Health Results Based Financing projects

Impact evaluation

Health Results Based Financing projects

Design an intervention

⬇

Implement the intervention

Scope of this presentation

⬇

Measure the impact of that intervention

⬇

Analysis

In this case, generate evidence on whether the mechanisms can be used to increase access to appropriate medical care, improve the quality of medical care, and encourage individuals to adopt health-improving behaviors

Measure the impact of the intervention

Objectives:

✓ get high quality data

✓ that represent the whole target population

✓ and that allow policy makers and other analysts to make the <u>right decisions, on time</u>

How to ensure that the data collected reflects the reality in the whole target population?

Survey

Total Survey Design

Controlling the *sampling error* and the *non-sampling error*

Building evidence on results based financing (RBF) for health:
Health results based financing impact evaluation meeting

Tunis, Tunisia
October 18-22, 2010

Total Survey Design

Beatriz Godoy
Sistemas Integrales

Controlling the sampling error and the non-sampling error

Sampling error: is the result of observing a sample of **n** households (the sample size) rather than all **N** households in the country.

Non-sampling error: Those arise from avoidable deficiencies and mistakes during the development and execution of the survey procedures, or from the conscious choice to use a certain method during the survey. Some sources of non-sampling error worth mentioning are:

➢ measurement errors (when the answers written on the questionnaires are different from the actual values, for whatever reason)

➢ selection biases that can result from imperfections in the list from where we choose the sample (the sample frame) or other deficiencies in the sample selection process, and

➢ non-response (when we cannot get an answer to some or all of our questions from certain households.)

Controlling the sampling error

✓ **Scientific Sampling**

- Households should be selected through a documented process that gives each household in the population of interest a probability of being chosen that is positive and known

✓ **Two-stage sample selection**

- Stratified by Region, by Urban/Rural, by Intervention/Control, …

- Selected in two stages or more:

  - Area Units in the first stage/s

  - Households in the last stage

Controlling the sampling error

✓ **Use an updated sample frame**

- A sample frame is a list of all units in the population

- The sample frame for the first stage is generally the most recent list of census enumeration areas

- It needs to be linked to cartography

✓ **Listing operation**
- The time and budget of household listing

- Small enough to be considered a marginal part of the overall data collection effort

- Large enough to be a headache if they are forgotten or underestimated

Non-sampling error

- ✓ **Measurement errors.** When the answers written on the questionnaires are different from the actual values, for whatever reason)

- ✓ **Non response.** When is not possible to get the answers from a household, for whatever reason.

- ✓ **Selection biases.** Can result from imperfections in the list from where we choose the sample (the sample frame) or other deficiencies in the sample selection process

Controlling the non-sampling error

✓ The best way to deal with non-response is to prevent it.

- Make publicity about the survey some time before

- Use well trained interviewers

- Use updated cartography

Controlling the non-sampling error

✓ Manage the survey as an integrated project, headed by a core team

✓ Prepare a detailed plan with activities and realistic dates

✓ Prepare a realistic budget

✓ Organize fieldwork on the basis of teams

✓ Implement computer-assisted field edits – the CAFEapproach

✓ Establish strong supervision procedures

✓ Ensure sufficient training

✓ Work with a reduced staff over an extended period of data collection

Manage the survey as an integrated project, headed by a core team

✓ The survey must have:
1. a full-time project manager
2. a full-time data manager
3. a full-time fieldwork manager

✓ The members of the core team must be appointed in accordance with the procedures which are usual in the institution or agency

✓ However well-planned you think your survey is, make contingency plans!

✓ Avoid the constant replacement of the project manager and other key members of the core team during the lifetime of the survey, or their assignment to other tasks unrelated to the survey project.

Controlling the non-sampling error

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Prepare a detailed plan with activities and realistic dates

➢ The core team must prepare a detailed plan of activities to design and implement the survey. Include at least the following activities:

1. **Management, Financing, Logistics and Institutional Agreements**
   - Procurement of survey equipment

2. **Sample**
   - Sample design
   - Get an updated sample frame (contact the local statistical office, the local Ministry of Health)
   - Get the corresponding cartography
   - Listing operation (in parallel? before the survey?)
   - Compute sampling weights
   - Compute sampling errors

3. **Questionnaire design**
   - Adapt it to the country specific reality
   - Translation into the local language(s)
   - Pre-test it

4. **Data Management**
   - Make a data entry program
   - Define the data management procedures
   - Document the database
   - Produce the final dataset

