MODULE 7

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BUDGET ANALYSIS

MODULE 7 ■ BUDGET ANALYSIS

SUMMARY TABLE

Duration	8 hours, 55 minutes
Timing of this module	This module corresponds with the following sessions in the *Health & Budgets Training Workshop Agenda*: • **Part of SESSION 4** on **Day 4**; • **Part of SESSION 1** on **Day 5**; • **SESSIONS 2-4** on **Day 5**; • **SESSION 1** on **Day 6**; and • **Part of SESSION 2** on **Day 6**. (Note that one session is 1 hour, 45 minutes.)

Resources needed	• Laptop for each of the participants
	• Pads of flipchart paper
	• Post-It notes
	• An everyday item that you buy in a store, e.g., a can of Coke
	• Chocolates, sweets, or other small prizes
	• PowerPoint presentations:
	   ➢ **MODULE 7 – Introduction**
	   ➢ **MODULE 7 – Hypothesis 1**
	   ➢ **MODULE 7 – Hypothesis 2**
	   ➢ **MODULE 7 – Hypothesis 3**
	   ➢ **MODULE 7 – Hypothesis 4**
	   ➢ **MODULE 7 – From Analysis Back to Advocacy**
	• In the Participants' Workbook:
	   ➢ **TASK 7.1 ■ Calculating Cost Per Unit**
	   ➢ **TASK 7.2 ■ Comparing Budgeted and Actual Expenditure**
	   ➢ **TASK 7.3 ■ Calculating Budget Shares**
	   ➢ **TASK 7.4 ■ Adjusting for Inflation**
	   ➢ **TASK 7.5 ■ Calculating Budget Growth**
	   ➢ **TASK 7.6 ■ Calculating Per Capita Allocations**
	   ➢ **TASK 7.7 ■ Diagnosing the Budget Problem**
	   ➢ **TASK 7.8 ■ Which Calculation and Chart to Use?**
	   ➢ **READING 7.1 ■ How to Create Charts and Graphs in Excel**
	   ➢ **READING 7.2 ■ Ratios and the Composition of a Budget**
	   ➢ **READING 7.3 ■ Inflation**
	   ➢ **READING 7.4 ■ Measuring Budget Changes Over Time**
	   ➢ **READING 7.5 ■ Per Capita Calculations**

LEARNING OUTCOMES TO BE ACHIEVED

By the end of Module 7, participants will have:

- Identified which calculations to undertake to investigate a range of suspected budget problems;

- Calculated cost per unit;

- Calculated over-expenditures and the amount of goods and services that could have been secured with efficient spending;

- Determined rates of under-spending;

- Recognized why they need to adjust budget amounts for inflation;

- Adjusted budget amounts for inflation;

- Measured changes in spending over time;

- Calculated per capita expenditure;

- Presented the findings of budget analysis using charts and graphs; and

- Linked budget analysis findings back to an advocacy objective.

STRUCTURE OF THE MODULE

The following hypotheses will be examines and tested during the course of Module 7. (The time allocations below are rough estimates.)

Introduction to Budget Calculations

1. Overview of the Module   15 minutes

Investigation of Hypotheses/Budget Calculations (7 hours, 35 min.)

2. Hypothesis 1 – Primary Health Clinics (PHCs) in Peri-Urban Areas of Mortalia
    Are Wasting Money   1 hour, 20 min.

3. Hypothesis 2 – Peri-Urban PHCs in Mortalia are Underspending   1 hour, 20 min.

4. Hypothesis 3 – Peri-Urban PHCs in Mortalia are Underfunded   2 hours, 55
    min.

5. Hypothesis 4 – The Funds that District Services Provides to Peri-Urban PHCs
    in Mortalia Fall Short of the *Per Capita* Primary Health Care Spending Standard
    Set by the Polarus Ministry of Health   2 hours

From Budget Analysis Back to Advocacy (1 hour, 5 min.)

6. Quick Recap   5 minutes

7. TASK 7.7 ■ Diagnosing the Budget Problem   15 minutes

8. Facilitator Input: Using Charts and Graphs   15 minutes

9. TASK 7.8 ■ Which Calculation and Graph or Chart to Use?   30 minutes

INTRODUCTION TO BUDGET CALCULATIONS

Duration of session: 15 minutes

STRUCTURE OF THE SESSION

1. Overview of the Module   15 minutes

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1. OVERVIEW OF THE MODULE   15 MINUTES

- This introduction is supported by **PPT file MODULE 7 Introduction**.

- Introduce the module by reminding participants why analyzing the budget is the next logical step in the process of developing a budget advocacy strategy.

- First, review briefly how **Module 6** (with its focus on understanding health policy and the budget process) has helped the participants gain a deeper and more substantial insight into the health situation in Sunrise State. For example, ask participants how the knowledge gained in Module 6 has helped them to:
    - make their advocacy objective more specific;
    - identify possible primary audiences for their advocacy message;
    - identify possible opponents and allies; and
    - begin to understand where in the budget process the problem and possible solution lies?

- By the end of **Module 6**, however, participants still did not have certainty about which possible problem was the main cause of poor primary health care services in peri-urban areas of Mortalia in Sunrise State. This is where budget analysis comes in.

- Spend a few minutes explaining how **Module 7** will be structured. Participants will be asked to propose hypotheses as to why health care service in the peri-urban areas of Mortalia are so lacking. Their focus should specifically be on the budget; i.e., what budget shortcomings might be contributing to the poor health care service provision in the peri-urban areas.

- Remind participants of the suggested "bottom up" approach set out in the previous module. As they think about hypotheses, start at the clinic level and move up from there.

- In this module participants will be exposed to a series of budget calculation tools to address the most typical budget-related problems. It will not be possible to explore all hypotheses or all calculations.

- Once they have done a series of calculations associated with specific hypotheses, they will be asked to decide which hypotheses seem to have the strongest evidence supporting them, what they believe the principal budget problems are and where they should direct their advocacy.

- Ask participants to brainstorm in their Polarus CSO groups about potential budget problems leading to poor health care services in Mortalia, going no higher up the chain than the State level. After 10 minutes, ask each group to share their top two hypotheses. They should write these down on Post-its, and put them on a flip chart at the front of the room.

