lead exposure among their peers. This is an effective approach to ensure key messages are delivered by trusted voices within a community.

Posters about the effects of childhood lead poisoning, displayed at Puskesmas Cileungsi

Example of an asset created during the workshop:



- **Policy advocacy:** Engaged in dialogue with government officials, providing evidence-based recommendations for regulatory reforms and presenting research findings on the prevalence of lead poisoning in Indonesia.
- **Private sector engagement:** Worked with industries to promote corporate social responsibility initiatives and encourage the adoption of lead-free production practices.

While outreach to government is not a focus of this case study, it is worth noting that simultaneous outreach to policymakers did occur throughout the phases. The team conducted a series of policy dialogues and workshops with key government agencies, emphasizing the health and economic burdens of lead poisoning. They also created and distributed materials like this policy brief to support legislative changes such as banning lead-based paints and improving waste management practices. These efforts have led to the integration of the topic of lead poisoning prevention into discussions for the national health and environmental plans. This advocacy helped to bring on board the Ministry of Health, which was crucial to developing the national guideline on clinical management of lead poisoning to enhance the health system capacity to mitigate and treat childhood lead poisoning.

5. Monitoring and evaluation

Three types of key performance indicators were collected to evaluate progress:

- **Community feedback:** Established feedback loops through community health workers and partners (associations or groups) to gather insights on how the campaign was resonating at the grassroots level.
- **Media monitoring:** Assessed total media and social media coverage to measure outreach to general public, including caregivers.
- **Policy tracking:** Monitored progress in legislative and regulatory changes resulting from advocacy efforts (including the progress of guidelines).

Lessons learned and why this case study was important

In a four-year campaign, it was crucial to build in regular monitoring and evaluation, which was conducted at fixed intervals. This allowed for the communication approaches to be adapted and thus more effective in the long term. This approach is particularly helpful if consensus building and increasing general awareness need to happen first. For example, the team localized messaging, translating materials into local languages, which is very important in a country with hundreds of different spoken languages. This helped to raise public awareness about the issue and create an enabling environment for advocacy to the government and health sector.

In addition, the team tailored the messages for cultural sensitivity to address specific community concerns, which can vary widely in a country like Indonesia, which is made up of more than 17,000 islands. They also increased their outreach on digital platforms, including social media, since feedback showed more caregivers were consuming information online.

For outreach to health providers, a small study was conducted in medical schools and health facilities to help develop the most impactful educational materials to distribute, using schools and health facilities to boost the level of awareness on childhood lead poisoning among students, teachers and health providers.

This case study demonstrates the importance of building a long-term campaign, allowing time to increase the target audience's awareness about childhood lead poisoning before ramping up advocacy efforts. In addition, partnerships with student associations, schools and health facilities were key to integrating lead poisoning education into curricula and developing a pipeline of current and future health workers knowledgeable on the issue.[3]

3 Based on author interview with Rooswanti Soeharno, Health Specialist at UNICEF Indonesia, on 22 August 2024.

4.3 Caregivers

Caregivers can include parents, grandparents and others who provide primary childcare. For this audience, using human-interest stories and other creative approaches is an effective way to convey key messages, alongside direct, in-person communication methods.

Message tailoring is crucial for this audience, as messages need to align with cultural norms and educational levels to be effective.

This case study from Ghana highlights a communication strategy that targets caregivers, leveraging the health sector as trusted messengers.

Case study

Increasing awareness of childhood lead poisoning among caregivers and communities in Ghana

In 2022, UNICEF Ghana worked with the Ashanti Regional Health Directorate to identify communities with increased risk of lead exposures for both adults and children, due to the occupations prevalent in those communities. Most of the community members were engaged in scrap-metal handling, scavenging for used products, automobile repair, car battery maintenance and other occupations that put them at risk of lead exposure.