5. **Staffing and training**
   - Selection and recruitment of supervisors, interviewers and data entry operators
   - Prepare field manuals
   - Prepare training material
   - Training of the supervisors, interviewers and data entry operators

6. **Analysis**
    - Define content of preliminary reports
    - Prepare reports
    - Disseminate databases and reports

7. **Technical assistance**
    - Define assistance required

Prepare a detailed plan with activities and realistic dates

1. Management, Financing, Logistics and Institutional Agreements. 2-4 months
2. Sample: Depends on methodology adapted for listing.
3. Adapt questionnaire to the local conditions. at least 4-6 weeks
4. Data management: 6-8 weeks
5. Staffing and training. 4 weeks for recruitment and selection, 4 weeks for training
6. Analysis. 2-3 months?
7. Technical assistance. Parallel activity.

Prepare a detailed plan with activities and realistic dates

	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M 10	M 11	M 12	M 13	M 14
1 Management, Financing, Logistics and Institutional Agreements	■	■												
2 Sample			■	■	■	■	■	■	■					
3 Questionnaire design			■	■										
4 Data management					■									
5 Staffing and training			■	■	■	■	■							
6 Survey in the field. 16 weeks?								■	■	■	■			
7 Database preparation											■			
8 Analysis. 2 months?												■	■	

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Controlling the non-sampling error

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Prepare a realistic budget

➤ The core team must prepare a realistic budget, for the whole project design and implementation.

➤ Before the budget can be prepared, one must have an idea of:
- size of the sample
- period during which data will be collected
- length of the interview.

1. **Base remunerations**
   - Core team
   - Supervisors
   - Interviewers
   - Data entry operators
   - Others

2. **Travel allowances**
   - For the same categories

Prepare a realistic budget

3. **Transportation**
   - Care rental?

4. **Materials**
   - Computers, printers, GPS
   - Other survey material

5. **Document reproduction**
   - Questionnaires
   - Manuals
   - Reports

6. **Technical assistance**
   - Local consultants
   - International consultants

Prepare a realistic budget

7. **Other**
    - Communications
    - Pre-test
    - Listing operation
    - Translation
    - Training logistics
    - Publicity

Controlling the non-sampling error

✓ Manage the survey as an integrated project, headed by a core team

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Organize fieldwork on the basis of teams

➢ The "Field Team" approach is the best organizational method for implementing the work of the survey

Composition of a field team
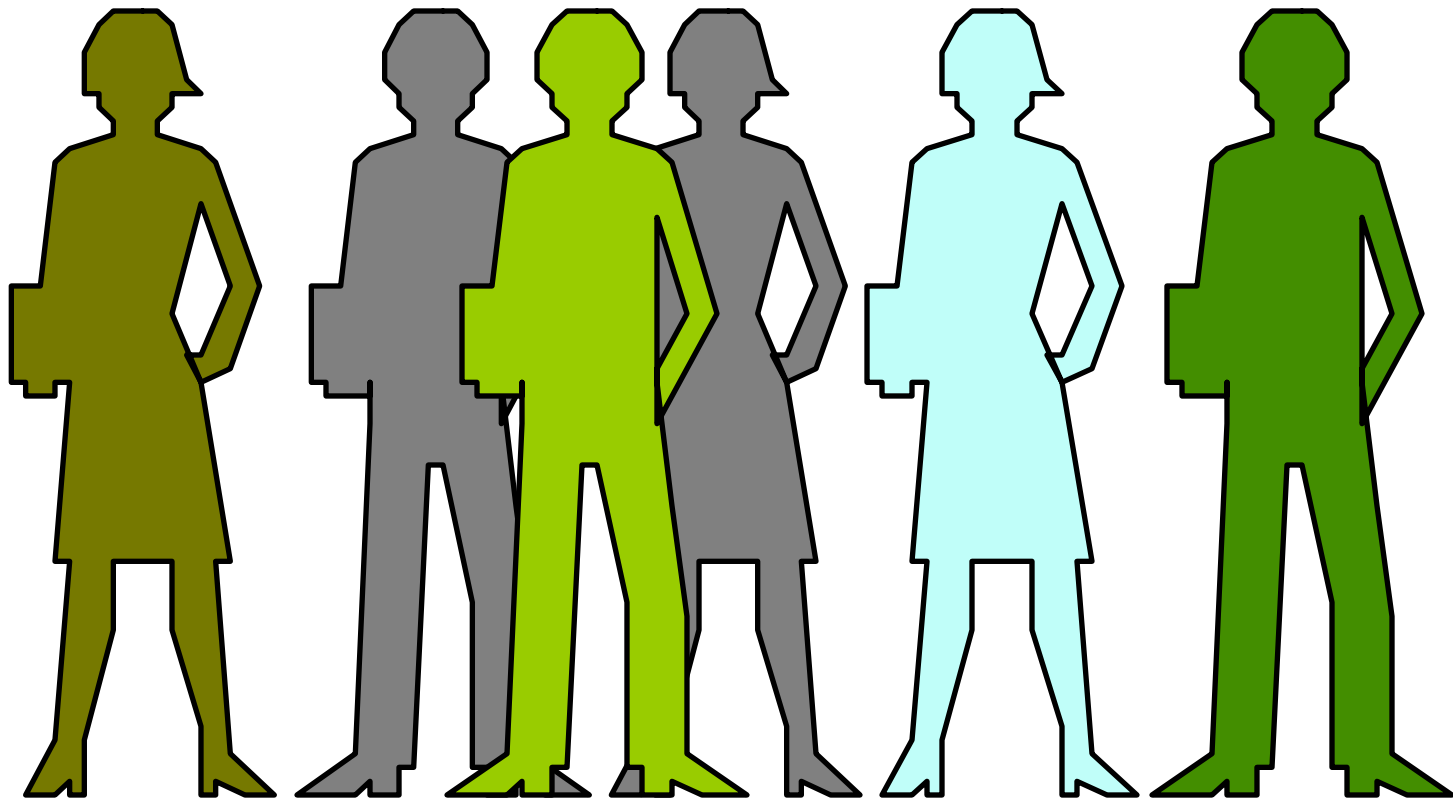
Supervisor   **Interviewers**   **Anthropo -metrist**   **Data entry operator**