- Discuss the hypotheses offered by the participants. Hopefully, at least some, if not all, will more or less align with the hypotheses that will be addressed in this module. If there are hypotheses that make little sense in light of existing information, talk this through. If participants propose hypotheses that make sense, but will not be followed, explain that not all potentially valid hypotheses can be pursued. Stress, however, that it is essential in doing budget work to start with hypotheses such as these that postulate a relationship between a development problem of concern and the government's budget. In the absence of a hypothesis, it isn't possible to choose the approach to take in analyzing the budget—because it isn't feasible or desirable for a CSO to do all possible analyses of a budget in the vague hope of identifying something inappropriate.

- Use **Slide 2** to present the four hypotheses that will be addressed in the rest of the module. They will be addressed in the order presented, which is from bottom up. Explain that these hypotheses address the most common budget-related problems—waste, under-spending and under-funding. Working on them will also allow participants an opportunity to practice using important budget analysis tools. Although the focus will be at the level of PHCs and go no higher than the State level, the same problems arise at other levels of government and the same calculations would be useful.

- Over the next few sessions, participants will test these hypotheses until they have built up a compelling argument about the health problem and how to solve it. At the same time, they will be gathering evidence to back up their advocacy strategy.

- The process for investigating each hypothesis will be the same. In each case, the facilitator will lead the participants through the following steps:

  1. Unpacking the problem
  2. Suggesting which calculations would be helpful to test the hypothesis
  3. Doing the calculations
  4. Articulating the findings in budget terms and in human rights terms

5. Establishing who is responsible for the problem

6. Establishing how and when it could be fixed

7. Deciding how best to illustrate/present the findings

- These generic seven steps of investigation are set out on **Slide 3**.

- Invite questions of clarification and spend a few minutes explaining anything that participants don't understand that might serve as a barrier to learning. However, the investigation of the hypotheses is probably only likely to make sense to the participants as they start working on it. Thus, limit the discussion here to clarifying critical concepts or process points.

INVESTIGATION OF HYPOTHESES/BUDGET CALCULATIONS

Duration: 7 hours, 35 minutes

The budget calculations begin after the Introduction to the Module and identification of hypotheses that will be addressed. During these calculation sessions participants will put each hypothesis to the test by analyzing the relevant budget figures from Polarus. Within their roles as civil society members in Polarus, their primary task throughout the investigation is to determine which of the hypothesis (or hypotheses) is the main cause(s) of poor primary health care services in the peri-urban communities of Mortalia.

GENERAL GUIDELINES FOR FACILITATING BUDGET CALCULATIONS

Please note the following general facilitation notes for this part of the module:

- This manual does not provide exact time guidelines for all of the inputs and tasks involved the investigation of each hypothesis.
- Some of the hypotheses will take longer to investigate than others. Hypothesis 3 is particularly intensive and involves the introduction and practicing of a few different calculations.
- It will be up to the facilitator to keep an eye on progress and overall time use and ensure that sufficient progress is being made across the seven sessions.
- To test some of the hypotheses, certain prior calculations are assumed. When that occurs, be sure that participants bring in the results of the prior calculations.

HYPOTHESIS 1
PRIMARY HEALTH CLINICS IN PERI-URBAN AREAS OF MORTALIA ARE WASTING MONEY

Duration of session: 1 hour, 20 minutes

Note: Use the slides in the **PPT file MODULE 7: Hypothesis 1** to facilitate the investigation of this hypothesis.

- The assumption here is that if the primary health clinics in the peri-urban areas of Mortalia were using their money more efficiently, more and better health care services could be made available (and the government would be better complying with its obligation to use the maximum of available resources to realize the right to health).

- The health services problem extends to all the peri-urban communities. However, SeDeN does not have the capacity to do extensive research that would include all of the PHCs in those communities. It thus decides to focus on a representative sample of three PHCs.

- Because one of the problems facing health care services is shortage of medicine, SeDeN decided to investigate the costs of key medicines purchased by those PHCs.

- **The first calculation here is with regard to unit cost, specifically the unit costs of medicines purchased by the PHCs in Aljana, Corcora, and Sorulia**. Important: At the end of this calculation, before getting into the second calculation the facilitator introduces new information—the result of research done by SeDeN to identify the lowest retail price of the three medicines in the Mortalia area.

- **The second calculation looks at how much more the clinics paid for medicines than they needed to.**

- **The third calculation looks at how much more medicine each clinic could have bought had they paid the lowest price possible.**

Notes on calculations (Slide 3):

- Unit costs can be defined more or less narrowly. In this example participants will be focusing narrowly. In other situations, for example, where the unit costs are those associated with the provision of beds in hospitals, more than the cost of simply the beds might be included. Included could be administrative costs, salaries of doctors, etc., because these are necessary to maintain the availability of beds for patients needing them.

- When calculating unit costs, it is important to use actual rather than budgeted expenditure, because the unit cost calculation tries to measure how government actually performs, not how it plans to perform.

   The **formula** for unit costs is as follows:

$$\text{Unit cost} \quad = \quad \frac{\textbf{Total expenditure}}{\textbf{Number of units delivered}}$$

   - First illustrate the calculation for one of the drugs (Amoxicillin) in one of the clinics:

   D 3,350 / 1,000 boxes = D 3.35/box

   - Explain that this unit cost is only useful information if you have something to compare it to.

ANSWERS TO TASK 7.1: CALCULATING COST PER UNIT

1. **Ask participants to calculate the unit cost for each drug in each peri-urban clinic.** This is **TASK 7.1 ■ CALCULATING COST PER UNIT** in their Workbooks.

   - The correct calculations for Question 1 in **TASK 7.1** are:

   Aljana:

   Amoxicillin: D 3,350/1,000 boxes = D 3.35 /box

   Folic Acid: D 2,189/1,100 boxes = D 1.99/box

   Paracetamol: D 2,025/1,350 boxes = D 1.50/box

   Corcora:

   Amoxicillin: D 3,468/950 boxes = D 3.65 /box

   Folic Acid: D 1,890/900 boxes = D 2.10/box

   Paracetamol: D 1,595/1,100 boxes = D 1.45/box

   Sorulia:

   Amoxicillin: D 4,140/1,150 boxes = D 3.60 /box

   Folic Acid: D 2,708/1,220 boxes = D 2.22/box

   Paracetamol: D 2,320/1,450 boxes = D 1.60/box

   - With regard to their findings, from these calculations it appears that the PHC in the Aljana community did a better job of procuring drugs than the PHCs in the other two peri-urban communities did.

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- Ask participants: What else might we compare these costs to? It would be possible to compare them to the costs in other PHCs, but SeDeN does not have that information. The information it can more easily get is the retail costs in pharmacies (even though PHCs should be able to get the same drugs at a lower cost, because they are buying in bulk).

