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DEVELOPING KEY PERFORMANCE INDICATORS

A TOOLKIT FOR HEALTH SECTOR MANAGERS

December 2013
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The Health Finance and Governance Project
USAID's Health Finance and Governance (HFG) project will help to improve health in developing countries by expanding people's access to health care. Led by Abt Associates, the project team will work with partner countries to increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. As a result, this five-year, $209 million global project will increase the use of both primary and priority health services, including HIV/AIDS, tuberculosis, malaria, and reproductive health services. Designed to fundamentally strengthen health systems, HFG will support countries as they navigate the economic transitions needed to achieve universal health care.

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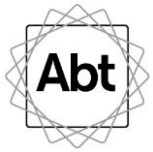

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DEVELOPING AND USING KEY PERFORMANCE INDICATORS

A TOOLKIT FOR HEALTH SECTOR MANAGERS

DISCLAIMER

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ACRONYMS

ART	Antiretroviral therapy
ARV	Antiretroviral
HFG	Health Finance and Governance Program (USAID)
HIS	Health Information System
GFMIS	Government (integrated) financial management information systems
HMIS	Health Management Information System
ICT	Information and communications technology
KPI	Key Performance Indicator
MDS	Minimum data set
MOF	Ministry of Finance
MOH	Ministry of Health
M&E	Monitoring and evaluation
PI	Performance Indicator
SMART	Smart, Measurable, Achievable, Relevant, Time-bound
TB	Tuberculosis
USAID	United States Agency for International Development
WHO	World Health Organization

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Of course, any errors, omissions, or contradictions that remain are solely the responsibility of the author

INTRODUCTION

Over the last several decades, governments worldwide have introduced budgetary and reporting mechanisms designed to demystify government operations and illuminate how public funds are being used to achieve policy goals. Whether dubbed "program" budgeting, "performance" budgeting, or "results-based" budgeting, the trend has seen a conceptual shift from an approach that was heavily oriented to inputs, to models designed to provide government decision makers, parliaments, and citizens with a clearer picture of what governments achieve for the public funds they spend. Performance measurement, and the use of key performance indicators (KPIs), is an integral part of any of these models, providing feedback to inform and improve public service delivery and promoting accountability by demonstrating to key stakeholders the results that government is achieving.

Few economic sectors depend on performance information as intensively as does public health, where safety, speed, access, and cost can literally be "life or death" matters. With growing demands to improve health care quality, coverage, and outcomes, health sector decision makers not only face the challenge of allocating resources to the highest priorities, but also of ensuring that those resources are put to good use, deliver "value for money," and achieve the intended outcomes or impact. KPIs are central to this agenda. Moreover, because of their importance to both budget management and accountability, KPIs also represent a key point of convergence between ministries of health (MOHs) and ministries of finance (MOFs) or, where separate from the MOF, the central budget authority.

This tool provides useful guidance on developing and using KPIs and building these into the budget process, with a particular focus on the health sector. Specifically, it offers government managers responsible for planning, program implementation, monitoring and evaluation (M&E)—particularly in central or federal ministries of health—guidelines and tips for thinking strategically about program planning, defining performance indicators, setting KPI targets, and harnessing performance information. These factors are not presented as a series of steps, and although some may follow a logical order, the KPI journey does not always follow a straight line, but is part of a dynamic process influenced by programmatic, institutional, and political imperatives.

This document and its annexes also feature handy checklists, guidance, and templates to facilitate the work of planning, program, and M&E managers and analysts in developing and using KPIs as a performance management tool. The annexes also include a sampling of KPIs based on international experience; however, it is important to remember that each country faces different policy challenges, to which it applies different government responses, for which it must use different performance metrics to define and measure success. For a more robust presentation of sample KPIs that could be adapted to specific country circumstances, the World Health Organization (WHO) also produces an annual compendium of standard definitions and measurement guidelines for an extensive list of global health indicators (http://www.who.int/gho/publications/world_health_statistics/).

This guide represents one installment in a series of toolkits developed through USAID's Health Finance and Governance (HFG) program to foster a more productive working relationship between the MOH and MOF, by boosting MOH capacities and systems and by enabling MOH and MOF staff to speak a common language. Using KPIs to monitor and evaluate performance will enable health sector managers to pinpoint and address gaps in performance, while providing meaningful information with which to demonstrate results when justifying budget requests, including requests for increased health sector allocations, through the budget process. This tool will not only help ministries of health to define and track the success of their programs, but also to communicate to the MOF, key political decision makers, and the public how resources are being used for the social good

WHAT ARE KPIs?

Simply defined, KPIs are measures that a sector or organization uses to define success and track progress in meeting its strategic goals. This focus on *strategic* or long-term goals is what distinguishes KPIs from the wider array of "performance indicators" (PIs) that do not necessarily rise to the attention of policymakers or the public, but may be important for public sector managers.

