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_____ _____

Jessica R. Rodgers Date

Grant Proposal to Reduce the Burden of High Lead Exposure in Children Through Community-Centered Education Programs in The Western Metro Area of Atlanta, Georgia

By

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William Michael Caudle, PhD
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Committee Member

Grant Proposal to Reduce the Burden of High Lead Exposure in Children Through Community-Centered Education Programs in The Western Metro Area of Atlanta, Georgia

By

Jessica R. Rodgers

B.S., Public Health
Georgia State University, School of Public Health
2018

Thesis Committee Chair: William Michael Caudle, PhD

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health in Prevention Science
2020

Abstract

Grant Proposal to Reduce the Burden of High Lead Exposure in Children Through Community-Centered Education Programs in the Western Metro Area of Atlanta, Georgia
By Jessica Rodgers

Heavy metals, including lead, mercury, arsenic, and cadmium, are naturally occurring elements that may be found in the soil and groundwater. Over time, an increase in industrial production, manufactured products, and technological applications have led to increased amounts of heavy metals in the household and industrial regions of the United States. According to the CDC, chronic exposure to elevated levels of heavy metals in the household or workplace may cause developmental delays, reproductive issues, and neurological disorders. Young children, in particular, are at risk of developing behavioral and developmental problems when exposed to heavy metals such as lead or cadmium for long periods of time (CDC, 2019).

Lead-based paint exposure is the primary risk factor for elevated blood lead levels in children. In 2018, a Georgia statewide screening for lead poisoning among children under the age of 6 indicated several counties in which over 6% of the children screened had a blood lead level of over 5 ug/dl, the CDC reference value for public health intervention (GCLPP, 2018).

This mock grant proposal is in response to EPA Request for Proposal (RFP) opportunity EPA-OP-OEJ-18-01 that was posted in January 2018. Liveya, Inc., an imaginary non-profit organization, is conducting an educational program called the LEADucate program for lead poisoning prevention. The LEADucate program will be administered in partnership with the Family Health Center at West End (FHCGA), a not-for-profit, 503(c) federally qualified community health center located in West End, Atlanta Georgia, YMCA Atlanta, and the Georgia Department of Public Health. Liveya, Inc. is seeking to utilize awarded funds for the preparation of an adult and community learning curriculum centered on household and community lead exposure prevention among young children. The program seeks to improve knowledge of sources of household lead exposure and prevention methods at the community and individual level. The curriculum is based upon the Environmental Protection Agency's Environmental Justice Collaborative Program-Solving Model framework (EJCPS) which seeks to build partnerships with stakeholders and community members to develop solutions to address environmental issues in the community (EPA, 2006).

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Acknowledgements

Sincere thanks to my colleagues, friends, and thesis committee for your guidance and support in completing this thesis.

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

The following thesis includes a mock grant proposal in response to an Environmental Protection Agency RFP that was published in 2018. The mock grant proposal seeks award funding for a lead poisoning prevention program for parents and community members in the West End, Atlanta community.

Overview

Lead-based paint exposure is the primary risk factor for elevated blood lead levels in children. In 2018, a Georgia statewide screening for lead poisoning among children under the age of 6 indicated several counties in which over 6% of the children screened had a blood lead level of over 5 ug/dl, the CDC reference value for public health intervention (GCLPP, 2018).

This mock grant proposal is in response to EPA Request for Proposal (RFP) opportunity EPA-OP-OEJ-18-01 that was posted in January 2018. Liveya, Inc., an imaginary non-profit organization, is conducting an educational program called the LEADucate program for lead poisoning prevention. The LEADucate program will be administered in partnership with the Family Health Center at West End (FHCGA), a not-for-profit, 503(c) federally qualified community health center located in West End, Atlanta Georgia, YMCA Atlanta, and the Georgia Department of Public Health. Liveya, Inc. is seeking to utilize awarded funds for the preparation of an adult and community learning curriculum centered on household and community lead exposure prevention among young children. Preparatory activities for the program include project materials and software for instructional materials, training for health educators, information development and recruiting materials, and additional support for resources in partnership with community organizations to conduct program activities and a summative evaluation.

Purpose Statement

The LEADucate program seeks to provide education and outreach to the West End, Atlanta community to prevent lead exposure in young children. The LEADucate program will be implemented in West End, Atlanta through the development of a community-focused curriculum on lead poisoning prevention and will be implemented within a coalition of community partners.

The LEADucate program includes training and public education on heavy metal contamination in households and other structures within the West End, Atlanta community. An additional component of the program will aid local organizations in the monitoring and research of heavy metal contamination and toxic substances exposure in young children.

The program seeks to provide educational resources to the selected sample population in accordance with the Toxic Substances Control Act, Section 10(a) and will include EPA curriculum materials such as *Protect Your Family From Lead In Your Home* (2020) and *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools* (2011).

Objectives

The program seeks to improve knowledge of sources of household lead exposure and prevention methods at the community and individual level. The curriculum is based upon the Environmental Protection Agency's Environmental Justice Collaborative Problem-Solving Model framework (EJCPS) which seeks to build partnerships with stakeholders and community members to develop solutions to address environmental issues in the community (EPA, 2006). The framework is based upon principles of environmental justice, in which community members are encouraged to build community capacity and leadership development for addressing environmental injustice, such as household lead exposure in areas of low income, poor housing, or areas of increased environmental risks. In turn, community organizations and other stakeholders are encouraged to form collaborative partnerships with community members to bring together the resources necessary to reach these environmental goals (EPA, 2006).

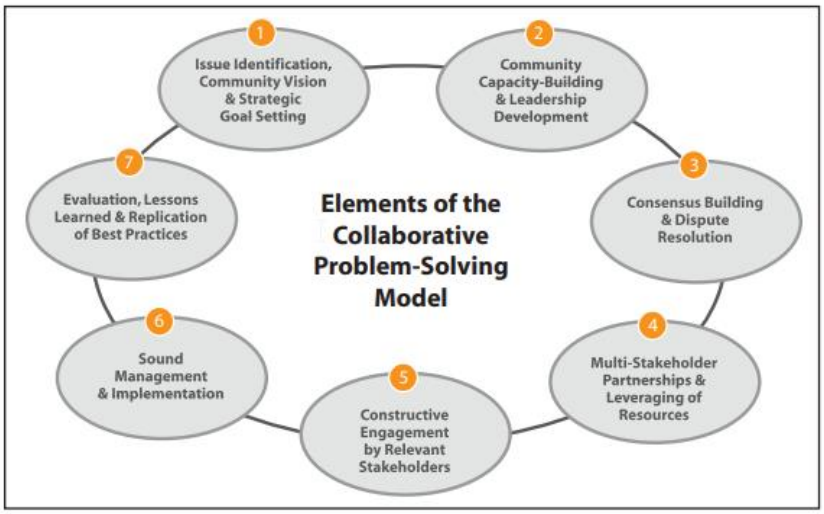


Figure 1: The Collaborative Problem-Solving Model

This model is utilized by the Environmental Protection Agency to establish a collaborative framework for stakeholder and community partnerships for solving environmental injustice issues.

Performance measures for the program include knowledge attribution rates (assessed in pre-and post-testing during curriculum), qualitative data from focus groups and community-led forums with environmental health organizations. Secondary outcomes of the program include improved self-efficacy and confidence of community members in building coalitions to address environmental injustice in the West End community, and an increased knowledge of existing resources and community partners for household lead exposure testing, abatement, and medical treatment interventions for young children who have been exposed to lead in the household.

CHAPTER II: REVIEW OF THE LITERATURE

Literature Review

Heavy metals and metalloids, including lead, mercury, arsenic, and cadmium, are naturally occurring elements that may be found in the soil and groundwater. Over time, an increase in industrial production, manufactured products, and technological applications have led to increased amounts of heavy metals in the household and industrial regions of the United States. According to the CDC, chronic exposure to elevated levels of heavy metals in the household or workplace may cause developmental delays, reproductive issues, and neurological disorders. Young children, in particular, are at risk of developing behavioral and developmental problems when exposed to heavy metals such as lead or cadmium for long periods of time (CDC, 2019).

Heavy metal exposure was not always considered a health risk. Although health effects due to heavy metal exposure have been identified since the first century BC, the Industrial Revolution first highlighted the negative health effects of metal intoxication in a public forum (Riva et al, 2012), and fostered key legislation for the protection of occupational workers, in particular, from chronic exposure. Preventive strategies were implemented in factories, including the introduction of PPE and cleaning agents to reduce lead poisoning. At the time, milk was viewed as a purifying substance and preventive strategy for reducing lead poisoning effects due to the role of calcium in lead absorption processes (Riva et al, 2012). Companies such as Sherwin-Williams advised the public of the health effects of exposure to white lead in paint. Despite the medical knowledge of chronic exposure to heavy metals at the time, no significant legislative measures were enacted by the U.S. Government until the Environmental Protection Agency's creation in 1970 (Environmental Protection Agency [EPA], 2020). The first major act of legislation related to lead exposure was the Clean Air Act of 1970, which set national air quality standards for automobile emissions and led to the production of the catalytic converter (EPA, 2020). Legislation was also passed for basic groundwater, beach, and industrial standards.

On January 13, 1971, the Lead-Based Paint Poisoning Prevention Act was established to regulate and fund the prevention and control for lead-based paint hazards (Schierow, 2008). In particular, the act was intended to reduce lead exposure among young children, who were exposed to lead-based paint from walls, door lambs, window sashes. The LBPPPA was followed by a ban on lead-based paints for residential use in 1978, reducing the risk of lead exposure from household structures built during 1978 or late (CDC, 2020). Additional policies for the gradual removal of lead from gasoline (Clean Air Act of 1970) and consumer products such as toys and infant products (Consumer Product Safety Improvement Act of 2008) reduced further risk of household lead exposure in young children.

Further medical research resulted in a better understanding of the effects of chronic exposure to heavy metals during childhood. Lead toxicity is defined as an elevated amount of exposure to lead, which can be absorbed, and thus measured, in the blood. Biomonitoring of lead exposure effects has found that elevated lead levels in the body may inhibit the physiological actions of other minerals, may alter gene expression, and ion channel binding (CDC, 2017). As a result, individuals exposed to elevated levels of lead over time may be at increased risk of high blood pressure and cardiovascular disease, kidney disease, and reduced fertility. Children exposed to high levels of lead at young ages may experience

neurological effects and developmental disorders, which present as ADHD/hyperactivity disorder symptoms (Daneshparvar, 2016). Chronic lead exposure in childhood and through adolescence may result in irreparable health effects into adulthood.

Although the passed legislation reduced the production of lead-based paints and consumer products after the 1970s, many children were exposed, and have continued to be chronically exposed to lead and other heavy metals. According to the World Health Organization, ingestion (hand-to-mouth, contaminated dust on the floor, or children's toys) is the most common pathway for lead exposure among young children (WHO, 2010). Young children may also be at risk of developmental issues in utero if the mother is exposed. Airborne lead inhalation may also occur when children and adults are exposed to burning materials, fuel, or stripping of painted surfaces - PPE and other protective measures in industry have become the standard for prevention of heavy metal toxicity in occupational settings.