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Organize fieldwork on the basis of teams

➢ Organizing fieldworkers into small, self-sufficient teams, each headed by a team leader and composed of interviewers and other members

➢ A plan for selecting the field workers should be prepared, including their ToRs.

➢ Planning the activities of each team through all the survey period

➢ The Field Team concept is in contrast with the organization of fieldwork on the basis of a layer of independent interviewers whose work is overseen, to a greater or lesser extent, by an upper layer of supervisors with no permanent links between them (e.g. Interviewer A may be observed by Supervisor B in Week 1, by Supervisor C in Week 3, and perhaps by nobody in Week 2. This option has proved to be highly unsuccessful in practice and cannot be recommended

Organize fieldwork on the basis of teams

➢ The team leader (sometimes referred to as the "supervisor") has two broad functions:

    ➢ dealing with logistics and finance, meeting the local authorities and "selling" the project to them, identifying the households to be interviewed and deploying the interviewers, persuading the heads of households to provide the information needed by the survey, and so forth

    ➢ Supervision

Controlling the non-sampling error

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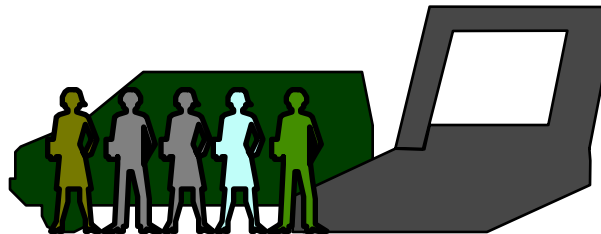
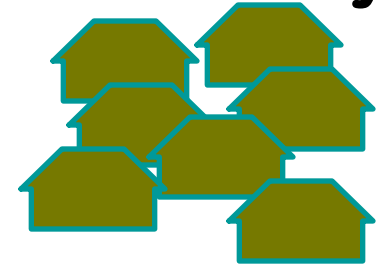# Field Management