- SeDeN decides to check with 20 pharmacies in Mortalia. It selects pharmacies in different areas of the city—rich and poor. It finds the lowest costs in Your Friendly Pharmacy, which quotes them the following prices:

  Amoxicillin: D 2.99

  Folic Acid: D 1.55

  Paracetamol: D 1.39

2. **How much more did the clinics pay per unit than they needed to? (Slide 5)** The formula for calculating unit over-expenditure in this case would be:

$$\textbf{Over-expenditure per unit} \quad = \quad \frac{\textbf{Invoice unit price} - \textbf{best retail unit price}}{\textbf{Best retail unit price}} \quad \textbf{x 100}$$

- Have participants calculate the percentages for each drug for each PHC. The answers for calculations in section 2 in **TASK 7.1** are:

  - **Aljana:**

    Amoxicillin: (3.35 - 2.99)/2.99 x 100 = 12%

    Folic Acid: (1.99 - 1.55)/1.55 x 100 = 28.4%

    Paracetamol: (1.50 - 1.39)/1.39 x 100 = 7.9%

  Corcora:

    Amoxicillin: (3.65 - 2.99)/2.99 x 100 = 22.1%

    Folic Acid: (2.10 - 1.55)/1.55 x 100 = 35.5%

    Paracetamol: (1.45 - 1.39)/1.39 x 100 = 4.3%

  Sorulia:

    Amoxicillin: (3.60 - 2.99)/2.99 x 100 = 20.4%

    Folic Acid: (2.22 - 1.55)/1.55 x 100 = 43.2%

    Paracetamol: (1.60 - 1.39)/1.39 x 100 = 15.1%

3. **How much more of each medicine would each PHC been able to buy had they bought at this best retail price? (Slide 6)**

- Explain the reasoning underlying the following formula to participants and have them do the calculation for each PHC for each drug according to the following formula:

$$\text{Possible extra quantity of medicine} \quad = \quad \frac{\text{Total on invoice}}{\text{Retail unit price}} \quad - \quad \text{Invoice quantity}$$

- The correct calculations for section 3 in **TASK 7.1** are:

   Aljana:

   Amoxicillin: (3,350/2.99) – 1,000 = 1,120 – 1,000 = 120 boxes

   Folic Acid: (2,189/1.55) – 1,100 = 1,412 – 1,100 = 312 boxes

   Paracetamol: (2,025/1.39) – 1,350 = 1,456 – 1,350 = 106 boxes

   Corcora:

   Amoxicillin: (3,468/2.99) – 950 = 1,159 – 950 = 209 boxes

   Folic Acid: (1,890/1.55) – 900 = 1,219 – 900 = 319 boxes

   Paracetamol: (1,595/1.39) – 1,100 = 1,147 – 1,100 = 47 boxes

   Sorulia:

   Amoxicillin: (4,140/2.99) – 1,150 = 1,384 – 1,150 = 234 boxes

   Folic Acid: (2,708/1.55) – 1,220 = 1,747 – 1,220 = 527 boxes

   Paracetamol: (2,320/1.39) – 1,450 = 1,669 – 1,450 = 219 boxes

- Point out to participants that providing information on the medicines that *could have been* purchased had the best prices been used is a good advocacy tool, because it concretizes for the audiences what the over-expenditures mean in terms can they understand.

QUESTIONS 4 & 5: WHAT CONCLUSIONS CAN YOU DRAW FROM YOUR CALCULATIONS?

- Ask participants what conclusions they can draw in **budget terms** from their calculations. Their **answers for Question 4 in TASK 7.1** should include:
- The three Mortalia peri-urban PHCs are wasting resources.
- They are paying more for the three medicines identified in the invoices than they need to.
- They would be able to buy significantly more medicines for the same amount of money if they were more efficient in their use of funds. Alternatively, of course, if they did not need

the additional medicines, they could direct the saved funds to other areas of their program that are in need of funds.

- Ask participants how they would articulate their conclusions in **human rights terms**. Their **answers for Question 5 in TASK 7.1** should be generally along the following lines:
  - The government's obligation to use the maximum of available resources (MAR) to realize the right to health means that the government must use funds directed to health efficiently. The three peri-urban PHCs researched are not doing so. At a minimum the government is failing to meet its MAR obligations by failing to ensure that these PHCs are spending their funds for drugs as efficiently as possible.

- The only conclusion that SeDeN can draw about wasteful expenditures is with regard to the three PHCs researched. However, the findings are striking and the government should be asked to ensure at a minimum that the other peri-urban clinics are using their funds for medicines efficiently.

Illustrating the findings (Slides 9-10):

- It is possible simply to discuss with participants the kinds of charts that could be used in this instance to illustrate the findings.

- It would also be possible to spend some more time looking at bar charts in more detail **(Slide 10)** and showing participants how to create bar charts in Excel.

- The guidelines also appear in the Participant's Workbooks in **READING 7.1 ■ HOW TO CREATE CHARTS AND GRAPHS IN EXCEL**.

HYPOTHESIS 2

PERI-URBAN PRIMARY HEALTH CLINICS IN MORTALIA ARE UNDER-SPENDING

Duration of session: 1 hour, 20 minutes

Note: Use the slides in the **PPT file MODULE 7: Hypothesis 2** to facilitate the investigation of this hypothesis.

Why is under-spending a problem? (Slide 2)

- Indicates lack of capacity in a program or department.

- If a department is not spending its available funds, those funds are not being put to good use. In addition, no one else can use them either, at least not until the next financial year.

Actual and budgeted expenditure

- One way to assess under-spending is by calculating the "rate" of spending; that is, the percentage of the budgeted amount (the "allocation") that was actually spent.

- **Allocation:** What the government projects at the beginning of the financial year that it will spend during the year for an MDA or program. Sometime this is titled "Budget" or "Budgeted" in an MDA or program budget. Some countries adjust these budgeted figures midway through the year and call the result "Adjusted Estimates."

- **Actual expenditure:** What MDAs and programs really end up spending. Actual expenditures may be presented in a financial report before they are audited. Expenditures that have been audited are often titled "Audited Expenditures."