In recent years, lead exposure in low-income housing and municipal water supply have brought the negative health effects of lead exposure into the public eye, once more. Children of low income and minority status are at an increased risk of chronic lead exposure due to home and community hazards, pollution, and family occupational exposure (Gochfeld et al, 2011). The phenomenon of elevated risk of exposure and subsequent poor health disparities among low-income children and children of color may be referred to as a form of "environmental injustice" (Gostin, 2016). Environmental injustices are defined as socioeconomic risks that lead to disparities in the health and social wellbeing of a certain population (in particular, minority and low-income residents) who are disproportionally exposed to pollution, toxins, natural disasters, and water contamination in their communities. Often residents continue to be exposed to environmental hazards due to unresolved inequities in housing, community protection from environmental hazards, occupational safety, and lack of governmental intervention. The Flint water crisis is perhaps one of the most infamous instances of environmental injustice over the past decade, in which Flint residents were exposed to a contaminated water supply, leading to elevated blood lead levels in young children. In addition to Flint, many other instances of lead exposure and systematic environmental injustices in the United States have gone underreported. According to a cost-analysis tool created by Altarum and supported by the Robert Wood Johnson Foundation, the 2019 lifetime economic burden of childhood lead exposure in the state of Georgia is $2.6 billion, which includes lost lifetime productivity, increased health care and social assistance spending, and premature mortality (Altarum, 2019). 11,122 children in the 2019 birth cohort had a blood lead level (BLL) measuring higher than 2ug/dL, which is 9% of all births in Georgia. The impacts on childhood development are not widely reported and may be incorrectly attributed to behavioral issues or other risk factors. Children at the highest risk of exposure often reside in homes built before 1978 or federally subsidized housing, which contain traces of lead-based paint chips or dust (Georgia Department of Public Health). According to the 2017 American Healthy Homes Survey conducted by the Department of Housing and Urban Development (HUD), 37 million homes contain possible lead-based paint hazards (Health Affairs, 2017). In 2016, 57,000 federally assisted housing units were identified to have health hazards. GIS mapping indicates that across many major U.S. cities, elevated blood lead levels in children are present in areas with concentrated federally assisted households. Despite these numbers, HUD does not currently require lead hazard risk assessments to be performed prior to rental of the unit (Health Affairs, 2017), leaving many renters at risk of exposure. In such units, renters may be asked to sign a lead paint disclosure form indicating the possible presence of lead-based paint in the home. In cities like Cleveland, Ohio, the financial burden of lead poisoning lies at the federal level. With limited federal and state funding for lead testing and remediation, many homeowners and renters are unable to relocate

from lead-contaminated homes or are unable to afford the remediation work needed to remove lead paint.

Young children may also be exposed to lead from other sources, such as contaminated soils. Naturally occurring elements such as arsenic and lead are present in groundwater, soils, and sediments in small amounts, however, communities built on land formerly used for industrial purposes may be at risk of heavy metal exposure due to contaminated soil. In 2018, the Saikawa Group discovered hazardous levels of soil contamination and industrial slag in the soil of a West End, Atlanta community (Balotin, Distler, Saikawa et al, 2020). The site, an urban community garden, indicated above-average lead levels of 400 ppm and higher. While the EPA was notified to probe the community for further sites of soil contamination, many homeowners in the community were unaware of the potential for heavy metal contamination prior to the Saikawa Group study. According to a survey performed by the research group, the majority of participants were unaware of the possible sources of exposure to heavy metals in the community (Balotin, Distler, Saikawa et al, 2020). Community members expressed that soil testing and remediation resources were not readily available due to lack of transportation or reliable resources. Additionally, many community members were unaware of the resources available for soil remediation and testing in their gardens, backyards, and community. The researchers recommended further outreach efforts, training, and coordination was needed in communities such as West End, Atlanta to increase knowledge and self-efficacy for contaminated soil and other sources of heavy metal toxicity.

Community-based education programs may improve community knowledge attrition of lead poisoning prevention, healthy homes community resources and lead abatement/remediation resources. One such program was the Mississippi Lead Poisoning Prevention and Healthy Homes program that partnered with the Centers for Disease Control and Prevention in 2015 to provide community trainings (CDC, 2011). City partners conducted a six-month campaign throughout six cities with an elevated risk of lead poisoning. Community members received lead poisoning prevention educational materials, prevention toolkits, and were provided with resources for engaging with local leaders and city officials. Lead testing has since been increased due to community engagement and awareness of the risks of lead poisoning sources.

The Environmental Protection Agency (EPA) has also supported initiatives to improve community awareness, engagement, and knowledge of the risks of lead poisoning, asthma, and housing-related hazards. In 1999, the U.S. Department of Housing and Urban Development (HUD) lauded the Healthy Homes Initiative (HHI) for the prevention of housing-related health and safety hazards. The Healthy Homes Initiative provides funding and guidance for community programs to perform research on low-cost methods for hazard assessment and interventions, and for public education programs (HUD, 2020). Funding is provided to non-profit community organizations, state and local governments, universities, and tribal organizations in the form of Healthy Homes grants, including the Healthy Homes Demonstration Grant Program and the Healthy Homes Technical Studies Grant Program. Organizations who are awarded grant funding may implement community-centered programs that address environmental hazards and train individuals such as health professionals, community health workers and rental property owners.

To address environmental injustice for underserved communities, the EPA's Office of Environmental Justice (OEJ) developed a cooperative agreement program around the Environmental Justice Collaborative Problem-Solving Model (abbreviated as CPS Model) in 2004. The model seeks to form solutions to environmental or public health issues through the collaboration of various stakeholder groups. According to the EPA, "partnerships can range from informal working relationships to very

structured arrangements in which goals, membership, ground rules, and operating principles are clearly defined" (EPA, 2020). The CPS model includes seven elements in a circular diagram, which may be continuously utilized as a toolbox for successful collaboration among stakeholders. Elements of the model include issue identification and community vision, capacity building, dispute resolution, multi-stakeholder partnerships, constructive engagement, and evaluation/best practices reviews of prevention programs. These elements may be applied to lead prevention education programs that seek to improve self-efficacy, mobilization, and capacity building within underserved communities.

One overarching goal of lead poisoning prevention programs may be to educate and empower community members to identify potential environmental hazards in the household and to know how to report them before long-term chronic exposure occurs in young children in the household. To achieve this goal, housing, community, and implementation objectives are necessary for the success of the program. According to the EPA, for successful capacity-building, community-based organizations should seek to educate themselves on the issue, gather appropriate information and involve residents in formulating solutions and strategies for solving the problem (EPA, 2020). Education programs centered around the community provide a platform for engagement and mobilization, improving capacity for the community residents to engage in the decision-making process with organizations, legislators, or local leaders. Dispute resolution is also an important component of capacity building. In the context of community education programs, dispute resolution techniques may include holding a discussion panel with community organizations or local leaders to address disagreement in the approach or resolution of an environmental issue. All relevant stakeholders benefit from dispute resolution techniques that encourage facilitation, negotiation, and mediation between community members, non-profit organizations, local industry organizations or government representatives.

The CPS model also encourages leveraging of resources. In the context of environmental injustice, community members at risk of lead poisoning due to structural or environmental issues may not have adequate access to local resources. This may include establishing Community Development Task Forces to mobilize the community to vocalize their concerns to government organizations or the EPA. Tangible action plans and regular meetings between stakeholders, public interest groups and community members all positively contribute to the strength of a stakeholder-community partnership.

Lead and other heavy metal poisoning in young children may be framed as an environmental injustice, due to the systemic conditions that lead to at-risk communities being neglected. By framing these efforts using the EPA's Environmental Justice Collaborative Problem Solving model, successful community education, training, and outreach programs may reduce the number of children chronically exposed to lead in their household or built community, and may increase awareness and testing of heavy metal poisoning as a preventative measure. Many communities currently at risk are not aware of the resources available to prevent lead poisoning and may attribute the health effects to another source. Community outreach programs include multiple stakeholders, from community health workers to the EPA, to engage and educate the community and improve the health outcomes of young children exposed to lead or heavy metals in their household.

CHAPTER III: METHODOLOGY

Overview of Agencies

Proposals for community education program funding may be awarded by local or federal organizations. This mock proposal is in response to an RFP by the Environmental Protection Agency's Office of Environmental Justice. Funds are provided from the Environmental Justice Collaborative Problem-Solving Cooperative Agreement program. Similar proposals may be funded by other federal organizations, such as the Centers for Disease Control and Prevention, or Agency for Toxic Substances and Disease Registry.

At the community level, education programs may be funded by nonprofit organizations, such as 350.org or Earth Policy Institute, in the form of small grant awards.

Environmental health education programs may also be supported by local departments of public health and environmental health agencies at the state level.

Summary of Grant Announcement

The U.S. Environmental Protection Agency's Office of Environmental Justice issued a notice for a Request for Proposals (RFP) Amendment, funding opportunity EPA-OP-OEJ-18-01 on January 4, 2018. In partnership with the Environmental Justice Collaborative Problem-Solving Cooperative Agreement, the proposal awards $1,200,000 across 10 EPA regions (a $120,000 award per region) for a project period of two years starting on September 1, 2018. Applicants must be an incorporated non-profit organization, federally recognized tribal government, or tribal organization. The grant provides funding to organizations that seek to further at least one of the EPA's strategic plan priorities, including improvement of air quality, ensuring clean and safe water, cleaning up contaminated sites, or increasing collaboration, public participation, and transparency within communities. The proposed project must include elements of the EPA's OEJ collaborative problem-solving model (CPS model) and activities aligned with at least one of seven designated environmental statutes, such as the Solid Waste Disposal Act, Section 8001(a). The proposal must include evaluation criteria and a performance measurement plan.

Proposal Review Criteria

The EPA Funding Opportunity designates key criteria for a competitive proposal.

Required Forms	Proposal Guidelines
SF-424 Application for Federal Assistance	The mock proposal does not include a completed SF-424 form, however, in the final proposal package submitted on Grants.gov, a SF-424 form would be completed in alignment with the EPA RFP guidelines.
Proposal Work Plan	The proposal includes a proposed work plan in the form of a project narrative, in the requested format provided by the EPA RFP.
Itemized Budget Sheet	An itemized budget is included in alignment with the $120,000 award for a 2-year program timeline.
Project Performance Measures/Logic Model	Project performance measures, a logic model, and evaluation plan are included in the proposal.
Letters of Commitment from Partners	Letters of commitment are included in the proposal appendix.
Key Contacts List	A list of key contacts and stakeholders is provided within the proposal.
Resumes of the Project Manager (PM) and Key Personnel	The resumes of the project manager and key personnel would be provided in the proposal package.
Proof of Non-Profit Status	Although not included in the mock proposal, proof of non-profit status of mock non-profit “Liveya, Inc.” would be provided in the proposal package.

Work Plan Requirements	Proposal Response
Project summary	Summary document including responses to designated questions, project type, list of project partners, and abstract.
Environmental and Public Health Information	Summary of the impacted community, the local environmental/public health issue(s)

	the proposal seeks to address, and how the underserved community is impacted and will benefit from the project.
Organizational Information	Organization information including history of applicant and applicant's involvement is listed within the proposal.
EJCPS Model	Key steps of the EJCPS model are designated and explained within the proposal.
Strategic Plan Initiatives	Summary of the project's initiatives and priorities in alignment with the EPA's strategic plan are included within the proposal.
Partnerships and Collaborations	Information on the partnerships involved in the project, as well as the roles of each partner, are listed in the project summary.
Project Activities/Milestone Schedule/Budget Narrative	Activities, milestone schedule, and a budget narrative are included in the proposal.
Environmental Results and Performance Measures	A logic model, evaluation plan and performance measures are documented within the proposal.
Programmatic Capability	Information is provided on the Liveya, Inc. mock organization, staff experience and expenditure of funds as part of the project work plan.
Past Performance	History of previous grant awards of the organization and performance evaluations are included in the proposal.
QAPP Information	A Quality Assurance Project Plan (QAPP) Questionnaire is included in the proposal appendix.