Mobile teams with integrated data entry

Fieldwork

Bamako

Alama
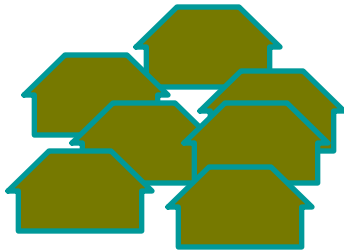
Cocody

Team works with portable computers and printers
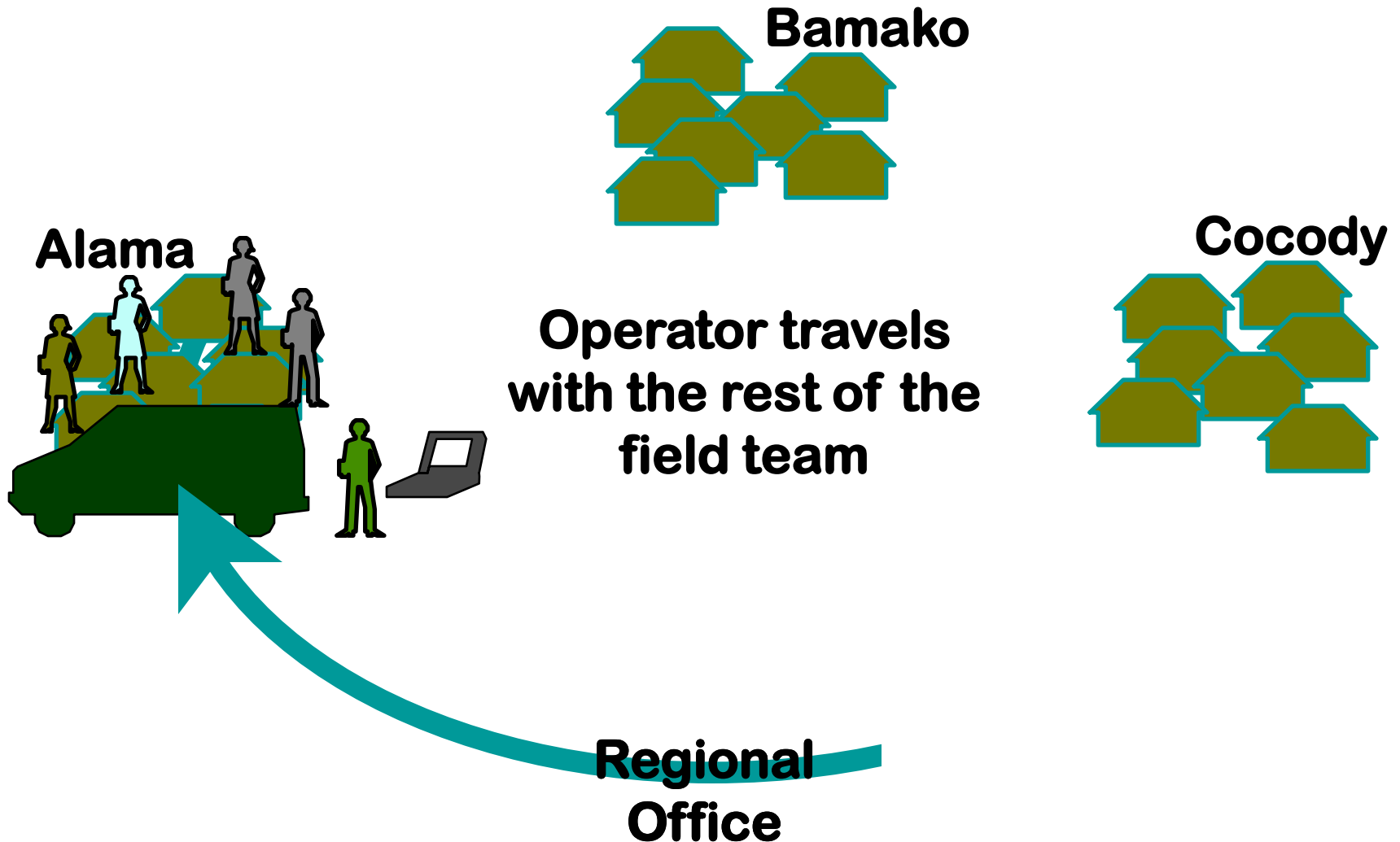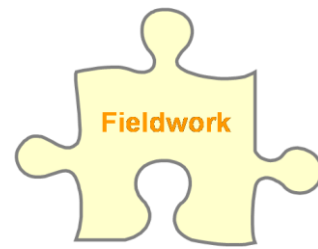
Regional Office