KPIs are by no means a new phenomenon. The private sector has long embraced them as an important management tool to track and explain progress toward corporate or organizational goals. In the public sector, growing interest in KPIs has been driven by more complex factors, including the following:

- Increasing citizen demands for government accountability
- Increasing legislative scrutiny of government operations
- Ongoing shifts from input- to program- and performance-based budgeting
- Mounting fiscal pressures and the resulting need to use public funds and deliver public services as efficiently and effectively as possible.

Against this backdrop, KPIs have become an important part of the suite of tools governments used in most advanced economies, and increasingly in middle- and low-income countries, to systematically monitor, evaluate, and continuously improve service performance. In and of themselves, KPIs cannot improve performance. However, they do provide "signposts" that signal progress toward goals and objectives as well as opportunities for improvement.

USING KPIs IN THE HEALTH SECTOR

Few sectors of the economy depend on performance metrics as much as the health sector does. Within any health system, there can be many indicators of performance, from the facility level (hospitals, clinics, pharmacies), to the district or provincial level, all the way up to the national level, where information on the performance of health sector programs is typically aggregated for consideration by government leaders and policymakers. Yet, only a select group of these indicators are systematically measured, aggregated, and tracked at higher levels. These *key* performance indicators, or KPIs, are used because they highlight those aspects of performance that are integral above all others in providing insights on attaining the health sector's strategic goals, whether they be around promoting healthy populations, equitable access to health services, or reduction of preventable diseases.

Well-designed KPIs should help health sector decision makers to do a number of things, including:

- Establish baseline information (i.e., the current state of performance)
- Set performance standards and targets to motivate continuous improvement
- Measure and report improvements over time
- Compare performance across geographic locations
- Benchmark performance against regional and international peers or norms
- Allow stakeholders to independently judge health sector performance.

In any given country, these *stakeholders* can include a broad cross-section of constituencies, including the parliament, the supreme audit institution, service recipients, civil society, donor institutions, and, critically, the MOF, for whom the financial and non-financial performance of spending agencies are typically central concerns.

For MOHs and MOFs alike, the performance information generated from KPIs can help to underscore the relationship between resources, activities, and results. By aligning financial costs with overarching performance objectives, KPIs can allow the MOH to show how resource changes affect outcomes and to project, year by year, the resources required to meet service standards, keep up with workloads, or even secure *future* cost savings, for instance, through investments in program expansion, process improvement, or technology upgrades *today*.

In turn, these performance measures can be used to define performance commitments, in terms of service delivery and internal efficiency, and the outcomes a spending ministry or agency expects to achieve through its budget allocations. Resource allocation choices, thus, can be better informed by—or even linked to—sectoral performance, targets, and projected workloads. Of course, KPIs cannot replace political imperatives as a key driver of policy and budgetary decisions; however, they can reinforce or even change such decisions by communicating vital information about program results.

KPIs can then be used as an ongoing source of management information, arming health sector managers with critical data to plan, revise, add, and cut programs; report results; and communicate and align strategy across the sector to better ensure that all the key parts of the health system—from laboratories and clinics, to operators along the health supply chain—are working to achieve the same strategic goals. Gathering the same figures year by year will gradually paint a sharper picture, for example, of how well the MOH is maintaining consistency in patient care, how productive its various personnel are, where supplies are in surplus or deficit, where costs are rising or declining, and where service delivery is getting better or worse. This information, in turn, can provide insight into changing needs, demands, and trends (e.g., using data on hospital diagnoses to drive drug orders), and can be used as reference points in costing and constructing annual budget estimates for the health sector.

LINKING KPIs TO STRATEGY

KPIs are not created in a vacuum. To be of value to decision makers, they must be part of the sector's strategic framework. To this end, they need to be able to help communicate the strategy, as well as foster common purpose across programs, facilities, and workforces.

KPI development, therefore, starts with good strategic planning. Strategic planning integrates policy, planning, budgeting, management, and review at different levels:

- Within the spending ministry
- Between a spending ministry and its departments, agencies, and front-line service delivery units
- Between and among spending ministries
- Between national and subnational levels of government
- Between a spending ministry and national government policies and priorities.

KPIs, and PIs more broadly, can help to make these policies and priorities explicit. South Africa, for instance, has had a system of identified national health priorities since the 1990s—namely national health insurance, HIV/AIDS, tuberculosis, primary health care, and maternal and child health—and, since that time, has used KPIs and routine health information systems (HIS) to facilitate data gathering, processing, and reporting to track progress toward achieving those priorities.

