Your Mission

You are the Director of a City Department of Public Health that serves 100,000 households. There is an extensive, growing concern about childrens’ exposure to lead in older houses throughout the city. In a study last year, your department estimated that 20% of households with children could be exposed to lead, either in the home (through lead paint or water pipes), or in water that enters the home through the city water main pipe (~4,500 households with lead paint; ~1,500 households with lead water pipes). Studies have shown the long-lasting health impact of continued contact with lead in children can lead to neurologic damage and behavioral disorders, which can impair educational achievement and evolve into associations with crime, lower wages, and assorted health conditions in adulthood.

As head of this department, you’ve outlined an intervention that will test if homes have lead paint and/or lead water pipes, remove lead from affected homes (which includes lead paint testing and abatement and/or lead water pipe replacement) and assigns the children in those households a community health worker to monitor them to prevent lead poisoning. Since you would be employing community health workers for this intervention, you will have to take into account salary and transportation and start-up costs including information system setup and the annual cost of management and administration. You have several potential revenue sources including annual grants, funds from a lead abatement appropriation, homeowners paying a percentage of the costs of lead paint abatement and water pipe replacement, a city surcharge on water bills, and payments by both the state Medicaid office and the school district (to help prevent the long-term impacts of lead exposure in children, such as increased healthcare and special education costs).
# Formulas for Lead Abatement Case Study

<table>
<thead>
<tr>
<th>Name of Formula</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number of Children</strong></td>
<td>( \text{Total Number of Children} = \text{Number of children per home} \times \text{Homes tested for lead paint} )</td>
</tr>
<tr>
<td><strong>Community Health Worker FTE</strong></td>
<td>( \text{CHW FTE} = \frac{\text{Homes tested that need lead paint abatement}}{\text{Number of cases (homes) per CHW}} )</td>
</tr>
<tr>
<td><strong>Cost of Home Lead Paint Testing</strong></td>
<td>( \text{Cost of Home Lead Paint Testing} = \text{Unit cost of lead paint testing} \times \text{Number of homes tested for lead paint} )</td>
</tr>
<tr>
<td><strong>Cost of Lead Paint Abatement</strong></td>
<td>( \text{Cost of Lead Paint Abatement} = \text{Unit cost of lead paint abatement} \times \text{Number of tested homes that need abatement} )</td>
</tr>
<tr>
<td><strong>Cost of Water Pipe Replacement</strong></td>
<td>( \text{Cost of Water Pipe Replacement} = \text{Unit cost of lead water pipes replacement} \times \text{Number of homes that need lead water pipes replaced} )</td>
</tr>
<tr>
<td><strong>Cost of Community Health Worker</strong></td>
<td>( \text{Cost of CHW} = \text{Unit cost of CHW salary} \times \text{CHW FTE} )</td>
</tr>
<tr>
<td><strong>Cost of Community Health Worker Travel</strong></td>
<td>( \text{Cost of CHW Travel} = \text{Unit cost of mileage} \times \text{Number of miles traveled by each CHW} )</td>
</tr>
<tr>
<td><strong>Start-up Cost of Annual Management and Administration</strong></td>
<td>( \text{Start-up Cost of Management and Adm} = \text{Unit cost of annual management and administration} \times \frac{1}{2} )</td>
</tr>
<tr>
<td><strong>Annual Revenue from Homeowner Pays % of Cost of Lead Abatement and Pipe Replacement</strong></td>
<td>( \text{Homeowner Pays % of Cost of Lead Abatement and Pipe Replacement} = (\text{Annual cost of home lead paint abatement + pipe replacement}) \times \text{Percentage homeowner will pay of those costs} )</td>
</tr>
<tr>
<td><strong>Annual Revenue from Surcharge on Water Bills</strong></td>
<td>( \text{Surcharge on Water Bills} = (100,000 \text{ water bills} \times \text{Amount of surcharge}) \times 12 \text{ months} )</td>
</tr>
<tr>
<td><strong>Annual Revenue from State Medicaid Office Payment for Children in Intervention</strong></td>
<td>( \text{State Medicaid Office Payment} = (\text{Amount of payment} \times \text{average number of children}) \times \text{Number of homes tested for lead paint} )</td>
</tr>
<tr>
<td><strong>Annual Revenue from School District Payment for Children in Intervention</strong></td>
<td>( \text{School District Payment} = (\text{Amount of payment} \times \text{average number of children}) \times \text{Number of homes tested for lead paint} )</td>
</tr>
</tbody>
</table>
How to Use the Wizard to Make a Financial Plan, Part 1
Key Assumptions: Uses