1. Objective

The objective was to raise awareness among workers who are also caregivers about the sources and health effects of lead poisoning, particularly on their children and households. This initiative aimed to inform those whose homes may face higher risks of secondary exposure and provide them with preventive measures. Additionally, it emphasized the importance of keeping children away from workplaces and environments where the risk of lead exposure is elevated.

2. Audience

- Communities and families, especially those in high-risk areas engaged in activities likely to expose them to lead poisoning

3. Strategy

The strategy employed a combination of culturally relevant and interactive methods to engage caregivers, families and workers. The focus was on maximizing community involvement and ensuring the message was accessible and memorable, particularly for those with limited formal education.

4. Implementation

- **Focus group discussions:** Discussions were held to assess opinions and increase understanding of lead poisoning and how caregivers could protect their children from environmental and occupational sources of exposure. These sessions also allowed for sharing personal experiences and concerns, fostering a participatory learning environment.
- **Training in local languages:** Formal lessons were delivered in local languages, supported by culturally relevant materials such as videos and case studies. This approach ensured that the message reached the target audience effectively, regardless of their education levels. Trainers worked closely with local interpreters to ensure the accurate transfer of knowledge.
- **Community theatre and performances:** Using drama, the team created engaging and relatable performances that illustrated the dangers of lead poisoning. These

performances extended the message beyond high-risk workers to include other caregivers in the community, ensuring widespread awareness. The venues were carefully selected, reaching people in their daily environments such as homes, markets, worship places and transport hubs.

5. Monitoring and evaluation

- About 105 caregivers were reached with messaging on lead poisoning prevention.

Focus group discussions with caregivers and their households

Engagement of caregivers through drama at market centres

Engagement with caregivers at the train station

Lessons learned and why this case study was important

Building trust through local leaders: Using trusted messengers, such as local leaders, within the community is vital for gaining the trust of the target audience and reducing suspicion, particularly when dealing with caregivers who work in small, unregulated informal sectors. This campaign was led by the Ashanti Regional Health Directorate, a highly respected and trusted entity that plays a crucial role in safeguarding public health. Leveraging this trust was instrumental in ensuring community engagement. Maintaining this social capital is essential to sustaining the campaign's impact over time. Additionally, gaining the trust of local leaders in high-risk informal occupations is equally important. These leaders hold influence over the workers who are often secondary exposure sources to their children and households.

Relatable communication through local stories and languages: Incorporating local stories, real-life scenarios, and communication in local languages made the message relatable and helped to clear up misconceptions. Drama proved to be an especially effective medium to deliver the message to caregivers, making the complex issue of lead poisoning more tangible and memorable. A community-based NGO led the performances, ensuring that the content was culturally resonant and accessible.

Highlighting health risks for both children and caregivers: While the primary objective was to prevent childhood lead poisoning, it was essential to also address the health risks posed to caregivers. In some communities, caregivers became more responsive after learning that lead poisoning affects multiple organs in adults. This realization increased their engagement with the campaign, highlighting the importance of emphasizing adult health risks in similar initiatives.

This case study highlights the value of collaboration between the health sector and community-based organizations to effectively engage caregivers. Utilizing trusted institutions and local leadership was invaluable in building community trust and driving engagement. It also underscores the importance of tailoring communication strategies to different audiences. A multifaceted approach that leverages local culture, trusted figures and diverse communication tactics is crucial to ensuring the success of public health campaigns.[4]

4 Based on author interview with Emmanuel Kyerematen-Amoah, Health Specialist at UNICEF Ghana, on 3 October 2024.

4.4 Private sector

Private sector industries related to lead include companies that manufacture, sell and distribute products that may contain lead (e.g., paint, spices, cookware, LABs), smelting operations, LAB recycling facilities, and various related business associations.

The private sector can often be focused on their bottom line and may not be aware of how their business practices may be inadvertently impacting consumers and the environment. Therefore, raising awareness of the issue is important, as well as providing solutions for them to demonstrate stewardship. This can include information such as guidance for reformulating products to be lead-free; case studies showing other industry peers removing lead from their products at a reasonable cost and without negatively impacting quality or sales; and highlighting the health and social impacts from lead exposure.

