



# How to cost an immunization campaign?

METHODOLOGICAL GUIDANCE

## Frequently asked questions

September 2021

# Frequently asked questions

This document refers to and accompanies the following guidance documents on costing immunization campaigns:



**1** How to cost an immunization campaign? Methodological guidance



**2** Key differences between routine and campaign costing (one-pager)



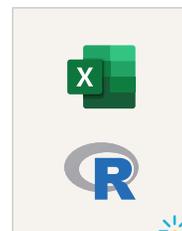
**3** Practical tips on data collection and reporting for immunization campaign costing studies



**4** Frequently asked questions about campaign costing



**5** Data collection and analysis tools for campaign costing studies and a user manual



**6** Practical examples in Excel and STATA/R: annualizing capital costs, calculating unit costs, and calibration

## CONDUCTING A CAMPAIGN COSTING STUDY

### Q1 What are the main differences between routine immunization costing and campaign costing?

There are several differences between routine immunization costing studies and immunization campaign costing studies. In routine immunization costing studies, the lowest level included in the study is usually the facility, while some campaign costing studies may use the campaign site itself as the final unit. Campaign costing studies are also likely to consider a larger number of delivery strategies, i.e. not only facility-based and outreach, but also school-based, fixed temporary sites, mobile teams, and potentially mop-ups. Routine immunization costing studies usually cover a full program year, while the timeline included for a campaign costing study depends on the time period of the specific campaign, from planning to wrapping up. Because of the shorter time period covered, capital costs play a much smaller role in campaign costing studies compared to routine costing studies, and we recommend to exclude some of them to save time during data collection. The provider and payer perspectives will be most relevant for campaign costing studies, and because campaigns aim to bring services closer to the beneficiary, the societal perspective may be less important for campaigns than for routine costing studies. Because of the long working days during campaigns, we include health worker overtime in campaign costing studies, while it is usually not considered for routine immunization costing studies. For more details on differences in methods between routine and campaign costing studies, see the one page summary.

## Q2 The campaign took place 2 years ago, is it too late to cost it?

It depends on the level of detail that you would like to capture. If data collection is to take place more than 6 months after the campaign has been completed, we would not recommend collecting data regarding staff time, which is the most susceptible to recall bias. If you are mostly interested in the campaign-specific instead of the shared costs, and can rely on financial records for a large part, a longer period may be more acceptable, though keep in mind that records might not be available anymore either.

## Q3 How much time should I plan for conducting a campaign costing study?

We estimate the full process of conducting a campaign costing study from start (exploratory conversations with the EPI team) to finish (analysis and reporting) to take about five to twelve months for a study that includes the full economic cost for about 30-50 facilities. See our guide 'Practical tips on data collection and reporting for immunization campaign costing studies' for more practical tips.

## USE OF TOOLS

## Q4 Can I still use your methods guidance if I use my own questionnaires or analysis tools?

This methods guidance is not specific to our tools. The principles are applicable regardless of which questionnaires or analysis tools you use. However, we recommend using our questionnaires and analysis tools, which can be adapted to country- and vaccine-specific settings. They have been tested in multiple settings, and include a user manual, which can help you ensure you do not forget any relevant costs or analysis steps.

## Q5 What is the best way to customize your questionnaires and analysis tools? I'm not very good with Excel.

Our questionnaires and analysis tools have accompanying user manuals to guide researchers through the process of customization. Most of the customization features that you would like to use only require overwriting certain text in clearly marked cells in the file (e.g. administrative levels, vaccine interventions), and use the existing dropdown menus to select units and metrics that you would like to use. The questionnaire will calculate the unit cost for a given site inside the tool automatically. None of this requires advanced Excel skills, and you do not even have to understand the use of formulas. For the analysis of the data, more advanced Excel skills are helpful, but the database is in a format that could also easily be extracted and imported to be analyzed using other packages, such as STATA or R.

## Q6 Is piloting still necessary if I use your standard data collection tools?

You should always pilot your tools, even if you use our standard tools. You need to adapt them to your own setting, and you will need to test that the changes you make work in your setting. Some common items that need customizing and verifying in the field are included in our guide on data collection. Pilot testing also gives you an opportunity to learn more about the campaign; some things you learn may need to be incorporated in your tools. Finally, the piloting provides the data collectors the opportunity to learn how to use the tools and raise questions or issues that need clarifying before starting with the actual data collection, and how to handle any issues related to missing data or site-specific differences.