Calculating the rate of spending (Slides 3 and 4)

- To calculate an MDA's or program's rate of spending, divide actual expenditure by the budget or allocation, and multiply the result by 100 to express the rate as a percentage:

$$\text{Rate of spending} \quad = \quad \frac{\textbf{Actual expenditure}}{\textbf{Allocation or budget}} \quad \textbf{x 100}$$

- The example on **Slide 4** is the rate of spending for Salaries at the Aljana PHC in 2008. Applying the formula:

Rate of spending = (217,543/219,652) x 100, which comes to 99.0%

- This means that the Aljana PHC managed to spend 99% of its Salaries budget. In other word, almost the whole budget or allocation.

- Now ask participants to try this calculation themselves by determining the rate of spending on Salaries, Goods and Services, Medicines, Medical Equipment as the total budget for each PHC that is the subject of SeDeN's research for 2008, 2009, and 2010. This is **TASK 7.2 ■ COMPARING BUDGETED AND ACTUAL EXPENDITURE** in their Workbooks.

ANSWERS TO TASK 7.2: COMPARING BUDGETED AND ACTUAL EXPENDITURE

Question 1:

Aljana PHC	2010	2009	2008
Current Payments			
Salaries	98.1%	99.1%	99.0%
Goods and Services	91.6%	90.8%	88.3%
Medicines	93.9%	90.7%	89.9%
Payments for Capital Assets			
Medical Equipment	91.3%	86.4%	90.7%
Total	95.7%	95.5%	95.3%

Corcora PHC	2010	2009	2008
Current Payments			
Salaries	99.5%	100.4%	100.8%
Goods and Services	91.0%	91.2%	78.5%
Medicines	91.1%	91.8%	80.3%
Payments for Capital Assets			
Medical Equipment	95.1%	100.2%	100.5%
Total	96.2%	97.5%	93.7%

Sorulia PHC	2010	2009	2008
Current Payments			
Salaries	100.6%	99.0%	99.4%

Goods and Services	100.2%	99.2%	98.3%
Medicines	95.3%	109.4%	96.6%
Payments for Capital Assets			
Medical Equipment	102.1%	99.8%	94.4%
Total	100.6%	99.2%	98.5%

Question 2:

- **Ask participants what they see in their findings in budget terms.** Their answers should include the following:
  - There is a consistent under-spending in medicines in both Aljana and Corcora PHCs.
  - Almost all of the Salaries budget is spent in all the PHCs.
  - Medical equipment is consistently under-spent in Aljana, but not in the other two PHCs.
- Ask participants what could explain the under-spending in medicines in Aljana and Corcora. Possible answers include: poor financial management, late disbursements, and flaws in the procurement process.
- Highlight for participants that under- and over-spending comparisons are interesting, because they help indicate the nature of the under- or over-spending problem and where it is located (e.g., in a specific program or department-wide).
- An important question that therefore needs to be answered from an advocacy point of view is: **If the peri-urban PHCs were given more funding, what would it likely be spent on?**
- Corcora and Aljana PHCs regularly under-spend. If they were to spend their full budgets for medicines, there would be more medications available. That, however, does not mean that the funds would be spent in an efficient manner. Which should come first: more funding or more efficient funding?

Question 3:

- **Ask participants what their findings mean in human rights terms.** Answer: The PHCs regularly underspend on medicines. The right to health guarantees access to appropriate medicines. Because Aljana and Corcora PHCs regularly fail to fully spend their budgets on medicines, and the government appears not to be pressuring them to improve the situation, it appears that they are failing to comply with their obligation to use the maximum of available resources to realize the right to health.

Illustrating the findings (Slide 7)

- Ask participants what type of graph would be most effective for illustrating the rate of expenditure. Answer: Bar charts are very useful for showing quite clearly where spending falls short of allocations. It would also be possible to use line graphs, where one line is the allocation, the other the expenditure.

- The guidelines also appear in the Participant's Workbooks in **READING 7.1 ■ HOW TO CREATE CHARTS AND GRAPHS IN EXCEL**.

▮ HYPOTHESIS 3 ▮
THE PERI-URBAN PRIMARY HEALTH CLINICS IN MORTALIA ARE UNDERFUNDED

Duration of session: 2 hours, 55 minutes

Note: Use the slides in the **PPT file MODULE 7: Hypothesis 3** to facilitate the investigation of this hypothesis.

- One possible hypothesis about what causes inadequate health care services through, for example, a shortage of doctors and medicines in peri-urban PHCs in Mortalia is that those PHCs are underfunded. Underfunded means a program, department, ministry, or state does not receive enough funds to fulfill its duties or functions. These next parts of the program look at certain skills that are useful in testing this hypothesis.

- Explain to participants that in real world terms, it would probably not be viable to move to testing this hypothesis, when the previous calculations demonstrated under-spending by the peri-urban PHCs. In other words, it would politically be quite difficult to persuade the District Services to give more money to the peri-urban clinics when the latter are not spending all that they are already given. However, due to constraints of time, this course cannot pursue all findings to their logical conclusion, as the purpose of the course is to ensure that participants become familiar with the basics about governments' budgets and fundamental budget calculations. Doing both in a limited period of time requires the course to move quickly past points an organization should not move past in its own work.

- There are a few different ways to analyze the budget to test hypothesis 3 that would provide potentially useful information to test the hypothesis. However, to ensure that participants have some familiarity with certain fundamental budget calculations, there is not time to pursue all possible approaches. Testing hypothesis 3 will introduce participants to three such calculations:
  - Calculating shares of the budget
  - Adjusting budget figures for inflation
  - Measuring changes in the budget over time

- Determining which calculation to use to test given hypotheses generally involves a logical thinking process. Ask participants how they might test hypothesis 3. Discuss the appropriateness of the suggestions made. If no one suggests calculating what share of the overall PHC budget the peri-urban clinics get, the facilitator can make this suggestion.

- If certain approaches suggested by participants are valid, but will not be pursued in the workshop, this is the point at which to explain that time is limited in the workshop, and it will not be possible to exhaust all realistic possibilities—although when an organization is working on a case, it should do that.

CALCULATING BUDGET SHARES (Slides 3-4)

- If participants have not already articulated it, explain that the purpose of calculating budget shares is to determine if the peri-urban PHCs are receiving a "fair" share of the PHC budget. The starting point for assessing "fair" would be comparing their share to the average received by PHCs in Mortalia. Explain that even with that starting point, it would likely, in reality, be necessary to ask further questions and do further calculations, because, for example, the needs of residents in peri-urban areas may be higher, or more people use the PHCs there than do people in wealthier neighborhoods who might go to private clinics.