The Grant Review Process

Grant reviewers were selected based on professional title and affiliation. Reviewers were individually provided with a draft copy of the proposal (word document format) as well as a generic proposal checklist for consistent review criteria in late April. Reviewers were provided up to 4 weeks to return the proposal with their feedback, in word format, via email for me to analyze and interpret.

Grant Proposal Reviewers

Timothy Frederick, MPH
Adjunct Instructor, Emory University Rollins School of Public Health
Human Health Risk Assessor, EPA Region 4: Superfund Division

William Caudle, PhD
Research Associate Professor, Emory University Rollins School of Public Health
Faculty, Executive MPH Program

Todd Everson, PhD
Assistant Professor, Emory University Rollins School of Public Health
Faculty, Environmental Health
Jointly Appointed, Epidemiology

Tracy Yandle, PhD
Associate Professor, Internship Programs and Business Concentration Coordinator
Emory College of Arts and Sciences

Eri Saikawa, PhD
Associate Professor, Emory University Rollins School of Public Health
Jointly Appointed, Environmental Health
Director, The Saikawa Group

Protection of Human Subjects

Human subjects are involved in the proposed project design.

If funded, the program includes educational activities that will be held in a series of courses each week at a local YMCA center. Study participants will be recruited from the local FQHC (federally qualified health center) in the West End, Atlanta community.

Protection of Human Subjects Guidelines

1. Human subjects' involvement, characteristics, and design

The subject population will be recruited using a stratified sampling method, in which participants are divided into subgroups based on gender and age. The recruitment sample will include 300 existing patients at the Family Health Centers of Georgia (FHCGA) clinic that have attended at least one primary care visit in the past year. Participants recruited include persons aged 18-65 years of age. The initial sample will be narrowed down to 200 participants with 2 subgroups, 100 male and 100 female-identifying persons.

2. Human subjects materials collected

Program materials collected by program participants include pre and posttests. Human subjects may voluntarily opt-in for blood lead level testing before and after the program. Clinical testing will be performed by health center personnel and will be stored within the participant's health record at the center. De-identified data will be provided to Liveya, Inc. as part of the program evaluation phase. Written materials (such as pre and posttests) will be administered by Liveya, Inc. and stored in a data management system for analysis.

3. Recruitment and informing subjects of study or program

Recruitment will occur one month following the award date at the federally qualified health center (FQHC) The Family Health Centers of Georgia, Inc. (FHCGA) over a period of four weeks. Participants may be provided with materials on the curriculum and educational information on heavy metal exposure in household settings.

4. Potential risks to human subjects

There are no significant physician or psychological risks to human subjects expected as part of the curriculum program. Limited information will be collected from human subjects to reduce risk of loss of confidentiality. Minor health risks may be associated with voluntary blood draws by FHCGA personnel.

5. Benefits of the research or program to human subjects and society

The LEADucate program seeks to inform and empower West End residents, to educate residents on the risks of environmental exposure within their community, and to provide resources such as educational materials and information on local coalitions or nonprofit organizations that serve West End residents. Program activities are in alignment with the EPA's environmental justice outreach initiative and seeks to encourage program participants to build partnerships with local representatives.

CHAPTER IV

Sincere thanks to Dr. W. Michael Caudle, Dr. Tracy Yandle, Dr. Todd Everson, Dr. Eri Saikawa, and Dr. Timothy Frederick for the time and effort they have spent reviewing the draft grant proposal.

Reviewer 1 Comments

Reviewer 1: Timothy Frederick, MPH

Comment 1: There is no discussion of a "removal program" in the rest of the document. Can you clarify what is meant here.

Response to comment 1: The environmental statute section has been updated - it included information on the LEADucate program being a testing and removal program, however, it was changed to reflect an educational curriculum instead.

Comment 2: This is contradicted later in the proposal. I agree that a QAPP is needed. The later text (highlighted with a comment) should be revised.

Response to comment 2: Revised QAPP Questionnaire and section to include QAPP justification.

Comment 3: Revise "include project materials" to "the production of project materials" in Startup/Preparatory Activities paragraph.

Response to comment 3: Revised based on feedback.

Comment 4: What is this? (Referring to Zoho). Add a brief statement about what this is - your reviewer may not know what it is (I don't know what it is). Don't assume that reviewers will know what you know. Clarify wherever you can.

Response to comment 4: Included definition of Zoho People system in the Quantitative Research Reporting section.

Comment 5: Discuss who will have access to the data, how it will be protected, and how it will be analyzed (by who?)

Response to comment 5: Revised Quantitative Research Reporting section to include data analysis guidelines and security protocols.

Comment 6: Why is it necessary to report attendance out to the state?

Response to comment 6: Omitted sentence regarding reporting attendance to state agency - not relevant for project.

Comment 7: Provide a little more info on these instruments (regarding CDC Evaluation framework and evaluation checklist by Western Michigan University.

Response to comment 7: Added clarification on these tools and softwares.

Comment 8: It's not clear that these data are included in the quantitative data collection section earlier in the document.

Response to comment 8: Revised Quantitative data section to clarify the data being collected specifically for data collection.

Comment 9: What is this? It is not mentioned elsewhere in the document.

Response to comment 9: Clarified MAXQDA as software for qualitative data analysis.

Comment 10: Clarify? The evaluator is not managing Liveya staff?

Response to comment 10: Revised sentence to state that program coordinators will conduct research, with oversight by the evaluator for the evaluation process.

Comment 11: (Regarding salaries) - This seems excessive or needs to be clarified further - you appear to be paying someone the same thing for five weeks of work that someone who is working for the entire two year period is making. Almost the entirety of the proposal is going to two salaries.

Response to comment 11: Reallocated funding from focus group coordinator position to data sharing agreement with DPH. Position is only for a five-week period (200 hrs) so made position hourly for that period. Also added section for fringe benefits in budget justification for health insurance costs.

Comment 12: A performance measurements table is not included in Appendix B.

Response to comment 12: Excluded measurements table and clarified a logic model is in Appendix B.

Comment 13: Define BDI Logic Model in diagram caption for logic model.

Response to comment 13: Revised to include full definition of BDI Logic Model in caption.

Comment 14: Explain what figure 4 has to do with the Programmatic capability

Response to comment 14: Included description of Figure 4: Socio-ecological framework and how it is relevant in the contact of programmatic capability.

Comment 15: Describe the capabilities of Liveya and your ability to handle projects like this. What successes has your 15 member staff and board have that suggest that you will be effective if given $100K+

Response to comment 15: Included information in Past Performance section to strengthen Liveya Inc.'s capabilities of project management and previous projects funded.

Comment 16: Earlier in the document you indicate that a QAPP is necessary (It is). Modify this section accordingly.

Response to comment 16: Included additional information on the QAPP - this section previously pertained to specific components that were excluded from the project. A QAPP was requested as part of the EPA RFP but will not be completed as part of the grant proposal.

Comment 17: Do you mean BLL will be below 5 ug/dL? It is unrealistic to lower by 5 ug/L because many will have BLL below or near 5 ug/dL already. This also conflicts with the next goal of decreasing by 1 ug/dL

Response to comment 17: Removed the second goal for reducing by 5ug/dL since there is already an existing goal for decreasing by 1 ug/dL which is more attainable. Corrected units.

Comment 18: Be consistent expressing units. ug/dL, mcg/dL, mcg/DL are all used in the document

Response to comment 18: Corrected units to ug/DL consistently across all goals and objectives.

Comment 19: Is there a goal missing here? Or is this a second object to the previously stated goal?

Response to comment 19: Revised objectives section to ensure goals and objectives match.

Comment 20: Conflicts with previous goal.

Response to comment 20: Same as comment 19 - revised objectives.

Comment 21: This part seems underfunded in time and $ (referred to ID job in itemized budget)

Response to comment 21: Revised itemized budget and reallocated funds/clarified hourly rates and total hours.

Comment 22: More justification is needed for why a 5-week employee gets this much money.

Response to comment 22: Revised budget, specifically for focus group coordinator position that is now hourly.

Comment 23: This should be part of your organization's overhead costs and would not be passed along to EPA grant money.

Response to comment 23: Removing health insurance costs (to be included in org. overhead costs) and reallocating budget to evaluator salary costs.

Comment 24: In regards to QAPP questionnaire: You will be analyzing data and statistics will be generated (you mentioned analyzing in SAS earlier) – change to Yes

Response to comment 24: Revised QAPP questionnaire responses.

Reviewer 2 Comments

Reviewer 2: Todd Everson, PhD

Comment 1: How will this be followed up on? Will there be some kind of evaluative process about whether partners' expectations have been met?

Response to comment 1: Revised the startup/preparatory activities section to include information on the evaluation phase of the project, which will include surveys and reviews of key stakeholder objectives.

Comment 2: How will the program be advertised to the target population so that those at highest risk of lead exposure are most likely to attend?

Response to comment 2: I included information in the Program Activities section on the sample recruitment from the area federally qualified health center. Sampling details are included in the next section.

Comment 3: Everything below this says that these will be weekly, not monthly.

Response to comment 3: Corrected Program Activities section to 'weekly' meetings instead of monthly, since the program is centered around a 5-week period.

Comment 4: This would benefit from better description. Each column of information seems independent of the other. What are the interrelationships between the EJCPS model, the LEADucate program, and the evaluation.

Response to comment 4: Inclusion of a description under Figure 1 which includes details on the relationships between each model.

Comment 5: What kind of information will be collected on these surveys? Are these validated, or something that is being developed specifically for this project?

Response to comment 5: I included information on the CDC's Change tool, a community health assessment and engagement toolkit.

Comment 6: This is great, so glad to see that the plan is to also test the BLL of the participants if they want to participate. However, it isn't clear whether the results of the blood lead tests will be returned to those participants. I would think so, but clearly state that if that is so.

Response to comment 6: I added information on the FHCGA administering tests and how patients will be provided with their medical record and results through the FHCGA EHR system, independent of Liveya, Inc.

Comment 7: TE indicated the program stated 4 weeks instead of 5 weeks.

Response to comment 7: Revised the program design paragraph to include a period of 5 weeks.

Comment 8: More specifics about what will be measured in the evaluation surveys would help. What are the key measures of success, and how will they be assessed?

Response to comment 8: The paragraph under the evaluation plan was revised based on Reviewer 1's feedback, which echoed the same feedback for more information on key measures as part of the evaluation phase.

Comment 9: Overall, the goals are sound, but specifics about the implementation are lacking. What types of questions will be asked about their knowledge? What activities will be used to decrease biomarker concentrations of lead among participants? This information is critical to evaluating whether the improvement in scores translates to a meaningful increase in knowledge.

Response to comment 9: Added additional clarification under the recommendations of each objective to specify implementation measurements and justifications.

Comment 10: It wasn't clear to me that BLL would be measured one year apart, in the above sections, it sounds like it will be measured only at the beginning and end of the 5wk education program.

Response to comment 10: I changed the interval to 6 months post-program to reduce the time between testing. I also added additional information in the objective recommendations, stating that participants could voluntarily request testing at the end of the five-week program. The federally qualified health center (FQHC) will reach out to enrolled participants (existing patients of the center) for additional testing and provide resources if necessary.

Comment 11: What are these interventions?

Response to comment 11: I added additional information under the goal recommendations on participant-led interventions, such as regular lead testing and trainings on identifying potential household sources of lead exposure.

Comment 12: Are these dates correct? How can a proposal be for a time period that is already passed?

Response to comment 12: The dates pertain to the original EPA RFP from 2018, and not current dates.