Another key aspect of communicating with a particular industry is creating an enabling environment for change across the entire sector. Since businesses compete for profits, they are more likely to adopt changes if their competitors do the same. Leveraging incidents where companies have already removed lead from their products, along with grassroots support from stakeholders like consumers and the media, can help advocate for the elimination of lead in products where feasible.

Case study

Leachable lead found in cookware in Seattle causes recall

The Department of Public Health – Seattle & King County (PHSKC), in the State of Washington, United States, conducted lead testing on Afghani aluminium cookware and found high levels of leachable lead.[5]

© Shutterstock/AlenKadr

5 This case study refers extensively to Fellows and Whittaker, 2023.

1. Objective

The primary objective was to remove lead-contaminated cookware from online retail platforms to prevent consumer exposure, exemplifying primary prevention.

2. Audience

Primary audience:

- Online retailers

Secondary audience:

- Afghani community and general public in Seattle
- Policymakers

3. Strategy

A multi-pronged strategy combined direct outreach to online retailers, public education and media engagement. PHSKC worked closely with major online platforms and the US Food and Drug Administration (FDA) to ensure the swift removal of contaminated Afghani cookware.

4. Implementation

Scientists from the health department contacted major online retailers such as Amazon, eBay and Etsy to inform them of cookware on their platforms with high lead levels. Contact occurred via written letters and in-person meetings with attorneys. Local news outlets also covered the story, helping to raise public awareness among consumers and apply pressure to retailers.

These actions resulted in many of the cookware items being pulled from the online retailers. PHSKC worked with the FDA to develop guidance for Amazon on lead in cookware. The FDA also placed 'import alerts' on certain manufacturers of Afghani pressure cookers. These import alerts effectively prevented these shipped products from entering the consumer marketplace in the United States.

As part of this effort, PHSKC also partnered with community-based organizations and educated the local Afghani community on the potential health impacts from using the lead-contaminated cookware.

Implementation also included developing guidance for retailers and creating educational materials for the local Afghani community. The coordinated effort aimed to prevent consumer exposure to lead by addressing the issue from multiple fronts, thus maximizing the impact and effectiveness of the intervention.

5. Monitoring and evaluation

Follow-up testing by local media a year later revealed that some retailers were still selling cookware with leachable lead. This resulted in some vendors that sold products through online retailers terminating contracts with certain cookware manufacturers, and other vendors requesting manufacturers conduct further testing to ensure cookware products were safe.

Lessons learned and why this case study was important

This case study underscores and highlights the importance of a multi-pronged approach to lead-related messaging and advocacy, since it involved collaborations with many groups outside of the private sector. For example, PHSKC worked with scientists, community-based groups, the media and federal government agencies. The involvement of local media as a watchdog proved crucial in maintaining accountability and driving further action.

Other lessons learned include the following:

Engagement with community: Engaging directly with affected communities proved to be beneficial. For example, a cookware exchange programme successfully provided safer alternatives to traditional cookware. This approach can be adopted to other communities at risk, offering a practical solution while raising awareness. It was also beneficial to provide updates to the community, ensuring efforts were aligned with public concerns.

Online retailers and other US-based distributors are not aware that they are selling products harmful to health. Many consider themselves as simply intermediaries in the marketplace, and do not require any type of safety certification from suppliers.

Cultural sensitivity and tailored messaging: It was important to understand the cultural significance of certain cookware types within communities, and how that influenced their behaviour and willingness to use safer cookware. Tailoring messaging to reflect both the scientific data and cultural considerations made outreach and education efforts more effective.

Policy and advocacy: Translating evidence into actionable policy took time and persistence. Working with policymakers and advocating for a limit in cookware that was based in science was crucial.