Descriptions of Table Columns

• **What do we need money for?**
  Name and enter what you need money for in the cells provided on the Key Assumptions page. These could be components carried out as part of an intervention. For example, lead poisoning prevention could involve lead pipe replacement and blood testing for children.

• **What, specifically, would you be spending money on (and in what units)?**
  Determine what you would actually need to spend money on for each use you identified in the first question, and what units it would be in. For example, if you are purchasing land, you would be buying acres. (Hint: it’s what your costs are based on.)

• **How many of those do you need?**
  This is the number of units you need or want to buy. For example, if you are hiring one employee you could enter 1; if you are buying land you could enter 50 (acres).

• **What is the cost for a single item?**
  This is the cost of each unit you are buying. For example, if buying acres of land you could enter $150. (Note: This is one way to estimate costs, if you want to look at other methods refer to Module 4 in the workbook.)

• **Annual Amount**
  This cell calculates how much you would spend annually based on what you entered in the Key Assumptions page.

• **Is it a start-up expense?**
  Indicate if cost is a start-up or pre-intervention cost (i.e., cost incurred before the intervention starts). Simply select “Yes” or “No.” If you aren’t sure, leave it blank.

• **Which year(s) are you buying this?**
  Indicate which years of your financial plan these activities are ongoing costs. Simply select the “Yes” in the dropdown. This includes the assumption that the cost doesn’t change per year. Note: This table assumes the cost of activities are the same every year. Activities can also be selected as a start-up cost and an ongoing cost in this table.
How to Use the Wizard to Make a Financial Plan, Part 2
Key Assumptions: Sources

Descriptions of Table Columns

• What are your sources of funding?
  Name and enter in the cells provided on the Key Assumptions page for either a fixed or variable source. You can estimate, or if you don’t know, leave it blank. Having too few sources won’t matter when you’re starting out. Just put in as much as you know. (There’s a lot of value in getting something down, even if it’s not complete or represents a “best guess.” You can build it out with more and better information as you go!)

• What kind of source is it?
  Select which kind of source you have in your financial plan. Select your best guess or leave it blank. (Select the cell, then click the arrow at the bottom right of the cell for a list.)

• Fixed: How much is the source annually?
  Enter the amount for your fixed source. For example, if it was a grant you would enter the full annual amount here. To make this as simple as possible, assume the source does not change per year.

• Variable: What is the unit?
  Name the unit your variable source is based on. For example, for in-kind labor in the community garden example it would be the number of hours.

• Variable: What is the number of units?
  Enter the number of units for your variable source here. For example, if you are receiving community membership fees in the intervention you would enter the total number. Note: This table assumes these variable sources are the same for each year.

• Variable: What is the dollar amount ($) per unit or percentage (%) applied to each unit?
  For the variable sources, enter EITHER a dollar amount for each unit or a percentage that is applied to each unit. Note: This table assumes these variable sources are the same for each year.

• Annual Amount
  This cell calculates how much you receive in revenue annually based on what you entered in the Key Assumptions page.

• Can source pay for start-up costs?
  Indicate if this source is available before the intervention starts. If it is select “Yes”, if not select “No”, or if you aren’t sure leave it blank.

• Which year(s) is the source available?
  Indicate which years in your financial plan these are ongoing sources. Simply select the “Yes” in the dropdown. Note: This table assumes these sources are the same every year. A source can also be selected as a start-up and an ongoing source in this table.

Learn more at ReThinkHealth.org/FinancingWorkbook and contact us with questions and comments at ThinkWithUs@ReThinkHealth.org.