Reviewer 3 Comments

Reviewer 3: W. Michael Caudle, PhD

Comment 1: I would suggest making this figure larger, so that it fits the page and is more readable (Regarding curriculum plan)

Response to comment 1: Modified curriculum plan to be more legible in document.

Comment 2: Make sure you are citing your figures and tables within your narrative, so that you are able to direct the reader to these features.

Response to comment 2: Adding citations within narrative section to figures in proposal.

Comment 3: This figure could be enlarged (EJCPS cycle photo)

Response to comment 3: Resized image to be more legible.

Comment 4: Enlarge this figure (socio-ecological model photo)

Response to comment 4: Resized image to be more legible.

Comment 5: Is this a repeat of Figure 3?

Response to comment 5: Figure 3 is cited within the proposal and in the appendix. Removed from the appendix.

Reviewer 4 Comments

Reviewer 4: Eri Saikawa, PhD

Comment 1: By reading this, I thought you would be focused on lead in water. But then you mention lead in paint. You might want to be consistent throughout.

Response to comment 1: I altered the applicant organization information to include lead poisoning prevention

Comment 2: “What is this?” referring to “Roles and Responsibilities” document.

Response to comment 2: I added additional information in the Startup/Preparatory Activities section which clarifies the document and includes additional information on evaluation activities with partner organizations.

Comment 3: “So is it weekly? Or Monthly?”

Response to comment 3: I revised the Program Activities section to clarify that the program consists of five weekly meetings, instead of monthly.

Comment 4: (In regards to curriculum plan): I made the figure bigger because it was very difficult to read. I would also loved to see the program for each of the modules in detail in words than in the figure.

Response to comment 4: I added an additional figure for program module content.

Comment 5: Why not write “ug/dL?”

Response to comment 5: I revised measurements to reflect ug/DL, which is the most commonly utilized measurement for blood lead levels, instead of mcg/DL.

Comment 6: How do you actually intervene to reduce it? This is a big reduction target and maybe most have less than this value as well?

Response to comment 6: I revised the goal to establish a baseline of 3 ug/DL or above as an “abnormal” score among the children of participants. The CDC has established a measurement standard of 5 ug/DL as an “elevated score,” so the baseline of this study will be slightly above that measurement.

Comment 7: Change measurement to ug/DL instead of mcg/DL.

Response to comment 7: Revised to ug/DL.

Comment 8: Change measurement to ug/DL instead of mcg/DL.

Response to comment 8: Revised to ug/DL.

Comment 9: Change measurement to ug/DL instead of mcg/DL.

Response to comment 9: Revised to ug/DL.

Comment 10: Change measurement to ug/DL instead of mcg/DL.

Response to comment 10: Revised to ug/DL.

Comment 11: No matter what the existing exposure is? What if it’s very close to 1mg/dL?

Response to comment 11: I omitted the second goal, which was nearly the same as the first goal, and clarified the baseline exposure threshold for participants’ children.

Reviewer 5 Comments

Reviewer: Tracy Yandle, PhD

Comment 1: This covers the basics of a cover letter well, but it doesn't convey anything exciting about the project – what makes it unique or exciting. It should motivate the reader to dig into the proposal. Also, I would strongly recommend using active voice rather than passive voice throughout the cover letter and the response.

Response to comment 1: I revised the cover letter to convey an active voice rather than passive. I also revised the cover letter to include more information on program activities and outcomes.

Comment 2: This comes across as quite vague. Can it be punched up by making it more specific here? (Project type information).

Response to comment 2: I revised the Project Type section to clarify the program activities and intended outcomes.

Comment 3: I know it's hard with 250 word limit, but this should be more specific – that makes it more compelling and excites the reader to keep going.

Response to comment 3: I revised the Abstract to include more information on the program.

Comment 4: I don't know your granting agency, but would it be worth a sentence or two to explain how it would be integrated into (and improve) the project rather than just being something you're doing because you have to? (Regarding QAPP)

Response to comment 4: I added additional information in the QAPP section which clarifies the definition of a QAPP and the necessity of the QAPP for the LEADucate program.

Comment 5: Would it be worth a sentence or two to re-state who you are and how this proposal is key to your organization's key strengths before going into personnel etc.?

Response to comment 5: I added the background information for Liveya, Inc. (mock organization) that was included in the Program Objectives section at the start of the proposal.

Comment 6: New hires or existing personnel already on staff?

Response to comment 6: I added clarification that new hires will be included specific to the program.

Comment 7: If you're having trouble with page limits and getting all your information across, eliminate wordy phrases like this and be more direct. E.g., "liveya, Inc will prepare … There's lots of opportunities to do this throughout the proposal. I've flagged just ths one as an example.

Response to comment 7: I reviewed and revised the proposal to improve phrasing.

Comment 8: I don't understand this. Surely if you are submitting a grant with partner organziation approval all you would have hammered this out before grant submission. This signals partners are not really on board.

Response to comment 8: I removed the existing information on the survey with program partners, and instead discussed shared outcomes and objectives which will be agreed upon by program partners prior to the start of the program.

Comment 9: Wait, what? I thought this was an education partnership. Why do you need to draw blood? This needs to be explained earlier.

Response to comment 9: I revised the information on blood testing and inserted this information earlier in the section with program activities.

Comment 10: Can this be moved later? It's not a compelling start to an activity description.

Response to comment 10: I moved this paragraph to the end of the Program Activities section.

Comment 11: Unless EJCPS is well-known in the field, you should explain this more. What is this? Why is it great? How is your implementation of this novel and worth funding?

Response to comment 11: I included information on the EJCPS model in this section and clarified its definition. The EJCPS model is a required framework for the EPA grant awardee.

Comment 12: Need to make this graphic larger. It is difficult to read as sized.

Response to comment 12: Resized graphic as requested.

Comment 13: According to this https://pubmed.ncbi.nlm.nih.gov/11407501/ blood lead levels for non-medically treated children would take several MONTHS to go down. 5 week interval testing would be meaningless. Why subject children to this (and potentially reduce participation by parents who may be hesitant to participate if they know they will be asked to allow their children to have blood drawn twice).

Response to comment 13: I revised the Reporting Activities section to reflect that participants will be able to obtain blood lead level testing for themselves and their children 6 months following the end of the program. A test will voluntarily be taken at the end of the five week program for baseline measurements.

Comment 14: Need more details on what focus group would discuss.

Response to comment 14: I added additional information on focus group discussion content in the Qualitative Research Reporting section.

Comment 15: Need more details on what pre and post surveys would focus on. How many people will participate? Will there be enough for any results to be meaningful?

Response to comment 15: I included information on the subject matter included in the surveys. All program participants will receive a pre and post-test.

Comment 16: Will information be identified or de-identified? Why? How will you address privacy concerns?

Response to comment 16: I added information on the data being identified specifically for attendance management. The data will not include medical information.

Comment 17: See comment above.

Response to comment 17: I added additional information on de-identified blood lead level scores and clarified the testing schedule for voluntary blood lead level testing.

Comment 18: Why? What will they do with this data? Why do they need it?

Response to comment 18: I added additional information on de-identified blood lead level scores and clarified the testing schedule for voluntary blood lead level testing.

Comment 19: Can this section be earlier? It would make the reporting activity section make more sense?

Response to comment 19: I moved the Program Design and Key Personnel sections to come earlier in the proposal (before Program Activities and Reporting Activities).

Comment 20: What are criteria for participating?

Response to comment 20: I added additional information on the sample design and adjustments for dropouts.

Comment 21: Needs more explanation.

Response to comment 21: I added additional information on the sample design and adjustments for dropouts.

Comment 22: Why this breakdown? Depending on what your target audience is (e.g., primary caregivers) this would not necessarily make sense.

Response to comment 22: I removed male and female subgroups from the sampling design, as differences in attitudes or knowledge by sex will not be analyzed.

Comment 23: Here you say one year, but the program runs 5 weeks. Please clarify.

Response to comment 23: I changed the program duration to five weeks instead of one year.

Comment 24: How many hours per week for the different position? I'm guessing not full time, but it needs to be articulated. This also looks very staff heavy for what is being proposed. (At least from the very cheap underfunded world I work in.)

Response to comment 24: Another reviewer also requested for clarification on the key personnel's positions. I revised the budgeted position hours to include the duration of the program period (5 weeks vs. one year). Clinical staff will be testing program participants as part of the FHCGA care plan rather than the program period.

Comment 25: This is talking about types of evaluations, but is short on details about what is being evaluated and how.

Response to comment 25: I added additional clarification on the evaluation design and methods, including a logic model.

Comment 26: What does this mean? 2.5 weeks?

Response to comment 26: I added additional clarification on the "mid-point" of the program, which is 2.5 weeks.

Comment 27: So, there seems to be $6000 that arguablely directly benefits participants (instructional design, supplies, travel, facility rental, refreshment) and $124,000 benefitting primarily the people organizing the project. I realize that the focus group coordinators will spend some time working with participants, but they're largely there for evaluation, so some of that could be counted towards participants). But still, do you think a funder would be troubled by this? You're not even compensating participants for their (considerable) time investment!

Response to comment 27: I revised the budget to remove the funding for internal staff members and allocated the budget towards program activities and evaluation. I also added a compensation component in the budget for participation. Fringe benefits have been removed from the budget after guidance from one of the reviewers, who suggested Liveya, Inc. would absorb these costs.

Comment 28: How many hours/weeks will this person work? If we assume 12 weeks at 40 hours per week (which seems high) this is $125 per hour. Why would focus group coordination take so much time (and $$$) with all the other personnel? Why is this coordinator 60X more valuable than the instructional designers (which is supposed to be the focus of the program)? A critical reviewer would quite suspicious.

Response to comment 28: I revised the budget to clarify focus group coordinators will work for the duration of the 5-week period.

Comment 29: Same comment as above (Regarding evaluator position)

Response to comment 29: I revised the budget to clarify the evaluator position, which is a two-year full-time position.

Comment 30: This is the first time you mention a follow up blood collection at the 1 year points. This is not mentioned in methods eariler. And again, from my (very brief) search, it appears that a year may not be enough time to show meaningful results. Why would people be willing to give you blood 1 year after the fact?

Response to comment 30: I revised this section to include the 6 month follow-up period, in which participants and their children may be re-measured. Another reading after one year may be necessary to assess the program effectiveness, however, due to confounding factors such as availability of quality housing, access to adequate interventions and resources, etc., blood lead level results may not be the sole measurement of program effectiveness.

Comment 31: Graphic is too small to read easily.

Response to comment 31: I re-sized the graphic as suggested.

Comment 32: Earlier material seemed to apply that this was an existing partnership. This says it's not yet established. Confusing (FHCGA)

Response to comment 32: I revised the outputs section to include that the partnerships with other organizations were existing with Liveya, Inc. and will be utilized for the LEADucate program.

Comment 33: These themes should be established earlier (like the first page) then continued throughout the proposal. Why is this first mentioned on P.11? (Regarding overarching goal of study)

Response to comment 33: I added this section to the beginning of the proposal, in the program activities and environmental statutes section, to include information at the beginning of the proposal.

Comment 34: How this graphic links to the paragraph above is not clear.

Response to comment 34: I removed the BDI logic model graphic from this section as the paragraph already references Appendix B.

Comment 35: This is a place to get very specific about what partners will do and how they will benefit. This section should be much more specifics. The Social-Ecological framework (if it is used) should be introduced much earlier and incorporated into the big-picture vision of how the project would work. Consider moving much of this material earlier and making this more specific and focuser.

Response to comment 35: I removed the socio-ecological model from this section, as the program objectives and literature review section adequately covers the SE framework and environmental injustice principles.