Interdisciplinary action and collaboration: Addressing this issue required a coordinated effort across public health, policy, federal agencies and global marketplaces (e.g., Amazon). The notification from PHSKC to the FDA led to an import alert for contaminated cookware, which was a crucial first step. The county health department also worked with major online retailers to remove lead-containing products from their platforms.[6]

6 Based on email correspondence with 'Aluminum Cookware as a Source of Lead Exposure in the United States' co-authors Katie Fellows and Steve Whittaker, on 18 September 2024.

Case study

Strategic communication to combat lead chromate adulteration in turmeric in Bangladesh

Lead chromate adulteration of turmeric emerged as a significant public health issue in a rural community in central Bangladesh after it was linked to increasing BLLs among pregnant women. This information was collected in a case-control study and an isotope study (Forsyth et al., 2018; Forsyth et al., October 2019). A mixed-methods study was conducted to understand the incentives driving the addition of lead chromate to turmeric, and to identify the key players in the industry and the hubs of turmeric production, processing and sale (Forsyth et al., December 2019).

Researchers discovered that dried turmeric roots adulterated with yellow pigment (containing high levels of lead chromate) from all over the country were sold in Dhaka's major wholesale market, where polishers – people who prepare the roots for sale – and wholesalers estimated that the practice of adding colour began between 1970 and 1990. Several polishers and farmers in the Northwest identified the catalyst as the major flood of 1988, which damaged the turmeric crop, leading to improperly dried roots and a less desirable inner-root colour due to wet conditions. With the quality of Bangladeshi turmeric compromised, demand for the brighter yellow Indian turmeric increased.

To compete, Dhaka wholesalers began mixing yellow pigment with local roots in chari (clay pots). Eventually, they provided the yellow pigment to polishers in turmeric-producing districts, enabling them to add the colour themselves (Forsyth et al., December 2019). Since this worked well to keep profits high, the practice of using lead additives to brighten the colour of turmeric continued. These polishers became the primary target audience within the supply chain because the study revealed that the largest companies involved in packaging and distributing turmeric, both domestically and for export, were already aware of the lead chromate adulteration issue following recalls in the early 2010s. These companies had taken significant steps to avoid the practice, such as reducing the number of suppliers, implementing strict quality control measures, polishing turmeric in their own facilities and acquiring mass spectrometers to periodically test for lead.

This evidence became the foundation of a strategic communication plan targeting key stakeholders in the turmeric supply chain to influence them to stop adding lead chromate to turmeric. Led by a team from Stanford and the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), a local civil society partner, the communication campaign was sustained from 2014 to 2019. This case study outlines the communication strategy, effective approaches used and key lessons learned from their experience (Crawford, 2020).

1. Objective

The goal was to curb lead poisoning from turmeric in Bangladesh. The communications objective focused on distributing evidence-based messaging to a targeted group of polishers and other key industry players in the local turmeric supply chain in Bangladesh to influence them to stop adding lead chromate to turmeric spices. This was one component of a broader intervention involving health messaging with the public, rapid detection of lead in spices at markets, and regulatory enforcement by the Government of Bangladesh.

2. Audience

- Stakeholders in the turmeric supply chain:
  - Polishers
  - Major traders at key wholesale markets
  - Small companies packaging and distributing turmeric

The highest concentrations of lead were found in loose turmeric sold from burlap sacks at bazaars. The country's largest wholesale bazaar in Dhaka, a key hub for sale and distribution, was identified as a focal point for efforts. Additionally, the largest polishing mills in the main turmeric-producing districts were screened for evidence of lead chromate adulteration. Several of these mills, which handled disproportionately high volumes of turmeric, were found to have the most significant instances of lead contamination. These findings allowed the team to concentrate their communication efforts on a smaller, more targeted group of industry players.

3. Strategy

The team developed an evidence-based strategy that included message testing and risk communications via face-to-face interaction with individuals and small groups, targeting key industry stakeholders.