- The formula for working out the share a particular MDA or program gets in an overall budget (as a percentage of the overall budget) is:

$$\text{Share of the budget} \quad = \quad \frac{\text{Section of the budget}}{\text{Whole budget}} \quad \text{x 100}$$

- Remind participants that in this exercise they will be looking at what was *budgeted* for the PHCs, not what the PHCs *spent*.

- At this point, have participants refer to **TASK 7.3: CALCULATING BUDGET SHARES** in their Workbooks.

- Explain that to see how a PHC clinic fares compared to the average to PHCs, it will be necessary to determine the share the average PHC receives, and then the share the PHC of interest receives.

- Ask how they would determine the average share allocation for each PHC in 2008. (Answer: they would divide the total budgeted for PHCs by the number of PHCs.)

ANSWERS TO TASK 7.3: CALCULATING BUDGET SHARES

Question 1:

- First find out the total budget for PHCs in Mortalia in 2008. This information is found in Tab 3: PHC Program Budgets in the Master Data Sheet. **Answer: D 68,286,467**

- Then find out the total number of PHCs in Mortalia in 2008. This information is found in **Tab 7: Sunrise # of PHCs** in the Master Data Sheet. **Answer: 126**

- Ask them to do that calculation. Their answer should be: **D 68,286,467/126 = D 541,956.** This figure represents the average budget of a PHC in Mortalia.

- Once participants have that average, turn to calculating the Share of the Budget.

- Now ask them to calculate what share of the total Mortalia PHC budget did the average PHC in Mortalia receive in 2008. **Answer: 541,956/68,286,467 * 100 = 0.79%**

Question 2:

- Using **Slide 4**, the facilitator illustrates how to work out Aljana's share of the overall PHC budget for 2008: **(D 347,228 / D 68,286,467) x 100 = 0.51%**. Aljana's PHC budget is found in **Tab 2: Selected PHC Budgets** in the Master Data Sheet.

- Compare the share of the budget of the average PHC in Mortalia to the share that Aljana PHC received. What do they see already? **Answer: In 2008 Aljana's share of the PHC budget was considerably below the average!**

- Was that just by chance or is that a consistent pattern? Does Aljana consistently get below average allocations? And what about the other PHCs?

- Have participants work in their Polarus groups to come up with budget shares for the average PHC in Mortalia and for Aljana, Corcora, and Sorulia PHCs for 2008-2011.

Answers to Questions 3 and 4:

	Aljana	Corcora	Sorulia	Average PHC
2008	.51%	.41%	.43%	.79%
2009	.39%	.31%	.32%	.68%
2010	.37%	.30%	.29%	.62%
2011	.37%	.22%	.29%	.56%

Question 5:

What can participants observe about their findings in budget terms?

- Participants should note that while allocations are generally going up for the budget as a whole and for the PHCs (with a couple of exceptions), the peri-urban PHCs consistently get below-average shares of the budget.

- They should also note that the share of the total Mortalia PHC budget for the PHCs considered here (the average and the three peri-urban PHCs) went down between 2008 and 2011.

- Ask participants why they think that might be. Answers should include the fact that the number of PHCs is growing, so any one PHC is going to get a smaller share of the budget.

Question 6:

What can participants observe about their findings in human rights terms?

- Participants should note that the government is violating the obligation of non-discrimination, since the peri-urban PHCs consistently receive below-average shares of the budget compared to all other PHCs, even when allocations to most PHCs are increasing as a whole. This indicates that peri-urban PHCs are being marginalized – whether intentionally or unintentionally – in terms of their budget allocations.

- The government is also not meeting its obligation of progressive achievement (or non-retrogression) of the right to health, since the shares of the total Mortalia PHC budget for the PHCs considered here (the average and the three per-urban PHCs) have consistently decreased from 2008 to 2011. To achieve progressive achievement, their budget shares should increase over time.

- Lastly, the government is not using the maximum of available resources to fulfill the right to health, since the shares of the budget that PHCs receive have decreased, even though the budget as a whole as increased over time. If the budget has increased, then the government should increase the share of the budget going to PHCs, in order to meet its obligation to use the maximum of available resources. This is especially the case if the number of clinics in Mortalia has increased over the last four years, which is likely, given high rural-to-urban migration. If there are more clinics, the government should be increasing the share of the budget to PHCs, not decreasing it.

- Participants can find out more on shares of the budget in **READING 7.2 ■ RATIOS AND THE COMPOSITION OF A BUDGET** in their Workbooks.

Illustrating the findings

- Ask participants how they might illustrate their findings. If someone says pie chart, it would be

helpful to agree that while normally pie charts are useful for illustrating shares, in this case the shares are so small that they would hardly be visible in the pie.

- It would be possible to do a bar graph or line graph comparing the three named clinics to the average PHC share. However, it may be premature at this point to illustrate this finding, as there are more calculations to do related to this hypothesis.

- The guidelines also appear in the Participant's Workbooks in **READING 7.1 ■ HOW TO CREATE CHARTS AND GRAPHS IN EXCEL**.

CALCULATING REAL BUDGET GROWTH

- As was already noted, the budgets for PHCs increased from 2008 to 2011 in absolute terms (in the number of Dinars allocated). The average allocation to PHCs also increased over those years, as did the allocations for the three peri-urban PHCs (with the exception of Sorulia in 2008 and 2009). At the same time it is important to know how fast the budgets have been growing over the years. This is called the rate of growth in the budgets. Ask participants why it might be important to know the rate of growth. Possible answers: Because the budget may be growing, but growing more slowly than the populations, so the amount of money for each person would be going down, not up. Also, the budgets may be growing at different rates, so that even if Aljana's budget is growing, it may not be growing as fast as the budget of other PHCs, and that would seem to be unfair.

- Ask participants what "nominal" budgets mean as opposed to "real" budgets. If they don't know, they should consult their glossary. Answer: Nominal budgets are budgets that have not been adjusted for inflation, while real budgets have been. Ask why it is important to adjust figures for inflation when comparing budget figures from one year to the next. Answer: Inflation normally makes the "purchasing value" of the currency less from one year to the next, and so the same amount of money this year will likely not be able to buy the same amount of goods and services the next.

- Because of the role of inflation, when comparing budget figures from one year to the next, it is important first adjust the figures so that you are comparing real value (i.e., "purchasing value") over time. While a nominal budget may be increasing over time, it could be that inflation is eating away at the purchasing value of the currency, so that the MDA or program is, in reality, able to buy fewer goods and services the following year, even though they look like they have more money.