Comment 36: This may be a problem with confusing instructions. The section title doesn't match the instructions well. Right now this doesn't address past performance. This doesn't seem to fully answer the question of how business will be impacted beyond broad assurances that they won't be.

Response to comment 36: I omitted the Past Performance section, which is already clarified in the Overview of Agencies section. Additionally, I moved this information on the business of Liveya, Inc. to the Programmatic Capability section.

Comment 37: This is confusing given what is stated on P.4. But this may be because we don't do QAPP in my field.

Response to comment 37: I revised the need and guidelines for a QAPP to meet EPA standards in the project abstract section earlier in the proposal.

Comment 38: The material in this section is good. But it's unclear to me how it relates to the proposed solution discussed in the instructions, and I can't find the "our proposal" section referenced in these instructions. (regarding Implementation Plan section)

Response to comment 38: I omitted the guidance for the “Our Proposal” section, which does not match the design of the proposal. Program activities relevant to the Implementation plan are found in the Program Activities and overview sections in Chapter V of the proposal.

Comment 39: See above comments about whether this reduction is possible within 12 months. Also, why are participants not being compensated for the considerable time demands (and pain/stress) they and their children will go through? (Regarding goal for reduction of blood lead levels by 1 ug/dL)

Response to comment 39: I revised the goal to be 1 ug/dL difference and established a baseline indicator of 3 ug/dL as “abnormal” for the six month check-up by the federally qualified health center. Revised the budget to include compensation for program participants.

Comment 40: First time this is mentioned (confounding factors)

Response to comment 40: I revised the proposal to include information on confounding factors and socioeconomic factors that may contribute to increased blood lead levels (literature review).

Comment 41: Is something missing? This is just a graphic.

Response to comment 41: I revised Appendix B to be the BDI logic model, not program performance measures to clarify the data presented.

CHAPTER V: RESPONSE TO RFP

Grant Response Cover Letter

January 15, 2018

Liveya, Inc.

1518 Sesame Street

Atlanta, GA 30322

Environmental Protection Agency

Office of Environmental Justice

1200 Pennsylvania Avenue, NW

Washington, DC 20460

Dear Committee Members,

Please find our enclosed response to the Request for Proposals (RFP) opportunity EPA-OP-OEJ-18-01. Our organization, Liveya, seeks to reduce the risk and inequities of environmental heavy metals exposure within the west metro area of Atlanta, Georgia, EPA region 4.

Our proposed project includes a community-led curriculum which will educate community members on the risks of environmental exposure of heavy metals and how to identify resources for preventing household lead exposure. The program seeks to reduce blood lead levels in the children of participating community members by facilitating partnerships with local lead prevention organizations and legislators and seeks to increase self-efficacy and coalition-building within the community.

Thank you for your time and consideration.

Sincerely,

Jessica Rodgers, Executive Director

Liveya, Inc.

PROJECT WORK PLAN

1. Program Objectives

	Project Summary

Project Title:

LEADucate: A Community-Based Curriculum for Heavy Metal Poisoning and Exposure

Project Location:

West End, Atlanta, Georgia, 30310. Southwest quadrant of Atlanta, within land lots 117, 118, 139, and 140. EPA Region 4 (Southeast).

Rural Area?

No

New EJCPS Recipient (if awarded)?

Yes

Applicant Information (name, address, main contact information):

Jessica Rodgers, Executive Director

Liveya, Inc.

1518 Sesame Street

Atlanta, GA 30322

(p): 678-516-5415
(f): 678-516-3211
https://liveyainc.wordpress.com/

Brief Description of Applicant Organization -- Provide a brief description (100 words or less) of the applicant organization, including its mission and key ongoing projects/activities in which it is involved:

Liveya, Inc. is a mock 501(c)(3) nonprofit organization which seeks to reduce the risk and incidence of heavy metal exposure in communities of low socioeconomic status in metro Atlanta, Georgia. Liveya's mission is to empower and improve the health of Atlanta communities through community education and environmental justice initiatives. Key ongoing projects and activities include state and local partnerships for heavy metal testing, lead poisoning prevention education, as well as advocacy efforts in revitalizing existing brownfield communities identified in the EPA southeast region 4.

Project Period Dates:

Liveya is seeking funding for the two-year LEADucate program beginning September 1, 2018 and ending September 1, 2020 in accordance with funding availability.

Environmental Statute(s):

The LEADucate program intends to develop an educational curriculum for community partners using the Environmental Justice Collaborative Problem-Solving Model for lead poisoning prevention. The program will be executed in accordance with the Solid Waste Disposal Act, Section 8001(a) by conducting and promoting research and training programs in Fulton County, Georgia. The program will also provide educational resources cited in the Toxic Substances Control Act, Section 10(a) and support the research, development, and monitoring of communities at-risk of toxic substance contamination.

Project Type(s) -- such as training, monitoring, demonstration, public education (related to statute identified above):

The LEADucate program includes education, coalition-building, and community discussions on the health effects of lead contamination in households and other structures within the West End, Atlanta community. The curriculum will include modules on environmental injustice, health and social impacts of chronic lead exposure in young children, and resources for community members to identify and remove sources of lead exposure. An additional component of the program seeks to strengthen partnerships between local nonprofit organizations, EPA Region 4, community leaders, and parents within the community who are current patients of the Family Health Centers of Georgia, a federally qualified health center in West End, Atlanta, Georgia.

The program seeks to provide educational resources to the selected sample population in accordance with the Toxic Substances Control Act, Section 10(a) and will include EPA curriculum materials such as

Protect Your Family From Lead In Your Home (2020) and *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools* (2011).

The overarching goal of the LEADucate program is to 1. Improve community knowledge and self-efficacy of preventing household lead exposure in their household, and 2. To encourage coalition-building and community-led forums with environmental health organizations that seek to improve environmental justice in the West End, Atlanta community.

List of Project Partners -- include partner name and stakeholder group. (For example State University (academic); County commissioner (local government); Facility, Utility, etc. (industry)):

Liveya's project partners include the following organizations:

Georgia Department of Public Health (Local government)
Fulton County Board of Health (Local government)
The Family Health Centers of Georgia, Inc. (FHCGA)
Dean Rusk YMCA Head Start Academy (YMCA Atlanta)

Project Abstract -- Brief description (250 words or less) of the main objective, activities, and outputs/outcomes of the project, including the specific geographic areas of focus.

Lead-based paint exposure is the primary risk factor for elevated blood lead levels in children. In 2018, a Georgia statewide screening for lead poisoning among children under the age of 6 indicated several counties in which over 6% of the children screened had a blood lead level of over 5 ug/dl, the CDC reference value for public health intervention (GCLPP, 2018). The LEADucate program seeks to provide education and outreach to the West End, Atlanta community to prevent lead exposure in young children. The LEADucate program will be implemented in West End, Atlanta through the development of a community-focused curriculum on lead poisoning prevention and will be implemented within a coalition of community partners. This program seeks to provide education and resources for community members with young children, to properly identify and report sources of lead exposure in their homes and communities. An additional component of the curriculum will include open discussions with community leaders, environmental organizations and program partners on the concept of environmental injustice, and how community coalitions can be formed to report environmental concerns to the EPA and other agencies to reduce chronic lead exposure. Goals of the program include reducing blood lead levels in young children of participants by 1 ug/dL and increasing community awareness and partnerships with environmental agencies, legislators, and community advocates.

Will you need to develop a QAPP for your project? (see Appendix)

A Quality Assurance Project Plan (abbreviated as QAPP) is used by the Environmental Protection Agency for project planning and data monitoring. A QAPP is required for the LEADucate program as some

environmental and health data will be collected during the duration of the program. The completed questionnaire may be found in the Appendix. The QAPP consists of data monitoring and plans for collection, storage, and analysis throughout the project period.

2. Project Activities / Milestone Schedule / Detailed Budget Narrative

	Project scope defines the boundaries of a project. Think of the scope as an imaginary box that will enclose all the project elements/activities. It not only defines what you are doing (what goes into the box), but it sets limits for what will not be done as part of the project (what doesn't fit in the box). Scope answers questions including what will be done, what won't be done, and what the result will look like.

Startup/Preparatory Activities

Liveya, Inc. is a mock 501(c)(3) nonprofit organization which seeks to reduce the risk and incidence of heavy metal exposure in communities of low socioeconomic status in metro Atlanta, Georgia. Liveya's mission is to empower and improve the health of Atlanta communities through community education and environmental justice initiatives. Key ongoing projects and activities include state and local partnerships for heavy metal testing, lead poisoning prevention education, as well as advocacy efforts in revitalizing existing brownfield communities identified in the EPA southeast region 4.

Liveya, Inc. consists of 15 full-time employees and a five-member board of directors. Resources required for the two-year program include a project manager, activity coordinator, clinicians, four health educators, and two instructional designers. Three positions (focus group coordinator, instructional designers, and an evaluator) will be new hires for the LEADucate program. Clinical staff and health education resources will be provided in partnership with community agencies.

The LEADucate program will be administered in partnership with the Family Health Center at West End (FHCGA), a not-for-profit, 503(c) federally qualified community health center located in West End, Atlanta Georgia, YMCA Atlanta, and the Georgia Department of Public Health. Liveya, Inc. is seeking to utilize awarded funds for the preparation of an adult and community learning curriculum centered on household and community lead exposure prevention among young children. Preparatory activities for the program include project materials and software for instructional materials, training for health educators, information development and recruiting materials, and additional support for resources in partnership with community organizations to conduct program activities and a summative evaluation.

With consent, participants of the program and their children will be provided the opportunity to have blood lead levels taken at the end of the program. Study participants will be provided with informed consent documents, including necessary HIPAA and blood sample release forms by FHCGA which give consent for Liveya, Inc. and the Georgia Department of Public Health to coordinate activities around blood lead level (BLL) testing at the end of the program, and six months following the end of the program.

Program partners will be involved in the development and evaluation of the program. Liveya, Inc. and partner organizations have established program guidelines, expected outcomes and goals for the program, which will be evaluated through a process and impact evaluation. Study partners will also

receive a detailed Roles and Responsibilities document, which designates the responsibilities of each partner organization, staff member, and health staff involved in the program. An evaluation will be performed by an external evaluator following the five-week curriculum period to assess knowledge attrition rates and partner organizations' perception of the study objectives and activities.

Program Design

A study sample of 200 participants will be recruited from the Family Health Centers of Georgia, Inc. (FHCGA) clinic over a period of 5 weeks, beginning September 1, 2018. The participants will be sampled using a stratified sampling method, in which participants are divided into subgroups based on gender and age. The participants will be existing patients at the Family Health Centers of Georgia (FHCGA) clinic that have attended at least one primary care visit in the past year. An initial sample of 300 participants will be selected at random from the clinic through referral from their primary care provider at the Family Health Centers of Georgia (FHCGA). The 200 participants will be enrolled into the LEADucate program and may attend one of eight sessions (25 students each) on Monday or Wednesday each week of the five-week program.

Dropouts are expected and will be considered in the study. Liveya estimates a dropout rate of 20%. Utilizing the adjustments procedure for dropout samples (N=n/1(1-(z/100)) we have calculated a required sample size of 160 for the study to proceed.

The LEADucate program is designed as a cross-sectional study which follows the study population over the five-week pilot program period to assess lead exposure, knowledge attribution and blood lead levels (BLL) of participants and their children.

Key Personnel

The following positions are considered key personnel for the duration of the program.