### Q7 What kind of skillset is required for the data collectors?

Data collectors do not have to have experience with primary data collection at health facilities (although this would be welcome), but adequate training and pilot testing is a must. Although the data collection tool is designed to be as user-friendly as possible, a basic level of experience in working with Excel is required. Supervisors of data collection teams will ideally have participated in similar studies before. For more information on assembling a study team, see our guide on data collection.

## COSTING METHODS

### Q8 Are there any activities unique to campaigns compared to routine immunization costing studies?

We recommend including two activities you would normally not see in routine immunization costing:

- Campaign management, which is similar to program management in routine immunization costing and comprises of time and expenses on large, organized campaign-specific meetings
- Service delivery: mop-up, which comprises of any vaccination activities to vaccinate members of the target population who were missed during the campaign. Normally these activities take place right after the main campaign and target specific pockets identified by monitoring officers.
- AEFI management: routine immunization costing studies will usually include surveillance, while a campaign costing study would only consider AEFI management for the campaign specifically.

You are likely to see more meetings, more social mobilization and advocacy, and more per diem and travel costs than normally happen as part of routine immunization costing. For more differences between campaign and routine costing studies beyond these specific activities, see question 1.

### Q9 Under which activity should I put vaccination posts in the community?

Not every country classifies delivery strategies in the same way. Some countries will consider mobile teams (teams moving around in the community) as part of the same delivery strategy as temporary fixed sites at markets, while others consider this a separate strategy. Our tools allow you to follow the classification of the country in which you are conducting your study, as the names of the delivery strategies can be overwritten. We just recommend to be clear in the definition of each delivery strategy when reporting your results.

### Q10 Which activity/activities should I allocate time spent by drivers transporting staff to meetings or to temporary fixed sites for vaccination activities to?

We suggest allocating time spent by drivers to the activity carried out by the staff that were transported. For example, driving back and forth to a campaign management meeting can be allocated to the activity 'campaign management' and the driver's travel time to temporary fixed sites for the purpose of vaccination activities can be allocated to 'Service delivery: temporary fixed sites'. If the trip was shared between two activities, it can be allocated based on the number of staff in the trip for a given activity (e.g. 4 vaccinators and 1 supervisor) and allocated proportionally. For more tips on allocating specific shared costs, see the data analysis checklist in Annex G of the methodological guide.

**Q11 Why do you recommend using kilometers reported to cost vehicle usage? My team is used to miles.**

The data collection tools allow the user to switch metrics for distances as well as for liquids.

**Q12 Why do you recommend excluding building, furniture and non-cold chain-related utilities?**

Building costs for a campaign are very limited. Apart from meetings held at the facilities and subnational level offices and facility-based service delivery (usually not the biggest volume site), activities mostly take place outside of these buildings. Furthermore, as campaigns usually take place over only a few days, allocating the opportunity cost of a building for such a small portion of the year results in very low numbers. Therefore, it is not worth collecting data on the size and cost of buildings and utilities used for anything other than the maintenance of the cold chain.

**Q13 Should I include the cost of preparation meetings for the campaign? What about a post-campaign debrief meeting?**

You should clearly define the earliest and the latest point in time for which cost data related to the campaign will be captured. We recommend using the establishment of a planning committee to mark the start of the campaign, and the date the final programmatic and financial reporting was submitted to a lower administrative level to mark the end. Any preparation meetings and post-campaign debrief meetings that fall between this period should be costed.

**Q14 The campaign used a lot of volunteers, not during campaign implementation but in the weeks before the campaign, to visit village leaders and inform them about the dates of the campaign and how it would work. The volunteers were not paid anything. Should I include these costs?**

Volunteers are usually crucial to the successful completion of the campaign. Excluding the value of their time would underestimate the resources required to run a campaign. Whether to include or exclude volunteer time depends on the type of costs that is collected for the study, as their time is only included for economic costing studies. It also depends on the perspective of the study, as volunteers are sometimes linked to other sectors (such as education).