ADJUSTING FOR INFLATION (Slide 5)

- Explain the consumer price index (CPI) to participants, and refer them to the glossary for the definition. The **CPI figures** for Polarus are included on the first page of budget and economic data in the Sourcebook, as well as in **Tab 10: Polarus CPI** in the Master Data Sheet.

- Explain that normally when budget figures are adjusted for inflation, they are adjusted so that the relevant past years' budget figures are expressed in the current year's value (or the value of the most current year that is relevant to the issue). To do this, the formula is:

$$\frac{\text{Nominal value of prior year x CPI of most recent year}}{\text{CPI of prior year}} = \begin{array}{c}\text{Adjusted "real" value} \\ \text{(in most recent year value)}\end{array}$$

- Illustrate how this formula works **(Slide 6)** by adjusting Aljana's budgeted figures (not audited) from 2008 to 2011 terms. **Answer:** (D 347,228 x 118.5)/105.7 = **D 389, 277**

- Participants can find the PHC budget figures in **Tab 2: Selected PHC Budgets** in the Master Data Sheet.
  - o Working in their Polarus groups, participants should adjust the budget allocations (not audited expenditures) for each of the PHCs and the average for PHCs (in Mortalia) for 2008 to 2011 to get "real" budget figures in 2011 terms.

ANSWERS TO TASK 7.4: ADJUSTING FOR INFLATION

Question 1:

	2011 budget	Real 2010 budget in 2011 terms	2010 budget	Real 2009 budget in 2011 terms	2009 budget	Real 2008 budget in 2011 terms	2008 Budget
Aljana	547,524	377,618	362,959	384,171	355,318	389,276	347,228
Corcora	324,579	305,964	294,087	307,019	283,960	312,383	278,640
Sorulia	435,620	300,136	288,485	312,556	289,081	329,719	294,104
Average for PHCs in Mortalia	825,886	636,977	612,251	671,581	621,142	607,586	541,956

- Participants will find notes about inflation and how to adjust for inflation in **READING 7.3 ▪ INFLATION.**

MEASURING CHANGES OVER TIME

- In addition to knowing the share a PHC has relative to the overall PHC budget, it could also be useful to know if the budget of specific PHCs has been growing. In other words, the PHC may have been underfunded in the past, but perhaps the government is increasing the budget at a significant rate to make up for past neglect. It might also be important to know if the budget of a specific PHC is growing faster or slower than other PHCs. Are certain PHCs being neglected, compared to other PHCs?

- The formula for working out growth in budget amounts over time is on **Slide 7**:

Growth in budget $=$ $\dfrac{\text{Amount in most recent year} - \text{Amount in prior year}}{\text{Amount in prior year}} \times 100$

- As an example, calculate the growth in Aljana's budget in <u>nominal</u> terms from 2008 to 2009. Note that this is **Question 1** in **Task 7.5: Calculating Budget Growth**.

  Allocation to Aljana PHC in 2008 (nominal): D 347,228

  Allocation to Aljana PHC in 2009 (nominal): D 355,318

  Answer: Growth in Aljana budget (nominal) = (355, 318 – 347,228)/347,228 x 100 = **2.3%** **(Slide 8)**

- Using the same formula, participants should calculate the growth in Aljana PHC's budget in real terms (Question 2), and then the real growth in total budgets (not audited) over the three years for each of the PHCs and for the average of PHCs in Mortalia (Question 3). Have them enter their answers in **TASK 7.5 ■ CALCULATING BUDGET GROWTH** in their Workbooks.

ANSWERS TO TASK 7.5: CALCULATING BUDGET GROWTH

Question 1: See example above.

Question 2:

First, adjust the 2008 Aljana PHC allocation so that it is in 2009 real terms, using the inflation formula:

Answer: (D 347,228 x 109.6)/105.7 = D **360,039**

Now calculate the growth of the Aljana PHC allocation between 2008 and 2009, in 2009 real terms:

Answer: (D 355,318 – D 360,039)/D 360,039 x 100 = **-1.31%**

Question 3:

	2010-2011	**2009-2010**	**2008-2009**
Aljana	44.99	-1.71	-1.31
Corcora	6.08	-0.34	-1.72
Sorulia	45.14	-3.97	-5.21
Average for PHCs in Mortalia	**29.66**	**-5.15**	**10.53**

Question 4:

What are participants' findings about real growth in Mortalia's PHC budgets?

- The budgets for the three peri-urban PHCs decreased between 2008 and 2009, although the Average Budget for PHCs in Mortalia increased by over 10% in the same period.

- The budgets for the three peri-urban PHCs decreased between 2009 and 2010, but this time the Average Budget for PHCs in Mortalia decreased even more.

- The budgets for Aljana and Corcora increased significantly between 2010 and 2011 – each had increases of 45%, while Corcora received a mere 6% increase. The Average Budget for PHCs in Mortalia increased as well (by 30%), not nearly as much as the budgets for Aljana and Corcora.

Question 5:

What are participants' findings in terms of human rights?

- In the periods 2008-2009 and 2009-2010 the budgets of peri-urban PHCs decreased, and in 2009-2010 the average budget also decreased. Under the obligation of progressive achievement, the government is committed to continuously improving health conditions. If the budgets for peri-urban PHCs, which serve largely poor and marginalized populations, are not increasing from year-to-year, this implies that the government is not progressively achieving the right to health for its citizens. The budgets should, at a minimum, increase to keep up with inflation. Due to rural-urban migration, the peri-urban populations in these areas are increasing each year, so the budget should also increase so that PHCs are able to serve more people.

- The budget decreases in 2008-2009 and 2009-2010 also indicate that the government may not be using the maximum of available resources to fulfill the right to health. The government must do the maximum to raise resources and must give priority in its budget to economic, social, and cultural rights, including health. If the budgets for PHCs in Mortalia decreased two years in a row, it calls into question the government's efforts to raise enough revenue and/or to allocate it appropriately so as to sufficiently fund existing PHCs.

- The government also violated its obligation of non-discrimination (intentionally or unintentionally). In the period 2008-2009, the average PHC in Mortalia received a 10.53% budget increase, while the peri-urban PHCs' budgets decreased. This is also the case in 2010-2011, when two peri-urban PHCs received a 45% budget increase, while the third PHC received only a 6% increase (and the average for PHCs was almost 30%). These inconsistencies in allocations raise questions about how the PHC budgets are formulated and approved.

- Participants will find more information about this for later reference in **READING 7.4 ■ MEASURING BUDGET CHANGES OVER TIME** in their Workbooks.