Organization	Key Personnel
Liveya, Inc.	Management team (Executive Director, Project Manager, Program Manager) Activity Coordinators (2) Data collection and analyst team Focus Group Coordinators (2)
Georgia Department of Public Health and Fulton County Board of Health	Georgia DPH Environmental Health data analysis team (to receive testing data from Liveya, Inc.)
The Family Health Centers of Georgia, Inc. (FHCGA)	Clinical staff (4 nursing assistants) for blood lead testing Health educators (4) Clinical Manager for Recruitment
Dean Rusk YMCA Head Start Academy (YMCA Atlanta)	YMCA Staff Members (2-4)

Program Activities

Program participants will be recruited from the nearest Federally Qualified Health Center, the Family Health Centers of Georgia (FHCGA) in West End, Atlanta.

The program will consist of five, one-hour weekly meetings at the YMCA Center. In partnership with the center, program participants will have the opportunity for free childcare during the duration of the meeting. Liveya, Inc. health educators will provide educational materials on household lead poisoning prevention and will present a community-centered curriculum.

The curriculum, referred to as “LEADucate West End,” contains 5 modules of course content, centered around the Environmental Protection Agency’s Environmental Justice Collaborative Problem-Solving model (EJCPS) which seeks to build partnerships with stakeholders and community members to develop solutions to address environmental issues in the community (EPA, 2006). The framework is based upon principles of environmental justice, in which community members are encouraged to build community capacity and leadership development for addressing environmental injustice, such as household lead exposure in areas of low income, poor housing, or areas of increased environmental risks. In turn,

community organizations and other stakeholders are encouraged to form collaborative partnerships with community members to bring together the resources necessary to reach these environmental goals (EPA, 2006).

The standalone course will be presented by the health educators at the YMCA.

The program will be executed in accordance with the Solid Waste Disposal Act, Section 8001(a) by conducting and promoting research and training programs in Fulton County, Georgia. The LEADucate program will also provide educational resources cited in the Toxic Substances Control Act, Section 10(a) and support the research, development, and monitoring of communities at-risk of toxic substance contamination in partnership with federally qualified health centers, nonprofit environmental organizations, and the Georgia Department of Public Health. Program activities include a one-year pilot program, the LEADucate program, which will be conducted at the Dean Rusk YMCA Head Start Academy. The program will initiate the week of October 20-26, recognized as National Lead Poisoning Prevention Week.

Curriculum Plan

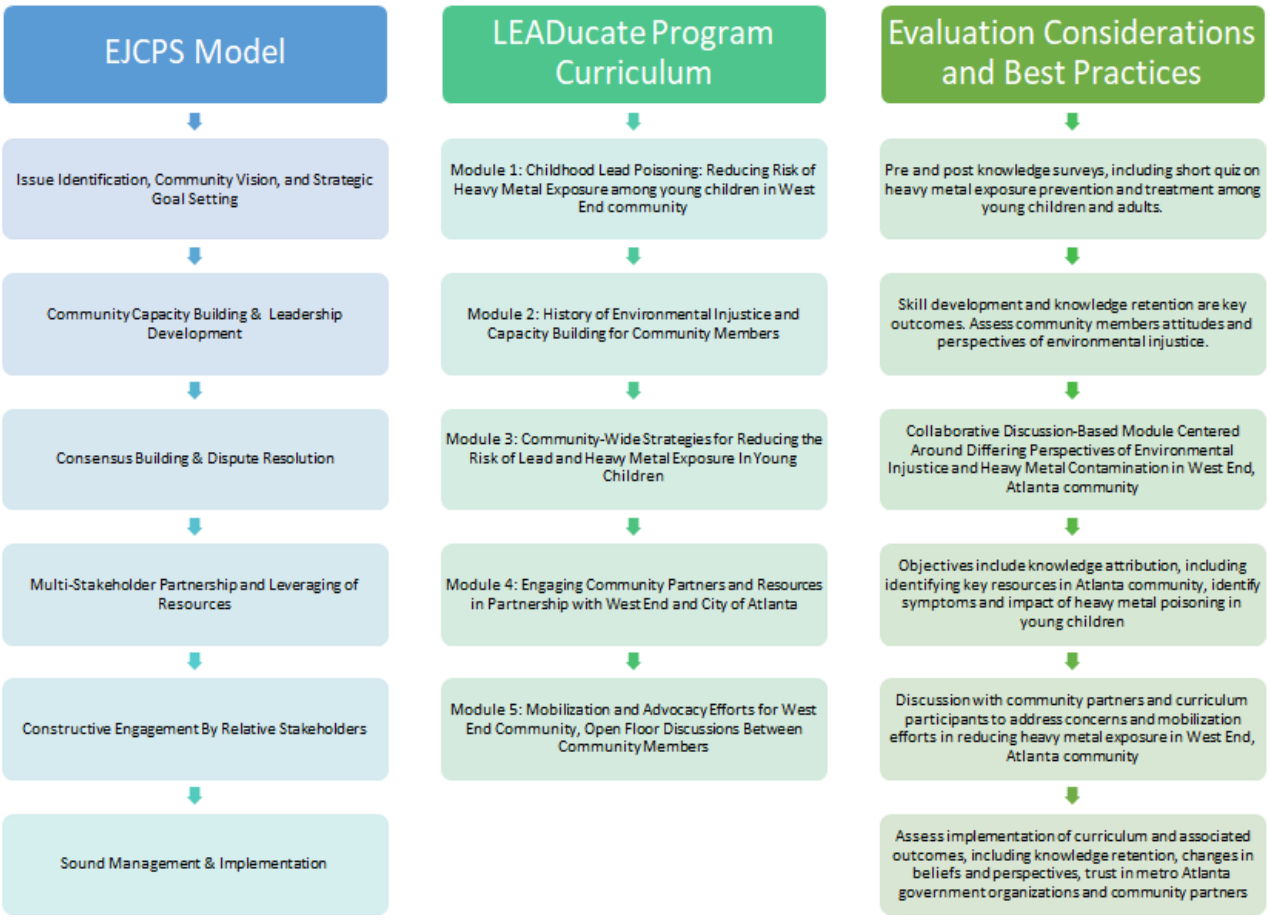


Figure 2: Curriculum Plan for LEADucate Program

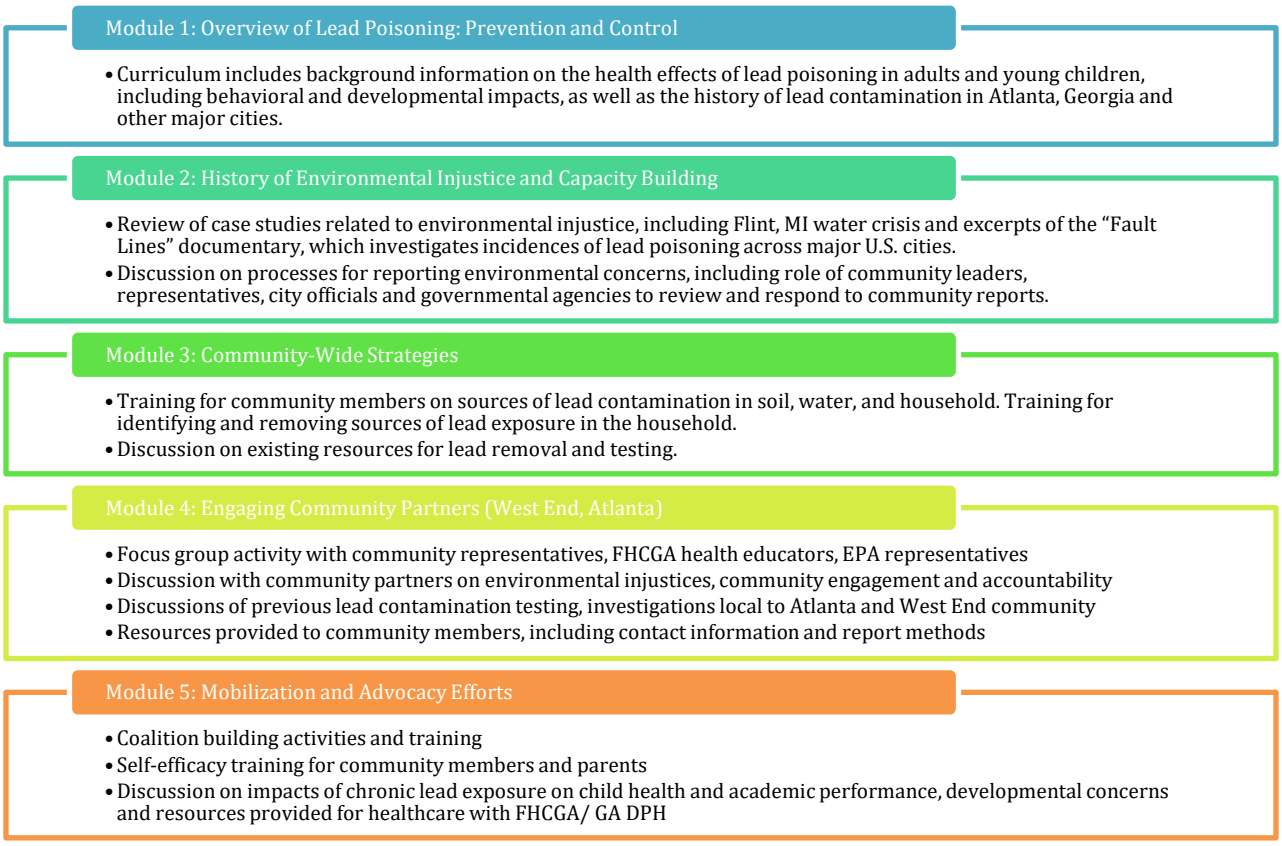


Figure 3: Curriculum Content for Modules 1-5

The LEADucate program will collect data on knowledge retention and beliefs among program participants throughout the duration of the study. Program participants will be provided the opportunity to have their, and their children's blood lead levels tested at the end of the 5 week period, and six months after the end of the program, by FHCGA staff as part of their normal care plan.

Qualitative Research Reporting

Participants will participate in a focus group during the last module of the program, which centers around community advocacy, coalition building, and engaging community partners. Participants will have the opportunity to discuss existing resources and communication channels established within the community for reporting of lead exposures and available interventions. Data will be collected by the health educators and program assistant and processed in the HubSpot program.

Pre- and post-surveys will be administered to all program participants at the start and end of the 5-week program. Surveys will be completed on paper and will contain questions evaluating existing knowledge of sources of lead exposure, available treatment options, knowledge on resources available, and

attitudes towards existing community leadership and environmental injustice. The data will be entered manually into the HubSpot program for analysis. Survey data will be developed by the Liveya, Inc. team based on the CDC's Community Health Assessment and Group Evaluation (CHANGE) tool.

Participants may provide information on beliefs and perspectives of environmental injustice and environmental exposure throughout the program. Each session will be recorded with the participants' consent, and processed by Liveya, Inc. staff to collect documentation on program participants' learning experience.

Quantitative Research Reporting

With consent, identified data on participant attendance and retention will be collected electronically and stored in the Zoho People HR software system for attendance management.

Participants and their children may voluntarily receive blood lead level (BLL) testing at the end of the 5-week program at the YMCA by FHCGA staff. Children may additionally be tested six months following the program as part of their care plan with FHCGA. Test results will be stored in the FHCGA database and provided to patients through the FHCGA system. If participants would like their children to be tested, and they are not existing patients of the FHCGA, participants may enroll their child, so a medical record is generated for the child. The database will be secured through database encryption and may only be accessed by FHCGA administrative staff and medical staff with appropriate credentials for healthcare system access. The data will be de-identified and provided to Liveya, Inc. for analysis in accordance with the established data sharing partnership.