**Q15 Several high-profile government officials delivered speeches about the importance of the campaign in the lead-up to it. How do I cost these and under which activity do they fall?**

Obtaining the time and the value of high-profile government officials might be challenging, and the likelihood of it being a major cost driver are slim. We therefore recommend to exclude them. If you do include them, they should fall under social mobilization.

**Q16 Why do you recommend excluding other equipment such as laptops, phones, thermometers, etc.?**

The equipment we recommend to exclude is usually already present at facilities and district offices, and if that is not the case, it is usually not purchased especially for the campaign. Their value is usually relatively low and the share that can be allocated to the campaign is almost negligible. Given the time it takes to collect this data at each facility and district office, and the risk of interviewee fatigue with large questionnaires, we recommend to exclude this.

**Q17** Between financial and economic cost, which types of cost would you recommend to use?

For a campaign costing study, financial outlays are likely to make up the greatest share and so should be the focus of the study, followed by the opportunity cost of labor. The decision to include other costs should depend on the purpose of the study. Depreciation of capital items will likely be small. Other opportunity costs are mostly driven by any donated vaccines.

**Q18** Would you recommend campaign-specific or shared costing for campaign costing?

The use of campaign-specific versus shared costing depends on the purpose of the study, the main user of the costing data and whether the intention is to make cross-country comparisons. Donors are likely most interested in the campaign-specific (or incremental) cost, as this represents the additional funding required from donor and government resources to make the campaign happen. On the other hand, governments might want to understand the extent to which campaigns rely on the use of existing resources. Shared costing is most suitable for cross-country comparisons as some costs that are shared costs in certain settings may be campaign-specific in other settings.

**Q19** In an incremental/campaign-specific costing study, is there a way to account for the time health workers are spending on the campaign, which means they are not administering other health services?

Campaign-specific opportunity costs only include additional labor, so overtime of health workers or the hiring of additional temporary staff or volunteers, and does not give an indication of the cost of health worker's inability to deliver other services. Merely looking at the campaign-specific costs underestimates the burden that a campaign places on the existing system, and if this is of interest, we encourage including the shared costs of the campaign in your study design.

**Q20** For campaign-specific financial costing is there any purpose of doing bottom-up costing? Wouldn't top-down methods provide all the required information?

A top-down costing exercise would mean collecting information from budget and expenditure reports only. This can be quick but has several limitations. First, the study would rely on the budget categories used in the reports, and thus will not be standard (as per this guide) and will lack granularity as the categories are usually not detailed enough. Second, if the study aims to understand whether the provided funding was sufficient, top-down analysis only will not be able to answer that, as it does not provide insight into the resource use, and whether any other funding sources needed to be tapped into to successfully complete the campaign. The methodological guide provides more insight into when top down is most appropriate, compared with bottom-up costing methods.

## SAMPLING

**Q21** What is the best sample size for my campaign costing study?

The best sample size depends on the sampling frame (the number of sites under study), the level of disaggregation that the study aims to report (number of strata) and the level of precision the study is hoping to achieve. The Sample Design Optimizer can help specify your sample, and our methodological guidance provides more campaign-specific sampling considerations.

**Q22 Is there a minimum recommended sample size for a campaign? Is there such a thing as too small of a sample?**

Immunization campaign study samples for a nationwide campaign usually include 30-50 facilities, which may cover more immunization campaign sites than that, depending on the delivery strategies used. However, this is not a 'golden rule', as the sample size depends on the study population size (small campaigns will require smaller samples), the level of precision required and the various sampling criteria used. The more auxiliary data you have available, the 'smarter' the sample can be, but the more strata you want to have precision on, the greater the sample size required.

**Q23 Should I aim for a nationally representative sample? How large would this need to be?**

Whether a sample should be nationally representative or not, depends on the objective of the study. Perhaps a study aims to focus on facilities that have reached high coverage or facilities in rural areas only. Even if the study aims to generate cost evidence that it is nationally representative, we recommend using the Sample Design Optimizer to choose the optimal sample size given the study design and budget (see Step 5). However, a sample that is statistically nationally representative is usually beyond the budget for a primary costing study.

**Q24 What is the preferred sampling method for campaign costing studies?**

Simple random sampling is always preferred. If you are trying to capture certain sites because of their unique characteristics, the best approach is to build this into your sample as strata than to revert to purposive sampling methods.