KPIs, thus, should not be thought of as standalone measures, but rather as the *product* of strategic thinking, analysis, and negotiation around policy problems and responses. A useful tool to help conceptualize this production process is the "logic model." In strategic planning, logic models are used commonly to describe the logical linkages between problems and their solutions. The model (Figure 1) lays out a three-stage process for:

1. Identifying the problem(s), or the community need
2. Developing policies or measures to address the problem(s)
3. Articulating the desired goals—the end-state of affairs or vision for the future.

Figure 1 presents this logic model graphically, illustrating how the model might be applied to setting strategic goals and framing policies around a particular health care concern.

Figure 1. Using a Logic Model to Sharpen Focus on Strategic Plan Goals

In practical terms, it might be more productive to reverse steps 2 and 3, first focusing on the goals to be achieved and then designing the policies or measures to achieve them. Yet regardless of how you order the steps conceptually, it is important to

Strategic Plans and the Budget Process

Strategic planning is a dynamic process occurring on several levels and at regular intervals. Typically, the government's high-level strategic goals are set either before or at the beginning of the annual budget process, and typically by senior officials. Multi-year national, sectoral, and organizational goals and objectives are set in documents such as the national development plan, poverty reduction strategy paper, and ministry-level strategic and operational plans. Annual high-level goals and objectives are set in documents such as the medium-term fiscal framework and, in some countries, in annual statements outlining the budget policies and priorities. It is important for planning, program, and budget analysts, in the MOH or any other spending ministry, to understand these goals and how they are set, because it will ultimately fall on them to recommend how to structure programs and allocate funding to best achieve these goals.

Strategic plans are not only essential budget-setting tools, but also key instruments in the accountability process, as they provide critical information for lawmakers, auditors, and the public to assess and debate ongoing and proposed government programs and spending. KPIs, then, provide the measurable evidence that government programs are, in fact, helping to advance progress toward expressed goals, outcomes, and results. Published plans can also allocate responsibility for delivering those results and form the foundation of performance contracts, service-level agreements, and other performance management schemes.

recognize that the logic model applies a linear construct to simulate a multi-dimensional process. The response to one problem may contribute to another problem or need elsewhere, necessitating a review of the policies and/or goals previously defined. Moreover, it is important to recognize that understanding the problem, and defining the nature of the problem objectively, is as important as naming its solution. Otherwise, the actions taken may not solve anything and instead end up wasting scarce budgetary resources.

Although politicians may acquire an intuitive understanding of strategic goals through personal experience and interactions, planning, program, and budget analysts should do this analytically and systematically, using the logic model as a foundation for shaping policy recommendations. The budget process will then shape the programs the government will finance to implement those policies.

LINKING KPIs TO PROGRAMS

Strategic planning is a high-level exercise, typically conducted by ministry planning departments in consultation with program managers, staff responsible for M&E, and other stakeholders to define or sharpen focus on strategic goals and policy responses. It is at the program or activity level, however, where the budget comes into focus, and where, ultimately, performance indicators, including KPIs, are most commonly established.

In similar fashion to strategic planning, logic models can be used to inform program design and define program success. Yet, the components of the model are different. The program-level logic model (Figure 2) helps analysts translate the problems, policies, and goals articulated in strategic plans into resources, activities, outputs, and outcomes—clarifying what a program is trying to achieve and what it does to get results. Specifically, the program-level logic model comprises the following:

1. **Inputs:** The resources that the program uses in the delivery of goods and services.
2. **Activities**: The processes and actions undertaken to achieve the program's objective(s).
3. **Outputs:** The products, services, or results that the program delivers.
4. **Outcomes:** The resulting benefit for society; the long-term consequence of government action.