How to illustrate the findings (Slide 11)

- You might choose simply to discuss which kind of charts could be used in this instance to illustrate the findings.

- Or you could spend some more time looking at **line graphs** and how to create these in Excel. Note that in the illustration provided on **Slide 11** the actual budget figures are used, not the growth rates!

- The guidelines also appear in Participants' Workbooks in **READING 7.1 ■ HOW TO CREATE CHARTS AND GRAPHS IN EXCEL.**

HYPOTHESIS 4

THE FUNDS THAT THE DISTRICT SERVICES PROGRAM PROVIDES TO PERI-URBAN PHCs FALL SHORT OF THE PER CAPITA PRIMARY HEALTH CARE SPENDING STANDARD SET BY THE POLARUS MINISTRY OF HEALTH

Duration of session: 2 hours

Note: Use the **PPT file MODULE 7: Hypothesis 4** to facilitate the investigation of this hypothesis.

- Explain to participants that the last calculation they will do will be on *per capita*—per person— allocations or expenditures, which can be very helpful in a number of regards. It can, for instance, give an idea of how much a government is investing in certain goods and services, allowing a CSO to assess whether the government's investment is adequate to achieve the stated purpose. It can also be helpful in comparing allocations and expenditures across states or population groups. Is the government spending the same amount on specific goods and services in different states, with regard to different population groups? *Per capita* calculations can be helpful in identifying potential discrimination on a range of grounds—gender, income, ethnicity, etc.

- *Per capita* calculations can also be useful is assessing whether a government is living up to a certain standard that may be in national law or set by international agencies. That is the case here.

- It is important in doing *per capita* calculations, which involves budget and population figures, to think carefully about who the relevant population is. It normally would not make a lot of sense, for example, to assess primary education expenditures by including in the population group literate adults. To determine a per capita expenditure on primary education, it would be more useful to use the population of, for example, primary school-age children.

Per capita calculation (Slides 3-4)

- Participants are introduced to the *per capita* calculation of allocations **(Slide 3)**:

$$\text{Per capita allocation} \quad = \quad \frac{\text{Allocation}}{\text{Population}}$$

- Participants can try the calculation together **(Slide 4)** and find the *per capita* allocation in *nominal* terms for Aljana for 2008 as follows: *Per capita* allocation = D 347,228/12,783 = D 27.16.

- This is the first part of **Question 1** in **Task 7.6: Calculating Per Capita Allocations (or Spending).** Note that the budget figure is found in **Tab 2** of the Master Data Sheet and the population figure is found in **Tab 8** of the Master Data Sheet.

- The logic for using nominal terms is that the Ministry of Health's standard for *per capita* spending is not adjusted for inflation; it was set in 2008 and has not been changed since.

- Using the 2008 population figures, participants should calculate per capital allocations for the remaining years for Aljana as well as the *per capita* allocations for the other two peri-urban PHCs and for the PHC average. They can work on and record their findings in **TASK 7.6 ■ CALCULATING PER CAPITA ALLOCATIONS** in their Workbooks.

ANSWERS FOR TASK 7.6: CALCULATING PER CAPITA ALLOCATIONS

Question 1:

Allocation to Aljana PHC in 2008: D 347,228

2009: D 355,318

2010: D 362,959

2011: D 547,524

Population of Aljana community in 2008: 12,783

Now calculate per capita allocations for each of those years. See answers in the table for Question 2 below.

Question 2:

	2011	2010	2009	2008
Aljana	42.83	28.39	27.80	27.16
Corcora	31.38	28.44	27.46	26.94
Sorulia	38.83	25.71	25.76	26.21
PHC Average	55.31	41.00	41.60	36.30

- Participants will find notes on this in **READING 7.5 ■ PER CAPITA CALCULATIONS** in their Workbooks.

Question 3:

How do the per capita allocations to the three peri-urban PHCs compare to the average for PHCs in Mortalia? And to the per capita standard established by the Polarus Ministry of Health?

- The *per capita* allocations to the three peri-urban PHCs are consistently lower than the average for PHCs in Mortalia, by over D10-15 in most cases. The *per capita* standard set by the Ministry of Health for <u>mostly urban</u> PHCs is D50-55. Both the *per capita* allocations to the three peri-urban PHCs as well as the average for PHCs in Mortalia is below the *per capita* standard, except for the PHC Average in 2011.

Question 4:

What conclusions can you draw in human rights terms about per capita allocations to the PHCs in the peri-urban communities of Mortalia?

- The government is failing to use the maximum of available resources to meet its own *per capita* allocation standard for primary health care, as established by the Ministry of Health.

- The government is discriminating against peri-urban PHCs, since the peri-urban PHCs consistently receive a much lower *per capita* allocation than the average for PHCs in Mortalia. This violates the obligation of non-discrimination in providing health services to the public.

- Even though the peri-urban PHCs received lower than average *per capita* allocations, these *per capita* allocations increased from year-to-year, so there is some evidence of progressive achievement.

How to illustrate the findings (Slide 7)

- Ask participants what chart or graph would be most useful in this context. The answer would be a bar chart. If there is time, participants can create the relevant bar chart. They should be sure to include the Ministry of Health standard in their table of figures, which they will use to create the bar chart.

- If time is short, it is not necessary that they do this, since they will already have created a number of bar charts.

FROM ANALYSIS BACK TO ADVOCACY

Duration: 1 hour, 5 minutes

<table>
<tr><td colspan="2" align="center">STRUCTURE OF THE SESSION</td></tr>
<tr><td>1. Quick Recap</td><td>5 minutes</td></tr>
<tr><td>2. TASK 7.7 ■ Diagnosing the Budget Problem</td><td>15 minutes</td></tr>
<tr><td>3. Facilitator Input: Using Graphs and Charts</td><td>15 minutes</td></tr>
<tr><td>4. TASK 7.8 ■ Which Calculation and Chart or Graph to Use?</td><td>30 minutes</td></tr>
</table>

Notes: Slides for these sessions are in the **PPT file MODULE 7 Summary–From Analysis Back to Advocacy.**

1. FACILITATOR INPUT: RECAP   5 MINUTES

- Briefly recap the logic of the learning process over the last few days, using **Slide 2**.

- We started by suggesting that if you want to do budget advocacy work, you need to understand the nuts and bolts of planning an advocacy strategy.

- Make sure all the participants remember the **five components of an advocacy strategy**, namely **strategic analysis, advocacy objective, stakeholder analysis, advocacy message, and schedule**.