**Q25 In some part of the country where the campaign was implemented, they had to use boats to access populations on remote islands. Because the cost of this transport is likely to be high I want to make sure some of these islands are included in my sample. What is the best way to do that?**

You can accomplish this with simple random sampling, with your sample organized in strata. Place the high-cost areas accessed by boat in one strata and other areas which were more easily accessible in another. If you have an additional criteria, for example immunization coverage, you can create four strata – high cost/high coverage, high cost/low coverage, low cost/high coverage and low cost/low coverage. Then sample randomly from each strata.

**Q26 Is sampling always calculated on the basis of facilities? In my country the district organized the campaign and delivered with teams comprised of staff from different facilities, but some facility staff did not participate. So I'm not sure the sample should be based on facilities.**

It depends on the country context what the most appropriate sampling unit is. This should be the lowest level at which teams were managed. Sometimes this is the facility, while in other situations, microplans may be developed and implemented from a higher administrative level.

**Q27** What if there is a large number of partners and donors involved in the campaign; can I somehow incorporate them in my sample so I don't have to collect data from all of them?

In a nationwide campaign, usually a wide variety of national level and local level partners are involved. If the objective is to include the majority, focussing on large national level partners with a large budget and role in the campaign implementation is most appropriate. The value of the support of local level partners on a national level cost estimate is usually small, while the time it takes to collect data from them may be significant. But when looking at costs at lower levels, a specific local partner may have provided a significant contribution to the campaign in a given zone or district. If the study aims to understand and compare in greater detail how support from local level partners drove the success of the campaign in such a specific area, including support provided by local level partners will be critical. Requesting information from partners by email is also an option to reduce the length of time required for data collection.

**DATA COLLECTION****Q28** Do you have any tips for reducing recall bias, for example when interviewing facility staff?

When asking about activities staff were involved in, asking them to describe their day as though they were telling a story may help to remind them of what they did as opposed to just asking how many hours they spent on a specific activity, such as vaccine collection.

**Q29** I included a facility in my sample that was supposedly part of the campaign, but when my data collectors visited the site they were told the facility did not participate. What should I do?

You should have a replacement strategy to define what reasons are sufficient for replacing a sample site (e.g. facility has closed down, facility did not participate, staff turnover since the campaign has been high) and what happens when this is the case. If your sample is small, we do not recommend treating it as missing data. You can choose to replace the facility with another, selected through the same sampling method you used to select the original facility. It is helpful to pre-select replacement facilities as part of the initial sampling process, to have them ready just in case. Sometimes it may be necessary, if the team is still in the field, to purposively select a replacement facility that is close by. In larger samples the loss of one facility is not likely to have a huge impact.

**Q30** Most of the health facility staff who participated in the campaign are no longer working at a facility which participated in the campaign, so I am having trouble getting data, especially on staff time. What do I do?

If a specific staff member has transferred to another facility but still reachable, you can try to fill in gaps by reaching out to him or her over the phone. However, if the number of staff no longer present at the facility is so high that no meaningful data can be captured, then you can consider replacing the specific facility in the sample. Reducing the time between the campaign and data collection will also help to reduce the problem that staff turnover can present in data collection.

**Q31** I was not able to collect data about vehicle use during the campaign because it was a donor vehicle and they do not want to share the register. What would you suggest?

Instead of sharing the register, they may be able to answer questions on vehicle use in an interview. If it is still not possible to obtain the data, you can impute it from the use of other government-owned vehicles through interviews with relevant facility or district staff.

**Q32** When are expenditure records normally available from donors?

External financial reporting after a campaign usually happens approximately two months after campaign implementation.

**Q33** In the campaign both measles vaccine and polio were delivered, but I am interested only in the cost of administering measles. Several donors supported only polio. Do I need to collect data from them?

It depends on how the donor contributed, and the extent to which the campaign components were interlinked. If polio vaccines were delivered using a distinct delivery strategy and the specific donors supported this particular strategy, you do not have the costs they incurred. However, if the delivery methods were shared, it is important to include their contribution. In either case, it is probably best to first clarify what their exact role was, before diving into detailed data collection. Considering the costs of a specific intervention separate from a co-delivered intervention may underestimate the cost of the campaign, due to shared costs between the two interventions. Therefore, costing out all integrated components is recommended.