Figure 2. Logic Model for Program Planning

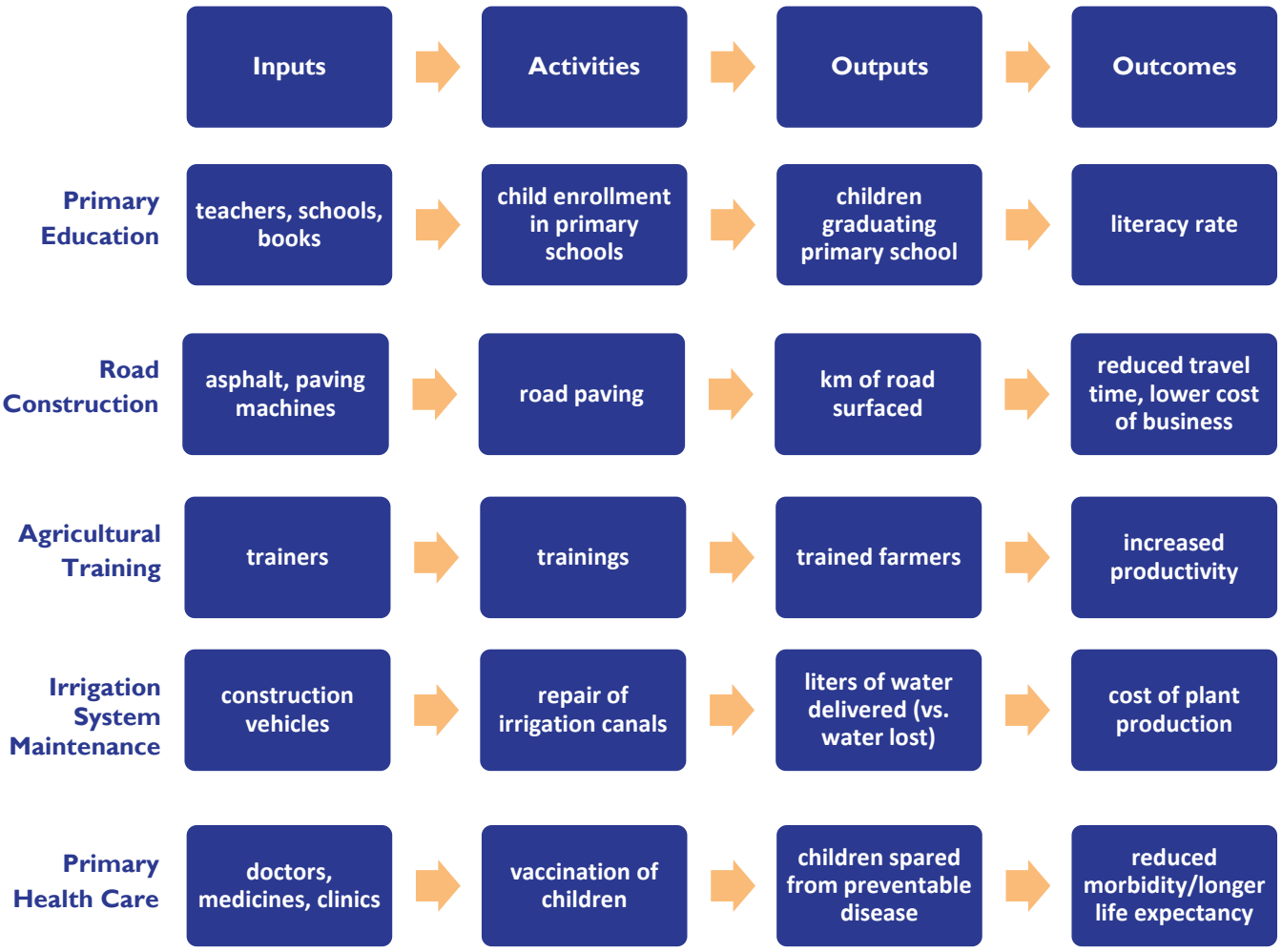

Figure 2 (above) presents the program-level logic model, followed by practical examples of its application to key economic sectors. (A template for applying the above logic model is provided in Annex A.) Note that each step in the examples could be used as the basis of a KPI.

The program-level logic model not only imposes discipline on program planning, but also provides a conceptual framework for making informed budgetary decisions, especially in the context of a program or performance budget. For instance, a logic model can help analysts identify and protect funding for programs that have the strongest links to national and ministerial goals. A logic model can also help to frame the consequences of a proposed budget cut, such as drop in services (Outputs in Figure 2). KPIs then can play an important role in "telling the story," by providing the concrete metrics with which to quantify the impact on programs that will be brought about by changes in budget allocations.

Strategic Plans vs. Program Budgets

Confusion exists in some countries as to what a strategic plan should encompass and what should be included in a program or performance budget. One simple semantic rule to help reduce confusion is to reserve the term "goal" for strategic plans and "objective" for the programs comprising a performance-based budget. The following table provides a more detailed breakdown of the two terms.

	Strategic Plan	Performance Budget
Planning Horizon	5 to 10 years	Budget year + medium term
Updates	3 to 5 years	Annually
Goals	Specific goals, but longer term in realization	--
Objectives	--	Objectives to be accomplished during the medium term in support of strategic goals and description of what the program and its activities are trying to accomplish
Allocation of Resources	No	Yes
KPIs / PIs	No	Identified as those that advance the strategic plan goals, e.g., KPIs as well as those PIs of a lesser level

CHARACTERISTICS OF GOOD KPIs

Potentially many KPIs can be identified and used in any context, but the objective should be to select those measures that have certain inherent qualities that deliver the most value as a tool for policy analysis, program M&E, performance improvement, and communication of results.

People often use the acronym "SMART" to refer to the characteristics of good performance indicators. Each letter of the acronym represents an important characteristic. To determine whether the performance indicator meets the criteria for each characteristic, one should consider the following checklist:

- **S**pecific: Does the indicator convey at a glance what it is measuring, and how the measurement is derived? KPIs should communicate clearly to the public what the government is doing.
- **M**easurable: Can the measurement be expressed as an objective value (e.g., # of persons vaccinated, percentage of population infected)? Do reliable data exist? Can they be easily collected? Better yet, are they already being collected at some level of the health system?
- **A**chievable: Does the indicator measure something within the program or activity's manageable control?
- **R**elevant: Does the indicator measure the most important result of the activity?
- **T**ime-bound: Is there a deadline for achieving the performance indicator? Are data reported at sufficiently regular intervals to support tracking and management decision making?