- After formulating a draft advocacy objective about the health situation in the peri-urban areas of Mortalia (Module 5), the next steps were for participants to:
  - look into the budget process (in Module 6);
  - identify stakeholders (Module 5); and
  - learn some basic techniques for analyzing budgets (in Module 7).

- Ask the participants to summarize and explain why it was important to undertake these three areas of inquiry, and how each is supposed to contribute to building their advocacy strategies.

- Confirm that at this point participants have amassed a great deal of information about the health situation in the peri-urban communities in Mortalia through their task work in Modules 5, 6, and 7. So what is the next step?

2. TASK 7.7 ■ DIAGNOSING THE BUDGET PROBLEM   15 MINUTES

- **The aim of this task** is to review the findings of the budget analysis and tie those findings back to the advocacy elements of the program.

- Working in their Polarus CSO groups, ask participants to sift through everything they have learned during **Modules 5, 6, and 7** pertaining to the health care situation in the peri-urban areas of Mortalia.

- Encourage them to review and pool the most useful and relevant findings, and then make a quick **diagnosis of the main budgetary causes of the problem**. Allow around 20 minutes for this. Assure participants that they will have more time in the near future to sift through their findings again and to further refine their formulation of the problem.

- Participants can use **TASK 7.7 ■ DIAGNOSING THE BUDGET PROBLEM** in their Workbooks to record their findings and diagnosis.

- After 20 minutes, invite all of the groups to reconvene in plenary. Briefly allow each group to state briefly (remembering **ECONOMY OF WORDS!**) what they think the main budget problems are affecting primary health service provision in the peri-urban areas of Mortalia. They should <u>not</u> report back on all of the findings that informed this diagnosis.

- Use **Slides 3 and 4** to highlight or confirm the most important findings that came from the budget analysis in Module 7.

NOTES on SLIDES 3 and 4

- In this discussion, the aim is to focus on the problem(s) contributing to the health crisis in the peri-urban areas of Mortalia, without yet moving on to the details of a solution that could work.

- Note that the wastage by the PHCs in the peri-urban areas likely contributes to the poor state of primary health care in those areas.

- The fact that the PHCs are under-spending their budgets, particularly on medicines, also likely contributes directly to the poor health services in the areas.

- The peri-urban PHCs also get a smaller share of the overall PHC budget in their district than do most other PHCs, and their budgets are growing more slowly than the average (and in some cases are shrinking).

- The District Services Program also appears to be providing allocations to the peri-urban PHCs that do not meet the standard set by the Polarus Ministry of Health. This, in turn, means that

they do not have the resources that other PHCs around the city—and indeed, the country—have.

- Against this background, use **Slide 5** to confirm the main budgetary factors contributing to the health service problems in Mortalia. See list below under **Answers for Task 7.7**.

ANSWERS FOR TASK 7.7: DIAGNOSING THE BUDGET PROBLEM

Question 2: What are the main budget problems causing poor health care provision in the peri-urban areas of Mortalia?

- The peri-urban PHCs in Mortalia are wasting or under-spending their budgets.

- The peri-urban PHCs get a smaller than average share of the District Services Program's primary health budget.

- The budget of the peri-urban PHCs is increasing at a slower rate than the budget for the average PHC.

- The District Services Program is not ensuring that PHCs receive funding that meets the Ministry of Health's standard for funding primary health care.

NOTES on SLIDE 6 and 7:

- Ask participants who has the decision-making power to affect each of these problems. They should be well-versed with this by now. Invite people to volunteer answers from the floor for each problem using **Slide 6**.

- Draw the plenary discussion to a close by emphasizing how important it is to have a very clear diagnosis of the budget problems underlying a development problem that you are trying to address.

- As participants will learn in more detail when they return to **Module 5: Budget Advocacy**, being able to **articulate the <u>problem</u>** correctly is the first important ingredient in formulating your advocacy message. The second key ingredient is to **propose a <u>solution</u>**, and the third is to **pinpoint the <u>action</u>** you want government to take to bring about that solution.

- **Slide 7** allows you to summarize and anticipate the next steps in the process, which participants will tackle when they return to Module 5 of the training workshop.

3. FACILITATOR INPUT: USING CHARTS AND GRAPHS TO ILLUSTRATE YOUR FINDINGS   15 MINUTES

- Use **Slide 8** to facilitate a discussion on which charts or graphs work best to illustrate different findings. This also serves as an opportunity to review and consolidate which calculations to use.

- An important part of budget analysis is to decide which calculations to use and when to use them. This choice depends on what you are trying to demonstrate (e.g., testing hypotheses).

- The same goes for graphs and charts. Not all charts are suitable for illustrating all types of findings.

- Some general points on using charts:
  - You can't use a single pie chart if you want to show a growth rate.
  - Line graphs or bar charts aren't suitable for illustrating shares.
  - Watch out for the difference between percentages and percentage points.
  - Always make doubly sure that you have your thousands, millions, and billions right when you enter the data for graphs or charts.

4. TASK 7.8 ■ WHICH CALCULATION? WHICH CHART?   30 MINUTES

- **The aim of this task** is to enable participants to review and consolidate their knowledge about which calculations are used to investigate different budget questions, while also giving them a chance to practice selecting the most effective kind of chart or graph to illustrate different findings.

- This is a plenary exercise. Invite participants to call out answers from the floor – or get them to discuss the examples in pairs or small groups first, and then decide together on the right answers to call out.

- Use **Slide 9** to project the questions. Participants can also use the worksheet for **TASK 7.8 ■ WHICH CALCULATION? WHICH CHART?** in the Participant's Workbook.

ANSWERS TO TASK 7.8: WHICH CALCULATION? WHICH CHART?:

1. **Question 1:** The correct answer is a) – the size of its percentage share over time. Real growth can show you how much money is actually available for a function, but it cannot help you compare the share that this allocation represents relative to other allocations or to a whole budget.

2. **Question 2:** A pie chart can help you to compare shares in a given year, but not over time. Bar charts or graphs are more suitable for comparisons over time and in different places/geographical areas.

3. **Question 3** has two answers:

   a) You could calculate the Department of Health's (DOH) allocation as a share of the State budget, and compare this to the share that DOHs in other states get. **OR…**You could calculate the *per capita* allocation for health in Sunrise State and compare that with *per capita* allocations for health in other states.

   b) When comparing nine states, a **bar chart** would likely be the most effective, because a bar chart allows you to show comparisons of allocations across states.