**Q34** We were not able to collect from either facility- or district-level the number of doses delivered in mop-up activities. What should we do?

Through monitoring data, you may be able to get a sense of the magnitude of mopping up that was required, and from stock level data you can derive the total number of doses administered. Based on the duration and scope of the mop-up activities, you may be able to make assumptions. If not, be clear in the report that there was a denominator issue.

**Q35** One of the facilities in the sample told us that they had received a new solar fridge last year from a donor, but it broke down so it was not working in the period before the campaign or during the campaign itself. Instead they had to store their vaccines in a refrigerator at a nearby facility and pass by that facility each morning to pick up the vaccines before travelling into the field. How should we capture the cost of the borrowed refrigerator and the transport to/from that facility?

Record travel costs and time taken to retrieve the vaccines, and you can consider recording the use of the refrigerator at the other facility as a shared cost.

**Q36** A lot of staff we interviewed could not remember which donor had provided the vehicle during the campaign or supported the printing of the registers for the campaign. What should I do?

Record as “donor” but then check at the supervising administrative level or with the donors themselves.

## ANALYSIS

### Q37 Are there any campaign-specific analysis issues I need to take into consideration?

Analyzing campaign costing data and routine immunization costing data follows the same process, though auxiliary data required for calibration and regression estimators may work differently due to data availability issues. For routine immunization costing studies, other proxy data can often be used if data are missing (e.g. doses delivered during a previous program year), while campaign costing studies are usually forced to rely only on data available for that specific campaign.

### Q38 What if the campaign I am costing included other interventions, such as vitamin A supplementation? I am only interested in the costs related to the immunization services.

You should define allocation rules (sometimes called tracing factors) to attribute the immunization-specific costs only to the campaign, thereby excluding the costs related to delivering the other interventions. Our methodological guidance document includes a table that summarizes the allocation rules that we recommend using.

### Q39 The campaign I am costing included two vaccines, but I would like to estimate the cost if only one vaccine were delivered. Can this be done?

You can use the volume delivered to allocate the total costs between the two vaccines. However, the results should be interpreted with caution. Efficiencies may have been achieved by integrating the delivery of the two, and so the results should not be interpreted as equal to the standalone cost of delivering one of the two vaccines.

### Q40 Health facility staff reported working eight hours a day during the campaign, but I know vaccination activities took place from 7am to 7pm and the same team worked the entire time. Should I adjust the number of hours worked from eight to twelve?

Use the data provided by the health workers as the default for the main analysis, and test information from alternative sources in sensitivity analysis.

### Q41 When I was analyzing the data collected, I noticed that there were three social mobilization events in the week prior to the campaign, each lasting one hour, but staff did not report any social mobilization hours for this week. Should I somehow adjust the data?

Ideally, such inconsistencies would be picked up first by the data collection tool during data collection, then through the reviews and data cleaning. If at the analysis stage such things still come up, and a clarification with the data collectors and the participating facility is no longer possible, you can fill in gaps where reasonable, but this should be carefully documented and reported.

### Q42 What is the best method to test for differences in costs between subgroups?

Differences in costs between sub-groups can be compared using two sample t-tests or bootstrap regression if there is a small sample size. Associations between categorical data (for example, if a facility experience challenges during the campaign and whether it was located in a rural or urban area) can be tested using Pearson's chi-squared test or Fisher's exact test which is more suitable for small samples.

**Q43** I have collected some costs in US dollars and some costs in local currency. How should I go about converting these costs to represent the full costs in the same currency?

We recommend using the World Bank historical exchange rates where possible. However, these are usually not available until about 6 months after the year has ended. If conversion rates are needed sooner than that, we recommend using [oanda.com](https://www.oanda.com) which provides free historical currency conversion for the last 180 days.

**Q44** The campaign happened in late 2019 and I would like to report in 2020 US\$. What's the best way for converting from local currency to US\$ and inflating to 2020?

To adjust data to another reporting year, we recommend using the ratio of the consumer price index (CPI, IMF World Economic Outlook) to account for inflation. We recommend inflating prices in their original currency, and if necessary, convert to another currency after the inflation adjustment.

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