Different sources will offer different definitions or characteristics for the "SMART" acronym, because in reality, there are more than five issues to consider when evaluating the merits of one performance measure or another. It helps, however, to have the above criteria as a handy checklist when exploring and developing KPIs and PIs.

DISTINGUISHING CAUSES FROM RESULTS

Selecting the right PIs to track and evaluate program performance requires an understanding of the causal relationship presented in the logic model: what cause leads to what result. For instance, in the logic model example for primary health care in Figure 2 above, it is the combination of clinicians, vaccinations, and treatments that *cause* a reduction in morbidity rates (the *result*). If the goal of the program was indeed to reduce illness and increase life expectancy, then tracking doctors deployed or doses administered will only help you understand the factors that contributed to a program's success; they will not reveal much about the program's overall success.

Indicators of causes and results are important elements in monitoring and evaluating program performance. Line managers need more information about the resources they have and how the program is using them; these indicators are typically tracked internally and not reported in the budget presentation. Policymakers, politicians, and taxpayers, on the other hand, care more about the results that a program achieves with the money spent and less about the causes of those results; KPIs measuring program results, therefore, often feature prominently in a performance-based budget.

Of course, the value of results-focused indicators is limited. Whereas cause indicators generally reflect the use of a public resource or a government action, results (good and bad) could potentially be influenced by a host of factors outside the control of government, such as economic fluctuations, demographic changes, an exogenous rise in transport costs, or changes induced by other policies and programs. Consider, for example, an MOH program designed to distribute water purification tablets to prevent diarrheal disease. Notwithstanding the program's underlying merits, a decline in the incidence of diarrheal disease may, on review, be less a result of the MOH program and more attributable to improvements in water supply and sanitation at the community level.

Table 1 summarizes key differences between cause and result indicators when representing performance at different stages in the logic model.

Table 1. Cause and Result Indicators: A Comparison

	Cause Indicators	Result Indicators
Type of indicator	Typically input or process indicators	Typically output or outcome indicators
Who uses them	More useful for planning and program staff	More useful for policymakers/lawmakers, the public
Main advantages	Easier to measure; help to inform resource use	Demonstrate the benefit to society
Attribution of results	Easier to attribute results to government action	Attribution may require in-depth evaluation

TYPES OF INDICATORS

KPIs come in many combinations and permutations. Among the many variants are *quantitative indicators* that can be presented with a number, *qualitative indicators* that cannot be presented numerically, *leading indicators* that can predict the outcome of an activity, and *lagging indicators* that present that activity's success or failure post hoc. KPIs can also assess the *quality* of service delivery (e.g., access, reliability) or *customer satisfaction* (e.g., customer complaints, responses to patient surveys).

All of these are useful ways to think about KPIs and even ordinary PIs. Yet, for the sake of alignment and consistency, this guide divides KPIs and PIs into four categories—*inputs*, *processes*, *outputs*, and *outcomes*—in conformity with the program-level logic model described above (see Figure 2). Input, process, output, and outcome indicators are commonly accompanied by specific measures of *efficiency*. Each indicator type is described below.

- **Input indicators** measure resources, both human and financial, devoted to a particular program or activity (e.g., number of hospital beds, number of case workers, vaccination doses purchased). They can include, among other items, buildings, equipment, supplies, and personnel. Input indicators can also include measures of characteristics of a target population (e.g., number of persons eligible for a diagnostic trial).
- **Process indicators** look at the ways in which goods and services are provided. In the context of health care, they often measure the consistency or timeliness of activities carried out in assessing and treating service recipients (e.g., diagnosis error rates, order fill rates, stock wastage due to expiration or damage) and, in some cases, compliance with recommended practice (e.g., percentage of children 0-24 months immunized, percentage of pregnant women tested for HIV).
- **Output indicators** measure the quantity of goods and services produced, the results of process activities, or the efficiency/efficacy of those activities (e.g., live births per caesarean deliveries performed, post-surgical infection rate).
- **Outcome indicators** measure the broader results achieved through the provision of goods and services. These indicators can exist at various levels: population, agency, program, and/or activity. *Population-level indicators* measure changes in the condition or well-being of children, families, or communities (e.g., malaria cases per 1,000 population, rate of stunting or wasting in children under the age of 5). Changes in population-level indicators are often long-term results of the efforts of a number of different programs, agencies, and initiatives. In some cases, rather than provide information about the results achieved by interventions, population-level indicators may provide information about the context in or assumptions under which these interventions operate. For example, the overall incidence of stillbirths can provide important contextual information for the design of antenatal care programs. In this case, monitoring the stillbirth rate can help stakeholders to interpret or even attribute results to antenatal screening and other activities.