Administrative Documentation and Consent Forms

Consent Forms will be signed for blood testing and for their informed consent to participate in the program. A hard copy will be held on file at Liveya, Inc. as part of the program materials and will be uploaded to the Zoho People HR software system.

Focus group plans and materials will be stored in the HubSpot program.

Evaluation Plan

An evaluation will be performed to assess program performance and cost effectiveness. The process evaluation will begin at the start of the funding period and will be led by an external evaluator who has previously performed evaluations for collaborating organizations of the Georgia Department of Public Health's Environmental Health division. An impact evaluation will be initiated at the midpoint (2.5 weeks) of the LEADucate program.

A Performance Measures/Milestones Logic Model will be utilized by the evaluator, along with two survey questionnaires, to establish criteria for success of the LEADucate program. The evaluator will also utilize the CDC Evaluation Framework, a guide for program evaluation standards and protocols, and the

evaluation checklist by Western Michigan University, a baseline checklist for evaluating and scoring programs based on established standards for meeting program goals and outcomes.

Data collection methods for the evaluation plan include qualitative data collection (surveys with program partners and staff) as well as quantitative data collection (blood lead levels, knowledge attribution scores) which will be gathered throughout the duration of the program by Liveya, Inc. program coordinators. Qualitative data for the evaluation will be stored in the MAXQDA qualitative research software system for mixed methods research, while quantitative data may be analyzed in SAS Analytics software and stored by Liveya, Inc. for program improvement efforts. Liveya, Inc. program coordinators will conduct data collection and analysis for the evaluation process.

The evaluator will prepare a process and impact evaluation report to be disseminated to Liveya, Inc.'s managing staff as well as managing staff at each partner organization.

Budget Narrative

The LEADucate Project Itemized Budget may be found in Appendix A.

Budget Justification

1. Personnel
    a. Focus Group Coordinator (Full-time, Temporary, 40 hrs/week for five weeks at $25/hour) - $5,000

        The focus group coordinator will join Liveya, Inc. program staff in coordinating focus groups and discussions throughout the five-week program (200 hours).

    b. Instructional Designers (Contract, 10 hrs) - $1,000

        The instructional designers will assist in developing the curriculum content for Liveya, Inc.

2. Consultant Costs
    a. External evaluator (Full-time, Contract, 40 hrs/week for two-year period) - $89,000

        The evaluator will assist Liveya, Inc. in performing a process and impact evaluation throughout the two-year award period.

3. Equipment
    a. Neoteryx Blood Collection Kits - $3,000

The blood collection kits will be used by FHCGA staff through the course of the 5-week curriculum and in the six months following the program to take blood lead level samples.

4. Supplies
    a. Print materials and office supplies - $2,000

       Print materials for the curriculum and general office supplies for partner organizations and participating staff members. Supplies may be supplemented with existing YMCA Documentation and Liveya, Inc. supplies.

5. Travel
    a. Travel costs through West End, Atlanta Georgia region - $400

       Travel costs for evaluator and focus group coordinator to YMCA facility and to partner organizations.

6. Other Expenses
    a. Facility rental of YMCA rooms - $2,600

       Rental of YMCA classrooms for program activities.

    b. Refreshments - $1,000

       Refreshments for participating community organizations, participants, and staff.

7. Consortium/Contractual Costs/Direct
    a. Data sharing agreement with GA DPH - $26,000

       Data sharing agreement for quantitative data collection and analysis.

8. Compensation for Program Participants
    a. $100 gift card to each participant (200) for program attendance. - $20,000

3. Environmental Results – Outputs, Outcomes, and Performance Measures (Logic Model)

	Describe the high-level requirements for the project.

The LEADucate program performance measures logic model may be found in Appendix B.

The program seeks to improve knowledge of sources of household lead exposure and prevention methods at the community and individual level. The curriculum is based upon the Environmental

Protection Agency's Environmental Justice Collaborative Program-Solving Model framework (EJCPS) which seeks to build partnerships with stakeholders and community members to develop solutions to address environmental issues in the community (EPA, 2006). The framework is based upon principles of environmental justice, in which community members are encouraged to build community capacity and leadership development for addressing environmental injustice, such as household lead exposure in areas of low income, poor housing, or areas of increased environmental risks. In turn, community organizations and other stakeholders are encouraged to form collaborative partnerships with community members to bring together the resources necessary to reach these environmental goals (EPA, 2006).

Liveya, Inc. has established an ongoing partnership between key partner organizations that serve the West End, Atlanta community, such as the Family Health Centers of Georgia, Inc. (FHCGA) a federally qualified health center in the West End community, the Georgia Department of Public Health's Environmental Health Division, the Fulton County Board of Health, and The YMCA of Metro Atlanta, for lead prevention education and community advocacy programs. The overarching goal of the LEADucate program is to 1. Improve community knowledge and self-efficacy of preventing household lead exposure in their household, and 2. To encourage coalition-building and community-led forums with environmental health organizations that seek to improve environmental justice in the West End, Atlanta community.

Performance measures for the program include knowledge attribution rates (assessed in pre-and post-testing during curriculum), qualitative data from focus groups and community-led forums with environmental health organizations. Secondary outcomes of the program include improved self-efficacy and confidence of community members in building coalitions to address environmental injustice in the West End community, and an increased knowledge of existing resources and community partners for household lead exposure testing, abatement, and medical treatment interventions for young children who have been exposed to lead in the household.

4. Programmatic Capability

	List agencies, stakeholders or divisions which will be impacted by this project and describe how they will be affected by the project.

Liveya, Inc. has established partnerships with the Georgia Department of Public Health, Family Health Centers of Georgia, Inc., the YMCA of Metro Atlanta, and the Fulton County Board of Health. In the preparatory phase of the LEADucate program, Liveya, Inc. will survey partner agencies to address their goals and perspectives of the project. The LEADucate program does include the collaboration of personnel from partner agencies, who will perform data analysis and blood testing as part of their

regular duties with the partner agency. The partner agencies will be recruited based on their alignment with the socio-ecological model of health, which emphasizes the impact of policy, community, and organizational factors that influence individual health. Additional stakeholders which may be involved in the LEADucate program include environmental injustice organizations, such as nonprofits and community coalitions, which will be provided the opportunity to engage with community participants in forums during the five-week curriculum. These organizations may provide resources in advance of the curriculum, for Liveya, Inc. and the Georgia Department of Public Health to review and distribute to program participants as long as the information is referenced by the Centers for Disease Control and Prevention (CDC) and does not include political campaign information.

Liveya, Inc. will allocate personnel for this project, including a Project Manager, Activity Coordinator, and data analysis team. Business processes for Liveya, Inc. will not be impacted, and personnel will be provided the same salary for normal work duties. Personnel will not be obligated to work more than 40 hours per week. With the exception of personnel costs, Liveya, Inc. has allocated 10% of yearly operating costs to be allocated towards the LEADucate program if necessary. The Georgia Department of Public Health has agreed to provide funding for the cost of clinical efforts in blood collection and testing. Liveya, Inc. has previously been awarded funding in excess of $100,000 per program for educational and community outreach programs for heavy metal poisoning prevention. Both programs were found to have increased testing rates in the community by 15% and increased community knowledge of household prevention techniques, per survey data.

5. Quality Assurance Project Plan (QAPP) Information

	Describe any specific components that are excluded from this project.

No field samples will be collected from environmental sites as part of the program. Measurement data acquisition for environmental samples, including laboratory equipment, analytical sensitivity, sample handling and field quality control (QAPP - Section D. Data Evaluation) will be excluded from this project. The Quality Assurance Project Plan (QAPP) will include some historical data analysis and research pertaining to previous reporting of heavy metal contamination in the West End, Atlanta community. A medical records search may also be completed by the FHCGA organization who performs blood lead level testing with approval from the community participant(s).

6. Implementation Plan

	Include recommendations that lead to your proposed solution. Summarize what you're proposing to do and how you're going to meet the goals.

The following goals and objectives will be considered and referenced throughout the duration of the curriculum:

Goal: Increase study participants' average curriculum test score and post-test survey score by 50% by the end of the study.

- Objective: To increase participants' knowledge attribution of curriculum materials through the improvement of survey test scores by the end of the program.
    - Recommendation: Participants will be provided with self-directed adult learning materials for the duration of the five-week curriculum. They will receive a pre-test and post-test at the end of the program to assess knowledge attribution. Scores will be collected and analyzed to assess the curriculum quality and performance. Qualitative data from surveys and open discussion within the curriculum will be collected as well, to assess the participants' change in perception of community involvement and lead prevention techniques, as well as the level of self-efficacy achieved by the end of the program.
- Objective: Provide study participants with opportunities to improve test scores through self-directed study and classroom discussion groups.
    - Recommendation: Participants will be tested at the end of each module to assess knowledge attribution. If participants fail the module, they will be given the opportunity to take the test again at the next session. Participants will be provided with learning materials to review at the end of each module. Discussions will also be held during each module to encourage collaboration between participants and stakeholders. This objective emphasizes knowledge attainment both from self-directed and direct adult learning techniques. Results from the study may include test scores, feedback from staff, stakeholders and participants, and post-survey results.

Goal: Measured blood lead levels among participants' children with a baseline BLL of 3 µg/dL or above, will decrease by 1 µg/dL after six months following the 5-week program.

- Objective: To reduce the blood lead levels among children of participants by 1 µg/DL after six months from the end of the study to assess the impact of the curriculum on participant-led interventions, including seeking regular testing through health clinic visits and trainings for community members to identify possible lead hazards throughout the household.
    - Recommendation: The LEADucate curriculum will emphasize the risks of prolonged lead exposure among young children. Liveya, Inc. and partner organizations will seek to

reduce blood lead levels among participants' children through curriculum knowledge attribution and community organization forums to provide additional resources to households who may be at risk of lead exposure.

- Study participants will have the option of being tested at the end of the five-week program to establish a baseline. In six months following the program, participants will be asked for a second test to assess the impact of lead prevention training on adults and children, who may have been chronically exposed to sources of lead in their homes.

- Liveya, Inc. recognizes that participants may not have access to lead abatement programs or relocation assistance if they are living in a home with lead-based paint or living on a contaminated site. In the event their blood lead levels have not changed, or remain elevated, participants will be provided with another set of resource guides for assistance as well as further treatment from the FQHC they are currently enrolled at. The follow-up portion of this program will be administered by health workers at the FQHC.

Goal: Increase study participants' knowledge of lead prevention organizations and community partners by administering one community-led discussion with lead prevention organizations and study participants.

- Objective: To improve efficacy and positive relationships between community members and lead prevention organizations by the end of the five-week curriculum.

    - Recommendation: Participants will have the opportunity to engage with local community organizations and other stakeholders with a focus on lead exposure prevention and environmental justice. Additionally, a course module in the curriculum will focus on community coalitions and the role of community members in improving environmental justice for their neighbors and family members. A key indicator of this objective is increasing collaboration and communication between community organizations (nonprofits, homeowners, and renters' associations), community leaders, participants, and environmental agencies.

    - Recommendation: Pre- and post-surveys will be administered to community members and lead prevention organizations. Questions may be free choice or multiple choice. Examples: "How do I request lead testing?", "Which organizations serve my community for lead abatement and testing?", and "How do I seek medical care for me or my child for possible lead exposure?"

- Objective: To increase participants' trust in health agency partners by the end of the five-week curriculum.

    - Recommendation: Participants will have the opportunity to engage with local community organizations and other stakeholders. Agency partners such as the Georgia Department of Public Health, Fulton County Board of Health, and the Family Health Centers of Georgia will have the opportunity to provide resources to participants and

engage with them during the duration of the five-week program. This objective seeks to improve trust in the FHQC, in particular, and the surrounding community to increase testing rates and patient retention.