From July 2015 to May 2018, the research team and community health workers developed and tested household-level messaging about the dangers of lead in turmeric and how to avoid exposure.

The messaging focused on the problem and the solution:

- Highlighting the toxicity of lead poisoning especially for children, limiting their intellectual capacity and earnings.
- Communicating how manageable this was and how easy it was to solve with the help of traders, Government and the public.

Led by the Government and co-designed by the team at Stanford and icddr,b, materials such as flyers were created and shared with traders and consumers. Stakeholder workshops, led by icddr,b and Stanford, with Government and industry representatives were held regularly from 2017 onwards to discuss initial findings on turmeric adulteration and brainstorm potential solutions to ensure they were culturally relevant and feasible.

For example, icddr,b researchers held a series of six targeted meetings with 18 influential turmeric businesspeople and polishing mill owners, as well as 20 community leaders in the Northwest region, where lead chromate was predominantly used. These discussions aimed to raise awareness about the health risks of lead chromate and to explore actionable solutions.

In collaboration with the Bangladesh Food Safety Authority (BFSA), the research team developed a nationwide intervention. The intervention focused on two main areas: 1) improving public and industry knowledge about the dangers of lead in turmeric; and 2) enhancing the Government's ability to enforce food safety regulations through rapid lead detection technology.

To help raise public awareness, Stanford and icddr,b researchers published two critical studies (available here and here) identifying lead-adulterated turmeric as a significant source of lead exposure in Bangladesh. Stanford and icddr,b worked with their institutional science writers to maintain a solutions-focused angle with their media outreach. This was followed by widespread media coverage, including in prominent outlets like the BBC and the Washington Post, as well as local outlets like the Bangla Tribune and the Dhaka Tribune.

In October 2019, researchers travelled to major turmeric-producing districts to conduct meetings with producers and processors to discuss the risks of lead chromate and explore alternative practices, such as using turmeric powder for polishing. The largest and most influential polishing mills were prioritized for direct, in-person communication, where critical information was shared about the dangers and toxicity of lead exposure, how turmeric contributes to lead poisoning, and strategies to stop the practice. These discussions also highlighted the essential role of polishers and the Government's upcoming efforts to enforce stricter policies. The face-to-face communication was done in small groups on site at the polishing mills and community locations.

Once the BFSA chairman issued a nationwide public notice warning of the legal and health risks of lead chromate in turmeric, six national newspapers covered the story.

4. Implementation

- **Message testing:** Developing key messages that shared both the problem and the solution, and testing them with audiences to refine throughout the multi-year campaign, helped ensure that the tailored messaging remained effective.
- **Direct communications:** Stakeholder workshops and small group discussions led by icddr,b and Stanford including key representatives from the Government and industry were crucial to engage directly with polishers and key stakeholders who could make a change in their business practices to

stop the lead contamination. To help raise awareness, 50,000 flyers warning consumers and traders about the dangers of lead-tainted turmeric were distributed.

- **Media relations:** Media outreach led to more than a dozen articles online, in print and on TV, which helped to cover major moments including initial BLLs studies, the BFSA national decree to spot check major turmeric bazaars in Dhaka using X-ray fluorescence analysers to detect lead, and post-intervention coverage to hold industry accountable.

5. Monitoring and evaluation

Before and after the intervention, evidence of lead chromate turmeric adulteration was assessed at the nation's largest turmeric wholesale market and at turmeric polishing mills across the country. The BLLs of workers at two mills were also assessed. Forty-seven interviews were conducted with consumers, businesspeople and Government officials to assess changes in supply, demand and regulatory capacity. The proportion of market turmeric samples containing detectable lead decreased from 47 per cent pre-intervention in 2019 to zero per cent in 2021 (Forsyth et al., 2023).

Lessons learned and why this case study was important

This case study illustrates the effectiveness of a data-driven approach to strategic communication in addressing lead poisoning. It also emphasized the importance of stakeholder mapping and analysis, which enabled a targeted approach to engage key industry individuals and drive impactful change.