Agency-level indicators measure results for which a ministry, department, or agency is responsible, while *program or activity-level indicators* measure the results for which a program or activity is responsible. Agency- and program-level outcome indicators are often defined more narrowly than those pertaining to the population as a whole; for example, they may measure HIV infection rates among teenage girls in a given county or among girls receiving targeted health education and services. Identification of appropriate indicator levels helps to ensure that expectations are not set unrealistically high.

- **Efficiency indicators** describe how well a given level of resources produces outputs (e.g., percentage of outpatient surgeries resulting in same-day discharge). They can also describe the level of work process efficiency, including administrative tasks involved in operating a particular program or service, which can be useful for planning and program managers in assessing program performance and funding requirements. Annex B gives more attention to indicators of efficiency and administrative performance.

Table 2 below describes each of these indicator categories and their respective merits and demerits as tools for performance management, and is followed by some basic, health-related examples of each category in Table 3.

Table 2. Inputs, Outputs, Outcomes, and Efficiency Indicators: Strengths and Weaknesses

Category	Description	Strengths	Weaknesses
Input indicators	Describe a basic level of service that exists or of resources used	• Provide information on the size or scope of a program • Enable tracking of what public funds paid for and, therefore, tie most directly to the budget process	• Provide no insights on effectiveness, efficiency, or long-term impact • Not highly useful for strategic or policy analysis
Process indicators	Describe the processes undertaken to produce a given output or level of service	• Provide information on the core, day-to-day activities being performed • Arm program and line managers with valuable information to drive decisions on resource usage	• Provide no insights on effectiveness, efficiency, or long-term impact • Not highly useful for strategic or policy analysis
Output indicators	Describe the products and services produced by an activity	• Useful for programs where a single service (e.g., vaccination) is relevant • Conducive to demonstrating what a program produced with public funds	Provide no insights on effectiveness, efficiency, or long-term impact
Outcome indicators	Describe the extent to which a program's objectives were met	Valuable for analyzing programs and strategies at a high level	• Often require long-time horizons to show results • Data can be hard to obtain • Results hard to attribute

Category	Description	Strengths	Weaknesses
Efficiency indicators	Describe the relationship between the program output or outcome and the resources required to produce it	• Expressed as a percentage, ratio, or rate and, therefore, conducive to comparison and benchmarking • May be possible to increase (or decrease) efficiency by direct changes in resource levels.	• No automatic information about the *quality* of results • Hard to understand unless described in the context of benchmarks and targets

Ultimately, deciding which types of indicators to use to measure health sector performance, and in what combinations, is part of the menu of options that countries will confront in defining and setting KPIs, and depends on factors specific to that country and its circumstances. What is important to remember is that the various indicator types are interdependent: for instance, good inputs promote good processes and, in turn, good processes promote good outputs. KPI design, therefore, should reflect a causal logic that views outputs, outcomes, and impacts as a product of discrete factors (labor, supplies, facilities, and equipment), activities (treatments, diagnoses, medical procedures), and work flows (inventory checks, specialist referrals, patient information management, etc.).

Annex C provides sample KPIs from a comprehensive manual developed by USAID for the government of Jordan to illustrate how Jordanian spending ministries and the General Budget Department worked collaboratively to develop high-quality performance indicators.

In addition to these examples, the WHO's annual World Health Statistics publication (WHO, 2013) features a compendium of global health indicators, with standard definitions and measurement guidelines (*http://www.who.int/gho/publications/world_health_statistics/en*). Furthermore, the book *KPI Mega Library* (Baroudi, 2010) and a related, on-line database (kpimegalibrary.com), offers ready access to literally thousands of sample KPIs spanning industry, government, and a broad array of sectors. Both provide useful references for developing performance indicators in the health sector.

Table 3. Input, Process, Output, Outcome, and Efficiency Indicators: Some Basic Illustrations

Illustrative Program	Indicator Type				
	Input	Process	Output	Outcome	Efficiency
Secondary/ hospital care	# of hospital beds	# of patients admitted/discharged per day	# of inpatient deaths resulting from medical error	Inpatient mortality rate	Rate of hospital bed occupancy
Emergency care	# of hospitals w/ an emergency medicine physician	# of emergency department visits per 1,000 population	% of emergency department visits resulting in hospital admission	Death rate among patients entering through the emergency department	% of emergency department visits with patient seen in ≤ 15 minutes
Childhood immunization	# of measles vaccination doses purchased	% of children (ages X and Y) who receive measles vaccination	Measles deaths per child receiving measles vaccination	Measles deaths per 1,000 population	Measles vaccinations administered per employee-day
HIV/AIDS treatment	# of antiretroviral (ARV) drug treatment centers established	# of HIV-infected patients receiving sustained ARV drug treatment	Opportunistic infection per 100 patients receiving ARV treatment	Rate of deaths due to HIV infection	Cost per unit of ARV drug treatment