- The discussion-based modules encourage facilitated discussion between health agencies and community members. Discussions may be centered upon equitable care, the importance of preventive care and testing, and access to care for adults and children in the community.

7. High-Level Timeline/Schedule

	Describe what the high-level timeline/schedule will be to plan, design, develop and deploy the project. Generally, by when do you expect this project to be finished?

Liveya is seeking funding for the two-year LEADucate program beginning September 1, 2018 and ending September 1, 2020 in accordance with funding availability. See the attached timeline for detailed information by funding year and quarter.

	LEADucate Pilot Program Timeline Chart, Year 1		
Objective	Activities/Milestones	Year 1 Sept 1, 2018 - Sept 1, 2019	Key Person/Group Responsible
Process objectives	Startup meetings with partner organizations, conduction of partner organization survey for process evaluation activities.	Sept 1, 2018 - November 1, 2018	Liveya management team, Partner organizations, Activity coordinator, Evaluator
	Informed consent documents, HIPAA, and data sharing agreements prepped for partner organizations, FHCGA and GA DPH	Sept 1, 2018 - November 1, 2018	Liveya management team, Partner organizations, Activity coordinator, Project manager, IT Analyst
	Procurement of qualitative and quantitative analysis programs (if necessary) for Liveya, Inc. and partner organizations. IT training and support preparation	November 1, 2018 - December 1, 2018	IT Analyst, Activity Coordinator, Partner organizations
	Initiation of process evaluation	December 1, 2018 - June 1, 2019	Evaluator, Partner organizations, Liveya management team, Activity Coordinator, Focus Group Coordinators, Data analysis team
	Participant sampling begins, with FHCGA patient recruitment	January 1, 2019 - March 1, 2019	Activity Coordinator, FHCGA Management and clinical team

	Stratified sampling of recruited participants in to two groups of 100 male and female participants, randomized into 10 classrooms of 20 people each	January 1, 2019 - March 1, 2019	Project Manager, FHCGA Management and clinical team
	Preparation of curriculum materials, print and other resources for curriculum. Secure space at the Dean Rusk YMCA Head Start Academy for program (20 participants per room)	January 1, 2019 - March 1, 2019	Liveya management team and staff, YMCA staff, Activity Coordinator
	Health educator training for adult learning/curriculum content	January 1, 2019 - March 1, 2019	FHCGA Management, GA DPH staff, Liveya curriculum development team, Instructional Designers
	Pre-testing surveys and consent forms provided to recruited sample participants at initiation of program to assess knowledge and attitudes of lead exposure and prevention programs in metro Atlanta	March 1, 2019 - March 15, 2019	Activity Coordinator, FHCGA Management and clinical team
	5-week curriculum begins, initial blood lead level testing for participants and children	March 30, 2019 - May 15, 2019	FHCGA Management and clinical staff, Liveya curriculum development team, Instructional Designers
	Focus group discussions	March 30, 2019 - May 15, 2019	Activity Coordinator, FHCGA Management, Focus Group Coordinator
Outcome objectives	5-week curriculum ends. Post-tests provided to study participants. Blood lead level testing for participants	May 15, 2019 - September 1, 2019	FHCGA Management and clinical staff, Liveya curriculum development team, Instructional Designers, Activity Coordinator
	Qualitative and quantitative data collection and analysis	May 1, 2019 - August 1, 2019	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator
	End of process evaluation, start of outcome evaluation	May 1, 2019 - August 1, 2019	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator
	Preparation of data collection and transfer to GA DPH	July 1, 2019 - August 1, 2019	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator, GA DPH analysis team, Fulton County BOH, FHCGA clinical staff

	Evaluation results disseminated to program partners and Liveya Inc. management team	August 15, 2019	Partner organizations, Liveya management team, Evaluator
	LEADucate Program Timeline Chart, Year 2		
	Activities/Milestones	Year 2 Sept 2, 2019 - Sept 1, 2020	Key Person/Group Responsible
Process objectives	Startup meetings with partner organizations, conduction of partner organization survey for process evaluation activities.	Sept 2, 2019 - November 1, 2019	Liveya management team, Partner organizations, Activity coordinator, Evaluator
	Informed consent documents, HIPAA, and data sharing agreements prepped for partner organizations, FHCGA and GA DPH	Sept 2, 2019 - November 1, 2019	Liveya management team, Partner organizations, Activity coordinator, Project manager, IT Analyst
	Procurement of qualitative and quantitative analysis programs (if necessary) for Liveya, Inc. and partner organizations. IT training and support preparation	November 1, 2019 - December 1, 2019	IT Analyst, Activity Coordinator, Partner organizations
	Initiation of process evaluation	December 1, 2019 - June 1, 2020	Evaluator, Partner organizations, Liveya management team, Activity Coordinator, Focus Group Coordinators, Data analysis team
	Participant sampling begins, with FHCGA patient recruitment	January 1, 2020 - March 1, 2020	Activity Coordinator, FHCGA Management and clinical team
	Stratified sampling of recruited participants in to two groups of 100 male and female participants, randomized into 10 classrooms of 20 people each	January 1, 2020 - March 1, 2020	Project Manager, FHCGA Management and clinical team
	Preparation of curriculum materials, print and other resources for curriculum. Secure space at the Dean Rusk YMCA Head Start Academy for program (20 participants per room)	January 1, 2020 - March 1, 2020	Liveya management team and staff, YMCA staff, Activity Coordinator
	Health educator training for adult learning/curriculum content	January 1, 2020 - March 1, 2020	FHCGA Management, GA DPH staff, Liveya curriculum development team, Instructional Designers

	Pre-testing surveys and consent forms provided to recruited sample participants at initiation of program to assess knowledge and attitudes of lead exposure and prevention programs in metro Atlanta	March 1, 2020 - March 15, 2020	Activity Coordinator, FHCGA Management and clinical team
	5-week curriculum begins, initial blood lead level testing for participants and children	March 30, 2020 - May 15, 2020	FHCGA Management and clinical staff, Liveya curriculum development team, Instructional Designers
	Focus group discussions	March 30, 2020 - May 15, 2020	Activity Coordinator, FHCGA Management, Focus Group Coordinator
Outcome objectives	5-week curriculum ends. Post-tests provided to study participants. Blood lead level testing for participants	May 15, 2020 - September 1, 2020	FHCGA Management and clinical staff, Liveya curriculum development team, Instructional Designers, Activity Coordinator
	Qualitative and quantitative data collection and analysis	May 1, 2020 - August 1, 2020	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator
	End of process evaluation, start of outcome evaluation	May 1, 2020 - August 1, 2020	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator
	Preparation of data collection and transfer to GA DPH	July 1, 2020 - August 1, 2020	Focus Group Coordinator, Activity Coordinator, Project Manager, IT Data Analyst, Liveya Data analysis staff, Evaluator, GA DPH analysis team, Fulton County BOH, FHCGA clinical staff
	Evaluation results disseminated to program partners and Liveya Inc. management team	August 15, 2020	Partner organizations, Liveya management team, Evaluator

APPENDIX

A - Detailed Budget

B - BDI Logic Model

C - Quality Assurance Project Plan Requirement (QAPP) EPA Questionnaire

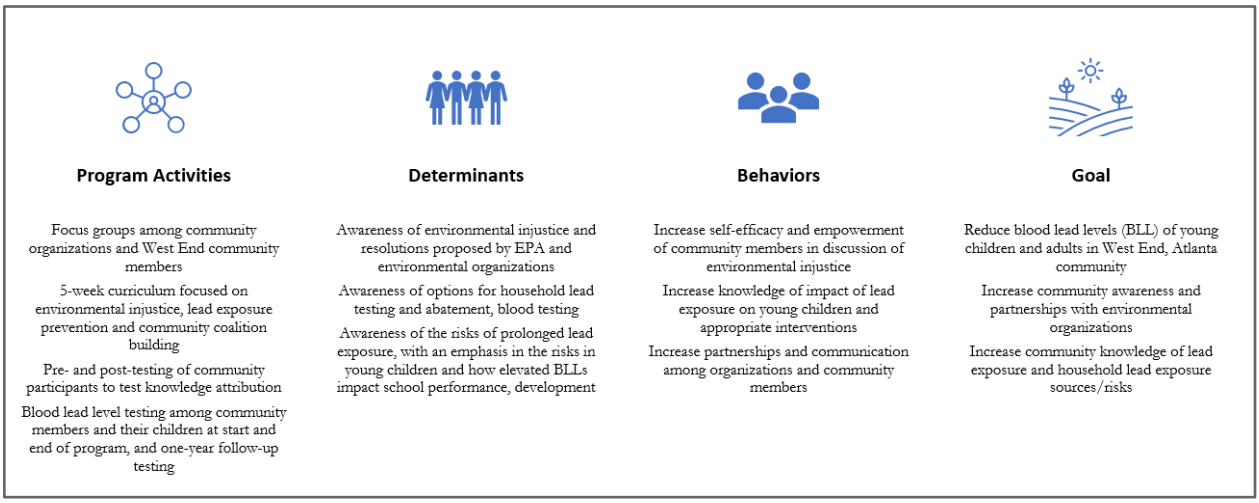
APPENDIX A

LEADucate Project
Detailed Budget

Itemized Budget for 2-Year LEADucate Program		
	Description	Total
Personnel		
	Instructional Designers (2) (Contract - 10 hrs)	$1,000
	Focus Group Coordinator ($25/hour contract - 200 hrs)	$5,000
	External Evaluator (Contract - 2-year evaluation)	$89,000
Travel	Travel costs within West End, Atlanta community	$400
Equipment	Neoteryx blood collection kits	$3,000
Supplies	Print materials, curriculum materials, office supplies	$2,000
Contractual	Data sharing agreement with GA DPH (Contract - 2 yrs.)	$26,000
Construction		$0
Facility	Rental of YMCA Rooms	$2,600
Other	Refreshments for participants, workers	$1,000
Participatory Compensation	$100 compensation for each participant (200) in the study	$20,000
Total award (EPA Region 4)		$150,000

APPENDIX B

LEADucate Project
BDI Logic Model



APPENDIX C

LEADucate Project
Quality Assurance Project Plan Requirement (QAPP)
EPA Questionnaire

Check Yes or No for each of the items provided below as it applies to your specific project. If you answered YES to any of the items listed above, you are REQUIRED TO SUBMIT a Quality Assurance Project Plan in accordance with EPA Requirements and an approved QAPP must be in place prior to the initiation of activities.

You will be contacted with information on how to prepare your QAPP. In the meantime, please visit the website http://www.epa.gov/ogd/grants/assurance.htm which provides guidance on what must be submitted for grants/cooperative agreements.

1. Your project will involve the collection of groundwater, soil, sediment, surface water, air,

biota or fauna samples for chemical or biological analysis.

Yes **No**

2. Your project will use existing computer databases containing analytical data or personal

information previously collected.

Yes No

3. Your project will use existing historical research pertaining to this project or proposal.

Yes No

4. Your project will implement deed searches for current property or site.

Yes No

5. Your project will conduct medical records search for the population covered in the grant.

Yes No

6. Your project will compile meteorological data to determine weather trends or air mixing

trends.

Yes **No**

7. Your project will use existing statistical studies or will conduct these studies as part of the project.

Yes No

8. Your project will create a new database based on the information gathered.

Yes **No**

9. Your project will use this information for litigation purposes.

Yes **No**

10. Your project will use this information to make recommendations on environmental decisions.

Yes **No**

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