- **Data:** The evidence collected became the basis for communications and interventions, which has the potential for replication in other regions.
- **Messaging:** Ensuring that all communications presented not only the problem but also a solution was important to help enable industry stakeholders to make changes in their practices.
- **Stakeholder analysis:** In-person, direct communication can be laborious and require a lot of resources. Therefore, identifying a small list of key stakeholders helped the team to prioritize communication and advocacy efforts that were to be conducted in person.
- **Media relations:** Media coverage was used to help hold industry accountable and raise public awareness about the issue.[7]

7 Based on author interview with Jenna Forsyth, Research Scientist at Stanford University School of Medicine, on 24 September 2024.

V. Applying communication theory and approaches to different scenarios

While chapter IV presents various real-world communication case studies of varying complexity, not all scenarios are covered. Therefore, the table below provides an expanded list of theoretical yet realistic scenarios to provide further guidance to communicators on how to apply different communication tactics in a variety of scenarios.

Tactic	Five elements of developing a communication strategy
Overarching theory: Community engagement and interpersonal communication	
Specific tactic • Publishing human-interest stories and data stories in traditional media • Direct communications campaign via SMS and/or email marketing • Community-based, in-person events	**1. Objective** To increase awareness of lead poisoning among caregivers and teachers
	2. Audience Childcare employees, schoolteachers, caregivers
	3. Strategy • Direct communication with the target audience on what lead poisoning is, its sources, its harmful effects on children, and practical steps caregivers can take to prevent exposure. • Ensure that messages are simple, culturally appropriate, and emphasize the severe yet preventable nature of lead poisoning. • Human-interest stories are effective with this audience.
	4. Implementation • Direct communication may include SMS communications and handing out educational materials relevant to the audience at community events. • Collaborate with community leaders, health-care providers and local NGOs who can act as advocates and educators. • Train local health workers and volunteers to educate caregivers and answer questions directly.
	5. Monitoring and evaluation • Collect feedback from caregivers through surveys, focus group discussions or interviews to understand their awareness levels and any behavioural changes. • Use this feedback to assess whether messages are being understood and if there are any adjustments needed.

Tactic	Five elements of developing a communication strategy
Overarching theory: Data-driven advocacy and public awareness campaign	
Specific tactic • Policy briefs shared in one-on-one meetings	**1. Objective** To convince decision makers at relevant government agencies or ministries to pass regulations reducing lead content in consumer products
	2. Audience Government officials, policymakers, regulators
	3. Strategy • Focus on factual information such as health or economic consequences of lead exposure. • Provide examples of other countries where lead regulations have successfully been implemented.
	4. Implementation • Due to competing demands on their time and to make messaging understandable to a policy audience, provide short policy briefs with tangible and specific options and solutions. • Outreach is best conducted repeatedly, possibly needing active, sustained efforts to drive policy changes. • Use media channels to generate public awareness and pressure. • Publish articles, give interviews and engage in social media campaigns that highlight the urgency of childhood lead poisoning. • Share data and campaign plans with government agencies to foster collaboration (e.g., notify agencies ahead of media events or data releases).
	5. Monitoring and evaluation • Regularly monitor the progress of the advocacy efforts and evaluate the response from partner ministries. If necessary, adjust messages or tactics based on the feedback received. • Maintain consistent follow-up with decision makers, provide additional information as requested, and continue building relationships to keep the issue on their agenda.