SETTING KPI TARGETS

Once a program's objectives are established and KPIs (and PIs) are selected to measure performance, ministry or agency staff responsible for planning, budgeting, and M&E must work with the MOF and other relevant authorities to agree on performance targets. A performance target combines the selected indicator with a target level, specifying the quantitative degree or amount of performance the program is expected to achieve by a specific date, given the planned structure and funding level. In a performance budgeting environment, planning, program, and budget analysts frequently rely on these targets to help determine to what extent a program's benefits justify the costs of achieving them, and thus what funding level should be appropriated to the program.

As described earlier, the general performance indicator will already have been established through the process of defining program objectives. This section describes how to set the performance target to transform the KPI into a reliable and practical tool for budget and program analysis. It presents:

- Key criteria for good performance targets
- Tips for how to negotiate and set appropriate target levels
- Guidance for adjusting targets when budget allocations change.

Characteristics of Good Performance Targets

The SMART acronym not only describes the characteristics of well-designed indicators, but also the characteristics of good performance targets. In order to be "SMART," a performance target must be:

- **S**pecific: It is clear from the target how success is defined.
- **M**easurable: Reliable data exist, are easily collected, and can be accessed in time to be useful.
- **A**chievable: The target level should be a challenge, but not impossible to reach. (Conversely, if a program always exceeds its targets, the targets are probably not sufficiently ambitious.)
- **R**elevant: The target supports what the program or activity fundamentally wants to achieve.
- **T**ime-bound: There is a clear deadline for when the target must be achieved.

A performance target, thus, provides an unambiguous definition of success. It signals what is important. It tells people what is expected and by when.

Factors to Consider when Setting Targets

In addition to the SMART characteristics, the following are good questions to ask when setting performance targets:

- Is there a baseline value? Knowing where you are starting from is essential to determining the magnitude of change required and, ultimately, to what extent a program has improved the situation.
- Are there historical data from which to inform target setting? To the extent possible, performance targets should be based on a projection of historical trends into the future. Once the projection is made, the target can be adjusted based on analysis of the program's likely impact.
- Would the target level be achieved without the government action? We are trying to determine what benefit we are buying that we would not get in the absence of the government action.
- Does the target promote broad coverage/access? Making antiretroviral therapy widely accessible in the capital city, but not elsewhere, benefits only a subset of the population. If the program only solves a small fraction of the problem, a different approach with broader impact may be needed.
- How do we know if the program produced a good service, rather than just a lot of the service? A recent review of public health spending in Jordan, for instance, found that the government nearly doubled the number of hospital beds between 1990 and 2009, in line with established targets; yet over one-third of those beds remained unoccupied, implying that some of that investment might have been better deployed elsewhere (USAID, 2011).
- Does the indicator (and its target) provide the wrong incentive? An efficiency measure to reduce the cost of paperwork might encourage people to neglect or do poor quality paperwork. In health care, where patient information is critical to providing the right treatment, shoddy documentation can have fatal consequences.
- Can the target be gamed? If the indicator is to increase the number of antiretroviral drug doses distributed to patients with HIV, doctors might be encouraged to overdiagnose the virus.
- Does the target level put the program on a path to success or completion? If the target is achieved, will that represent a good benefit or value for the money spent on the program?

Following are some health sector examples that demonstrate the SMART criteria and help differentiate between targets that fulfill those criteria and those that do not.

***S**pecific?*

- No: Immunize 10,000 children.
- Yes: Immunize 100 percent of children ages 0-24 months.

To be specific, the performance indicator must define what "children" means. In the good example, "children" is defined as those between 0 and 2 years of age. The good example also converts the target amount to a percentage, rather than a nominal value; using a common denominator (i.e., the total number of children between 0-24 months) enables comparison and prevents against distortions due, for example, to changes in population size.

***M**easurable?*

- No: 65 percent of adults report practicing healthy lifestyles.
- Yes: 65 percent of adults ages 18-54 report doing 30 minutes of physical exercise at least three times per week.

Here again, "healthy lifestyles" is ambiguous and impossible to measure, and "adults" is not sufficiently specific to discern the target population. The good example hones in on one important aspect of a "healthy lifestyle" (routine exercise) and sets a standard (30 minutes, three times per week) against which to benchmark performance.

***A**chievable?*

- No: Eradicate stillbirths.
- Yes: Reduce the infant mortality rate to less than 1 percent.

