The Total Cost of Ownership
An overview of the financial investment to design, implement, and sustain data quality and data use interventions in the BID Initiative’s demonstration countries.

**WHAT IS THE TCO TOOL?**
Sustainability has been a core principle of the BID Initiative from its earliest days. In order to budget for, fund, and sustain data quality and data use interventions, and to scale them nationwide in Tanzania and Zambia, countries must understand the upfront and recurrent costs associated with implementing these interventions. As part of the economic evaluation of the BID Initiative, we are estimating the Total Cost of Ownership (TCO) of data quality and data use interventions in three regions of Tanzania (Arusha, Kilimanjaro, and Tanga) and one region in Zambia (Southern Province). The TCO tool provides a financial estimate of the total investment for the BID Initiative in each region, and it includes the upfront costs to design data quality and data use interventions, the costs to implement and deploy them, and the recurrent costs to sustain them over the next three years. The main objectives of the TCO tool are to estimate the total financial expenditure per region, per health facility, and per child.

**WHO IS THE TARGET AUDIENCE FOR THE TCO TOOL?**
The primary audience for this tool is the Ministry of Health (MOH) of Tanzania, the MOH of Zambia, and the donor community. The TCO tool will provide information about the resources needed to sustain the system once the government takes full ownership of it. In addition to serving the Tanzania and Zambia MOHs, the TCO tool will also serve a secondary audience as a budgeting tool to make initial investment estimates for other governments interested in replicating data quality and data use interventions in their own countries.

**WHAT IS INCLUDED IN THE TCO TOOL?**
The TCO tool captures all costs of the BID Initiative from the perspective of the government, including upfront costs, the implementation and deployment costs of interventions, and recurrent costs incurred over a three-year period at all levels of the health system. Taking the perspective of the government means that the TCO tool will reflect only the expenditure that a government would need to
bear to implement the data quality and data use interventions. The tool will not include investments made by the government for which there are no direct financial cost implications attributable to the interventions. For example, the labor costs of existing government staff will not be included, unless additional staff are hired to roll out the interventions. The costs associated with data quality and data use interventions can be divided into three categories:

1. **Upfront costs** are costs incurred to set up a new system and are one-time costs. This category includes costs to define the interventions and to develop a new immunization registry or adapt an existing registry to a country’s specific needs.

2. The **implementation costs of interventions** include all costs incurred to roll out the interventions at health facilities, districts, and higher levels. They include the costs of training the implementation teams and the district staff and for purchasing the electronic equipment. Because Tanzania has experimented with two different implementation strategies, we will collect and compare the costs for both approaches.

3. Finally, **recurrent costs** are costs incurred on an ongoing basis to sustain the system. These include system updates, data bundles, and the replacement of broken or misplaced laptops or tablets.

Across these cost categories, we will also quantify the “learning costs” associated with each system, or the costs incurred as result of the learning process that happened in Tanzania and Zambia, which apply the BID Initiative’s learnings. Learning costs, for example, include the costs related to the switch of the electronic immunization system from Tanzania’s Immunization Information System to Tanzania’s Immunization Records. Figure 1 provides an overview of the various components of the TCO tool.

**WHAT IS NOT INCLUDED IN THE TCO TOOL?**

The TCO tool does not include the costs of activities conducted only for research purposes, such as monitoring and evaluation and the economic evaluation studies. However, the TCO tool will include monitoring costs for activities that are likely to be conducted by the MOHs or future countries outside of this research context, such as spot check visits to ensure that health facilities are using the new system. All expenses (labor and travel) for the BID Initiative’s Seattle staff are not included in the TCO tool, as these costs are highly dependent on the country context and the entity supporting the project implementation. Finally, the TCO tool does not include global activities, such as the costs associated with the BID Learning Network.

**WHAT DATA IS USED TO INFORM THE TCO TOOL?**

Data to populate the TCO tool were gathered from multiple sources of the BID Initiative’s project records, including sub-agreements, work orders, contracts, detailed expenditure reports, aggregated country financial reports, and prospective in-country data collection during the rollout of the interventions in health facilities. In Tanzania’s Arusha Region, some data were obtained from budget estimates because of the challenge of tracking actual expenditures within the current financial management system.

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