Tactic	Five elements of developing a communication strategy
Overarching theory: Data-driven advocacy and public awareness campaign	
Specific tactic • Direct communications to share business data related to childhood lead poisoning and alternative business practices	**1. Objective** To work with manufacturers to remove lead from lead-containing products
	2. Audience Business leaders, manufacturers, trade associations, retailers, distributors
	3. Strategy • Direct communication with manufacturers to provide factual and technical information on how lead in products can be unintentionally absorbed or ingested by customers; make a business case for why removing lead would increase public relations and profits.
	4. Implementation • Provide guidance on how to manufacture products without lead, and case studies about how other manufacturers have been able to remove lead from their products and the resulting impacts on costs, quality and sales. • Leverage support from manufacturers who have already made the change; work with mass media to raise awareness of lead exposure from products to add additional pressure on manufacturers.
	5. Monitoring and evaluation • Progress may be measured by determining the number of manufacturers who have removed lead from their products. • Progress may be measured quantitatively by number of engagements with media campaigns and qualitatively by using increasing public awareness of lead content of products as a metric.

Tactic	Five elements of developing a communication strategy
Overarching theory: Community engagement and interpersonal communication	
Specific tactic • Engagement with professional organizations to influence target audience • Incorporating lead poisoning information into education curriculum for health-care providers	**1. Objective** To raise awareness of lead poisoning among health-care providers
	2. Audience Paediatricians, obstetricians, nurses, midwives, medical associations, hospitals, medical schools
	3. Strategy Direct communication regarding factual information on the health impacts of lead exposure in children: • how children's physiology and behaviour make them more susceptible to lead poisoning, • blood lead tests available in the community, • what test results mean, • when chelation therapy is needed, • highlighting the sources of lead exposure most relevant to children in the community, and • practical steps health-care professionals can provide caregivers to reduce lead exposure in children.
	4. Implementation • Begin by assessing the level of awareness among health-care providers, professional medical associations and other relevant target audiences regarding lead poisoning. • Identify knowledge gaps and misconceptions. Understanding the challenges health-care providers face will help tailor effective messages. • Direct communication may include providing training and education on lead during medical association conferences or continuing education courses. • Collaborate with medical and nursing professional associations, hospital leadership, and medical, nursing and other health professional school faculty. • Collaborate with a well-known and respected paediatrician, nurse or midwife who has credibility and trust to discuss and influence thinking around lead exposure with their professional peers.
	5. Monitoring and evaluation • Collect feedback from health-care providers, medical associations and other relevant target audiences through surveys, focus group discussions or interviews to understand changes in their awareness levels and how it is affecting patients. • Use this feedback to assess whether messages are being understood and if there are any adjustments needed.

Tactic	Five elements of developing a communication strategy
Overarching theory: Youth advocacy	
Specific tactic • Youths raising awareness and advocating for policy regarding lead poisoning	**1. Objective** Youth-led effort to raise awareness and push for policy to end childhood lead poisoning
	2. Audience Advocacy effort: Elected politicians, policymakers, regulators Youth participation: Social media influencers, students, local youth groups, student organizations, trade schools, colleges and universities
	3. Strategy • Human-interest stories with a direct link to youth on how lead poisoning has impacted their lives. Integrate economic, health and behavioural impacts of lead exposure into human-interest stories. • Demonstrate to politicians and policymakers how youths advocating on lead poisoning issues are similar to their own children; if they can be impacted by lead poisoning, so can their children. • Emphasize to elected politicians that the youths of today are the voters of tomorrow and will make up a larger part of their constituency as time goes on.
	4. Implementation • Direct contact with politicians and policymakers through in-person visits or by mobilizing youths on social media or through SMS communication to demonstrate wide interest in addressing childhood lead poisoning. Engage with decision makers on social media. • Collaborate with community leaders, health-care providers and local NGOs who can act as advocates and educators.
	5. Monitoring and evaluation • Regularly monitor the progress of the advocacy efforts and evaluate the response from decision makers or youth advocates. If necessary, adjust messages or tactics based on the feedback received. • Maintain consistent follow-up with decision makers and youths, provide additional information as requested, and continue building relationships to keep the issue on their agenda.