Field Management
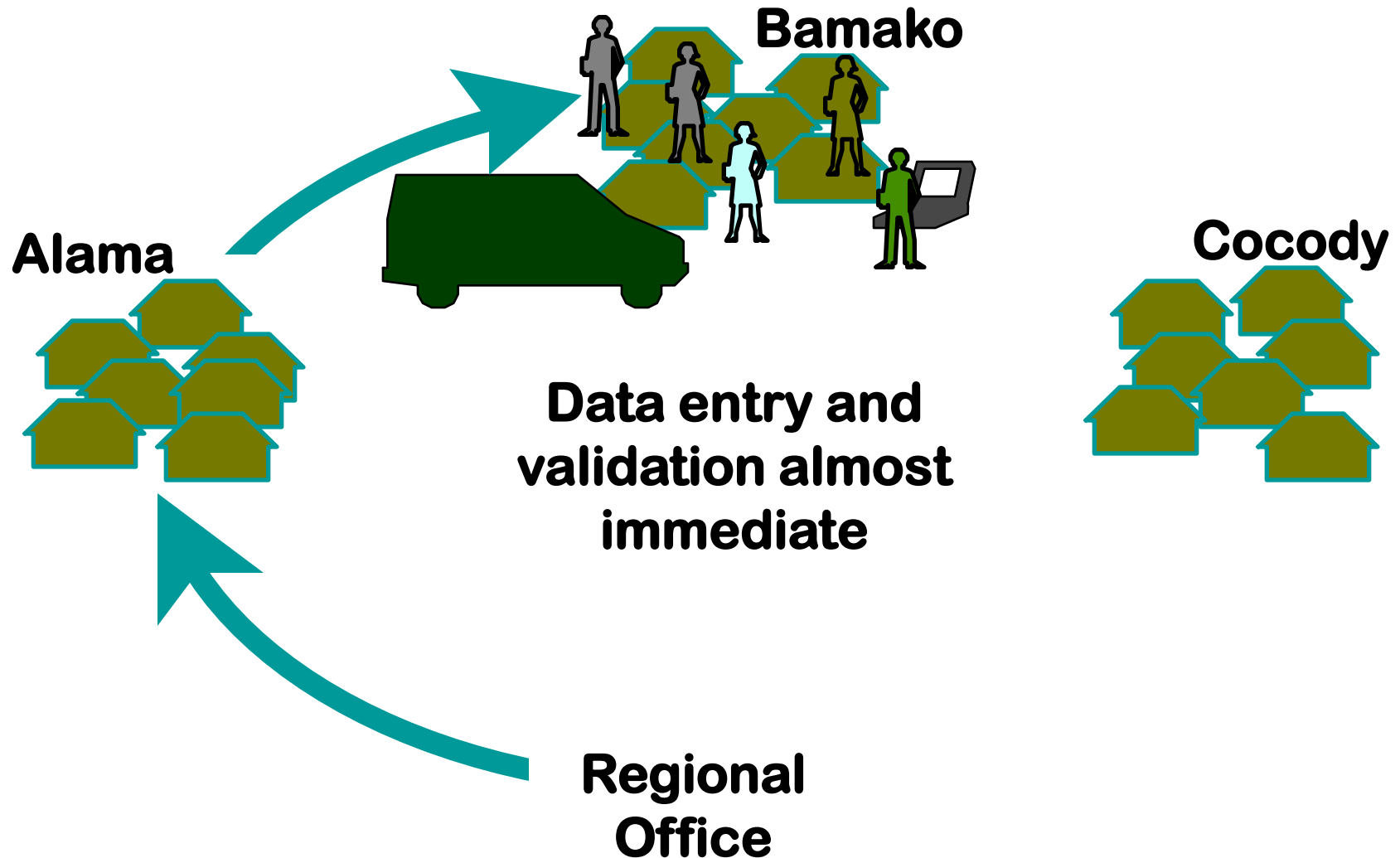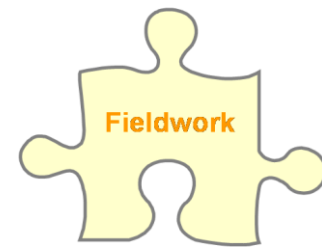
Mobile teams with integrated data entry

Fieldwork

Bamako

Alama

Cocody

Data entry and validation almost immediate

Regional Office

Field Management

Mobile teams with integrated data entry

Fieldwork
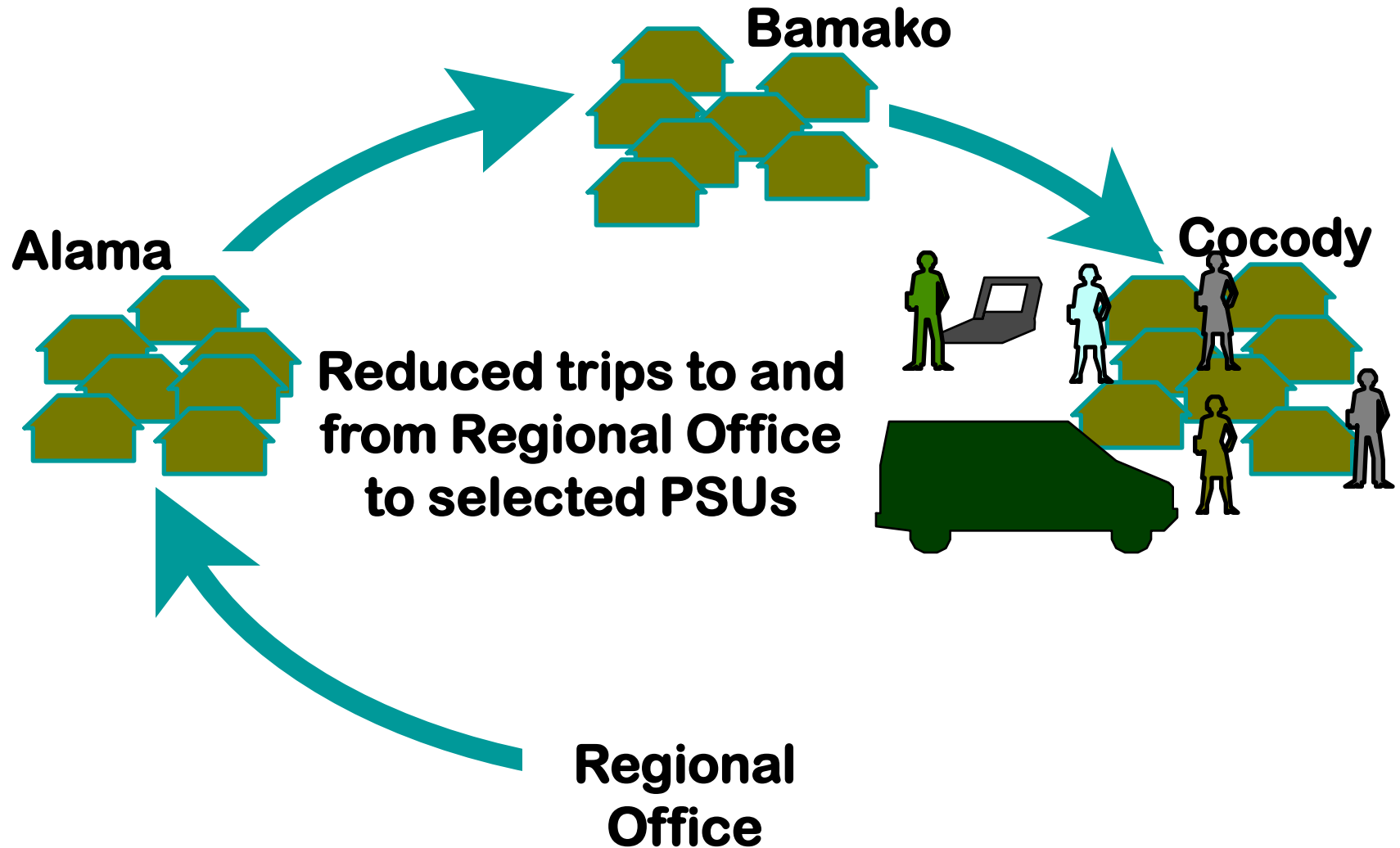
Bamako

Alama

Cocody

Reduced trips to and from Regional Office to selected PSUs

Regional Office

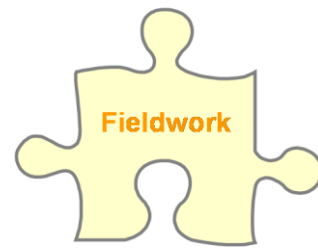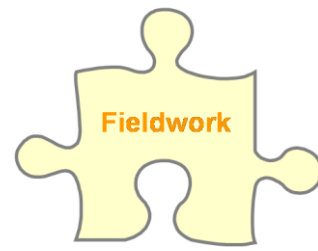# Field Management