VI. Conclusion

Crafting an effective communication strategy to influence policymakers, service providers, caregivers and the private sector in the fight against childhood lead poisoning involves a multifaceted approach. Key approaches demonstrated in case studies provided in this document include data-driven messaging, stakeholder mapping and analysis, strategic media engagement and the creation of tailored content for specific audiences.

These strategies often require multi-year, multichannel efforts with phased implementation to achieve meaningful results. In addition, these communication strategies complemented programmatic and technical interventions being undertaken simultaneously. By developing clear, actionable messages and employing targeted engagement techniques, communication professionals can effectively raise awareness and drive meaningful change to protect children from lead exposure.

Annex

Questions to consider when developing a communication strategy

Below is a table of prompts to help think through each of the five elements of developing a communication strategy as it directly applies to childhood lead poisoning.

Table 2: Questions to answer when developing a communication strategy to address childhood lead poisoning

1. Objectives			
What is the purpose of the communication? What is the change desired in the target audience because of the communication? Is the objective SMART: specific, measurable, achievable, relevant and time-bound			
2. Audience			
Has a stakeholder mapping and analysis been conducted to narrowly identify the target audience?			
Policymakers	Service providers	Caregivers	Private sector
What type of policymaker are they? Regulators Enforcers Legislators Politicians What is their jurisdiction? National Regional or local	**What type of service provider are they?** Teachers (What grade do they teach?) Health workers (Who do they primarily service? What is their education level?) Early childhood education and care workers (What type of community do they provide service in?)	**What type of caregiver are they?** Parents Grandparents Other type of caregiver How many children do they take care of? What is their household income? What is their level of education?	**What type of business are they?** What type of business do they operate (e.g., lead acid battery manufacturer, paint producer, retail distributor, recycling centre, etc.)? How many employees do they have? How many customers do they have? Are they a part of a business association? What is the size of their business? Do they have an existing corporate responsibility and good stewardship policy?

3. Strategy

Policymakers	Service providers	Caregivers	Private sector
Are key messages factual and evidence based? Can data be provided that is connected to their jurisdiction? What are the channels to reach the policymakers (e.g., town halls, traditional media coverage, etc.)?	Are key messages tailored to their education level and service area (e.g., child health focus or education focus)? What are the channels to reach the service providers (e.g., through formal education programmes in medical school, continued medical education credits for health workers, continued education credits for teachers, conferences, etc.)?	Are key messages actionable at a household level? Is communication at the correct reading level? Do they want more video or multimedia content? What are the channels to reach the caregivers (e.g., TV, websites, social media, flyers at in-person community events, etc.)?	Are key messages focused on facts and evidence? Do they highlight the economic impact of childhood lead poisoning and provide examples of alternative business practices? What are the channels to reach the people in the business (e.g., industry conferences, one-on-one meetings, etc.)?

4. Implementation

Policymakers	Service providers	Caregivers	Private sector
Have the following tactics been considered? • Publish compelling local data in local media • Policy briefs shared in one-on-one meetings • Events like webinars and conferences • Advocacy such as youths directly raising the issue with politicians	Have the following tactics been considered? • Sensitive communication if health worker is sharing blood lead level data with families • Incorporating lead poisoning information into education curriculum for service providers • Events like teacher and medical association gatherings • Media relations in academic journals, publications, podcasts, etc.	Have the following tactics been considered? • Publishing human-interest stories and data stories in traditional media • Social media • Direct communications campaign via SMS, email marketing • Community-based, in-person events	Have the following tactics been considered? • Direct communications to share business data related to childhood lead poisoning and alternative business practices • Events at industry gatherings • Media relations in business outlets • Advocacy through their customers, including youths

5. Monitoring and evaluation

Measure against the SMART objective, for example:

- Audience reached through traditional media placements
- Audience reached on social media
- Number of brochures, posters and other materials handed out at in-person events
- Anecdotal evidence from in-person interactions
- Visits to website or downloads of online materials
- Change in behaviour or policy, as measured quantitatively or qualitatively

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