Mobile teams with integrated data entry

Fieldwork

Bamako

Cocody

Alama

Regional Office
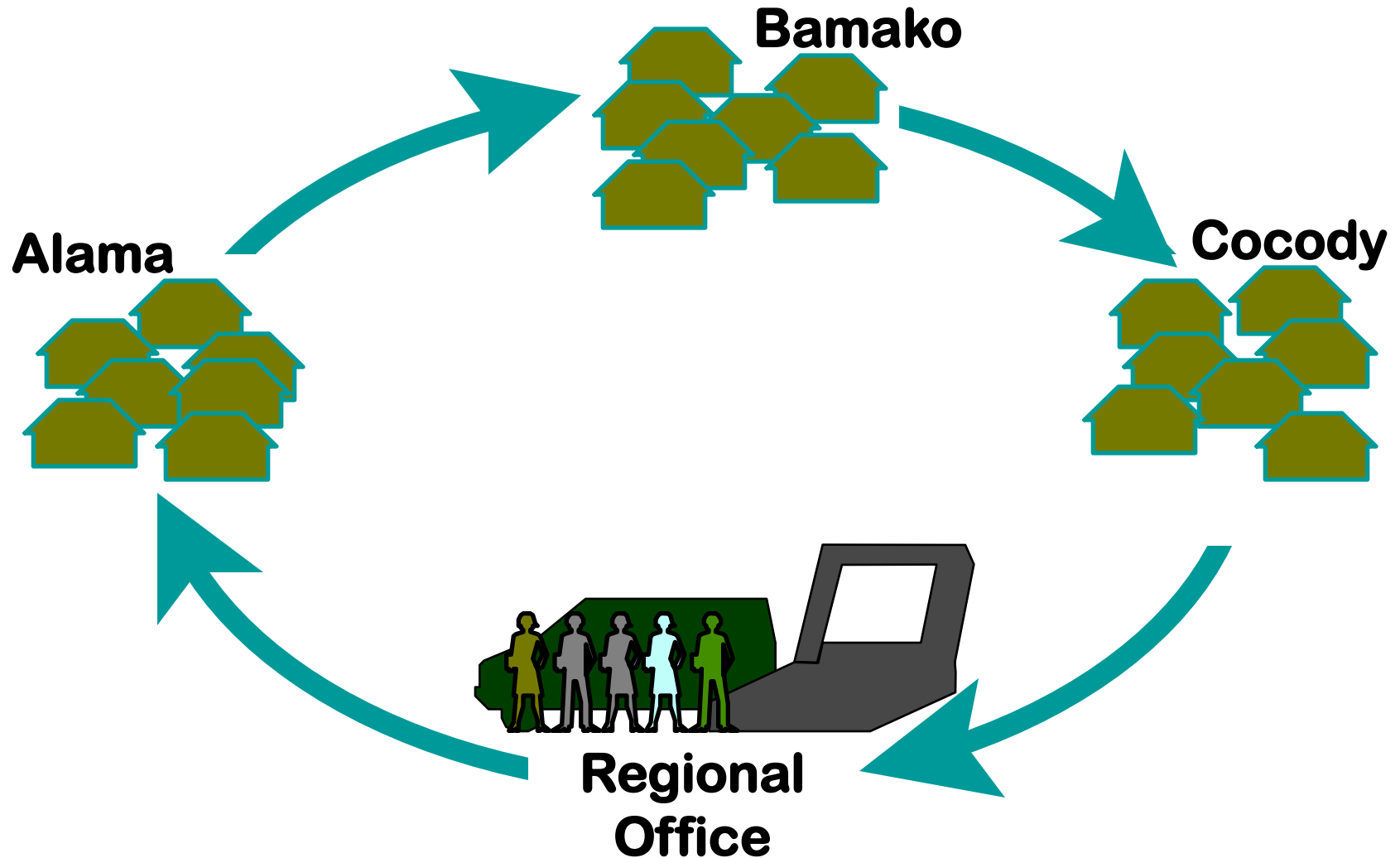
Implement computer-assisted field edits – the CAFÉ approach

➢ it provides immediate feedback on the performance of the field staff, allowing early detection of any inappropriate behavior

➢ it ensures that uniform criteria are applied throughout the full period of data collection and throughout the whole territory where the survey is being conducted, because the same software is being used by all the field teams

➢ it enables inconsistencies to be corrected at their source, if necessary by re-visiting the household, rather than the data being "cleaned" by someone sitting in an office making theoretical decisions about what might have caused them

Implement computer-assisted field edits – the CAFÉ approach

➢ the daily work to ensure the quality of the information, carried out together and solidly backed-up by the integrated data-entry program, has the virtue of motivating all the members of the team to reach higher standards of quality and efficiency

➢ it provides reliable and timely databases

What happens without integration?

- A long and frustrating process of "data cleaning" becomes unavoidable

  The data loose their policy-making relevance

- Data quality is not guaranteed

  The process converges (at best) to databases that are *internally consistent*

- The process entails a myriad of decisions, generally undocumented

  Users mistrust the data

Controlling the non-sampling error

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Establish strong supervision procedures

➢ Build up a supervision plan to control the quality of fieldwork, including central supervision

➢ Prepare a plan to guide the team's work for the whole survey period, including time for re-visiting the households to correct inconsistencies, when needed

➢ A second function of the team leader is that of quality control
  ➢ Interview observation
  ➢ Revision of the completed questionnaires
  ➢ Reviewing the printouts of errors generated by the data-entry program
  ➢ Check-up visits
  ➢ Ensuring that all the activities are being completed in accordance with the work calendar, and keeping in regular contact with the Core Team

Establish strong supervision procedures

➢ The team leader is responsible for supervising the interviewers in his or her team, but the possibility always exists that s/he will make mistakes or stray from the ethos of the mission.

➢ This is why a way of supervising the team leaders' work must also be found.

➢ In short surveys conducted in a small geographical area (for example, a market research survey in a single city), it is relatively easy to centralize supervision in the hands of the project management team.

➢ In national household surveys, however, external supervision is considerably more complicated; it is important to address this issue at an early stage in the planning process

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Ensure sufficient training

➢ To get the best results from fieldwork, the staff must be trained thoroughly in how to conduct the interviews and in the use of the questionnaire and data-entry program.

➢ The amount of time required to train field staff is very often underestimated

➢ The manuals, questionnaires and data-entry program must all have been finalized before training begins, and all the logistical aspects must be in place

Ensure sufficient training

➤ The training course for field staff should have four main elements

    ➤ plenary sessions: introduction and lectures

    ➤ practical work in small groups:
        ▪ simulated interviews,
        ▪ rôle plays,
        ▪ practicing with equipment,
        ▪ interpreting inconsistencies, etc.

    ➤ practice fieldwork and computer management

    ➤ candidate assessment

➤ The time needed to conduct high-quality training for all fieldworkers is about 4 weeks

Controlling the non-sampling error

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Work with a reduced staff over an extended period of data collection

➢ The duration of fieldwork should be decided at an early stage in the process of planning the survey

➢ Training, managing and supervising a big number of field workers is difficult

➢ It is recommended, instead, to extend the survey period, and work with a small number of well trained teams

➢ The quality of the data collected will improve drastically

Some of the key decisions

➢ **Questionnaire**

  ➢ Translated?

  ➢ Proxy respondents?

➢ **Sample**

  ➢ Sample size?

Some of the key decisions

➢ **Fieldwork**

    ➢ Will use Computed Assisted Field Edits (CAFE)?

Some of the key decisions

➢ Team composition

  ✓ How many interviewers?

  ✓ How many men and women?

  ✓ One anthropometrist?

  ✓ Anybody else?

Some of the key decisions

➢ Team productivity in one week

- Given the team composition,

- Given the questionnaire's content and length,

- Given the number of households selected in each EA,

==> How many EAs can make a team in one week?

  ✓ Consider time to revisit the households

  ✓ Consider time for mobilization

   ❖ from one household to another one

   ❖ from one EA to the next one

Some of the key decisions

➢ Survey period

- Given the number of EAs that can be made by one team

- Given the total number of EA selected

- **How many months do we need to finalize the survey?**

Monitoring and assessing the quality of fieldwork

Survey Month	Households reporting illnesses, accidents (Q407)	Households reporting chronic deseases (Q401)	Households reporting agricultural activities (Q901)	Number of crops reported (Q911)	Households reporting livestock activities (Q918)	Households reporting fishing activities (Q924)	Total Nb of durables (Section 12)	Nb of HH having credit (Section 13)	HH size mean	Number of lines with food consumption
1	1,645	705	572	1,352	563	17	9,538	1,017	7.8	95,687
2	1,352	624	503	1,299	530	13	8,853	937	7.5	99,491
3	996	577	507	1,421	502	12	9,818	910	7.6	96,028
4	898	642	486	1,469	504	25	9,301	880	7.9	96,139
5	816	545	436	1,243	464	3	9,180	811	7.1	97,094
6	691	513	477	1,442	465	23	9,667	841	7.5	97,315
7	625	529	465	1,338	494	26	9,621	738	7.5	108,432
8	658	498	439	1,264	433	17	9,437	707	7.3	100,888
9	769	552	433	1,244	428	11	9,584	740	7.2	98,893
10	858	534	468	1,227	436	25	9,224	719	7.4	98,415
11	743	517	399	1,165	411	10	9,294	737	7.2	97,138
12	693	464	356	1,133	440	25	9,722	705	7.1	96,052