It is unrealistic to set a target of eradicating stillbirths; some risk, if only minimal, will always exist. It is much more realistic to say that the goal is to reduce the infant mortality rate and to focus efforts on achieving a specific target—in this case, less than 1 percent.

***R**elevant?*

- No: Decrease promiscuity in society.
- Yes: Reduce the incidence of sexually-transmitted diseases by 20 percent.

The MOH is generally more responsible for promoting healthy populations than for dictating acceptable social habits. The incidence of sexually-transmitted diseases can be feasibly reduced through MOH programs targeting sex education, distribution of contraceptives, and other measures.

***T**ime-bound*

- Poor: Spread awareness of HIV/AIDS.
- Good: Establish HIV/AIDS education kiosks in 25 percent of secondary schools by 2015.

Clearly, saying that you will achieve a certain goal without saying when it will be achieved is not a very useful goal, since achievement of your goal can be pushed far into the future.

Setting and Negotiating Target Levels

Credible target levels depend on the quality of performance projections, and the best starting point for good projections is past results. Assuming historical data are available, there are a couple of options for projecting future performance.

A straight-line projection is the simplest and most commonly used approach: You would simply graph the last 2-5 years of data, then fit a straight line to estimate future values; those values then become the target levels. Yet reality is not always so linear. For instance, the straight-line approach assumes no changes in a program's scope or funding, no changes in the external environment, or other such factors.

One way to address these factors is to start with a straight-line projection and then make adjustments *ex ante* based on estimates of what improvements the particular program is expected to achieve. This assumes, of course, that you can predict what will happen in the presence of a government program, vis-à-vis what would have happened in the absence of that program.

An alternative is to account for such factors *ex post* when evaluating program performance. For example, an increase in the cost of serums could be used to explain why the cost to administer vaccinations rose above the target level.

Still another approach is to identify the best performers—for instance, the top-ranked health clinics by wait times or by vaccinations administered—and then use them as the standard, or target, for all facilities to meet.

Regardless of the approach adopted, following are some practical questions to consider when projecting future performance:

- What target levels can be achieved within the constraints of your budget resources?
- What program changes will be needed to achieve those target levels?
- How long will it take to achieve them?
- Will progress happen at an even rate? Slow at first, faster later? Fast at first, slower later?

The process of answering these questions, and ultimately setting appropriate target levels, will typically be the product of multi-disciplinary consultation and collaboration, involving engagement from senior officials and planners, as well as from ministry program, budget, finance, and M&E staff. In a performance budgeting environment, it will also be the product of negotiation between spending ministries and central budget authorities. While the planning and budgeting process will differ from one country to the next, following are some useful guidelines to facilitate the process of negotiating performance targets, whether with the MOF, the central budget authority, or, where relevant, other central bodies charged with performance oversight:

- Managers responsible for planning, M&E, and oversight generally have the sharpest focus on the goals to be achieved, while those responsible for program execution generally have the best information for setting targets that are realistic. While the process will differ from one country to the next, whoever holds responsibility for proposing the target levels must be prepared to explain how they developed these target numbers. Whoever approves the targets, then, should be prepared to evaluate the proposal critically, question assumptions, and suggest modifications where justified.
- The target level for an indicator must be based on a plan—a specific set of programmatic changes—for how the target will be achieved. "We will all work harder" is not a plan.
- Each year's target should offer some challenge, but the target should not be impossible. If the MOH has a KPI target of immunizing 85 percent of children 0-24 months and has matched or exceeded that target several years running, perhaps it is time to set a higher target, or, alternatively, shift its focus to other health indicators where performance may be lagging.
- The spending ministry should present draft target levels based on the target funding levels in the MOF's (or central budget authority's) initial budget instructions. If the ministry wishes to request increased funding, it can present alternative target levels that correspond to the increased funding levels sought, recognizing that the MOF will naturally expect more ambitious targets commensurate with increased allocations. The spending ministry can use the projection of improved performance to justify the request for increased funding.

Adjusting Targets when Budgets Change

Spending ministries annually must vie for scarce budgetary resources and, at times, allocations will decrease (or increase), necessitating adjustments to the target levels for relevant performance indicators. Generally speaking, the type of indicator will be an important determinant in deciding how much the target level should change when the funding level changes. For example:

- Target levels for input, process, output, and some efficiency indicators will often change when budget allocations change, because these indicators measure results that are closely tied to the expenditure of funds. If the same direct results of government action can be achieved with less money, then it may be appropriate to reduce funding. Conversely, increased allocations might be justified if one can demonstrate, through reporting on KPIs, that greater results could be achieved with even more money.

- Target levels for outcome indicators may stay the same, at least for small or moderate budget changes. Outcome results are not attributable solely to government actions, so funding levels may not change performance. Also, it is good to evaluate progress toward long-term goals to see whether the government approach is successful. If progress is not made on outcomes, then a new approach may be needed. Yet at the same time, if the outcome targets are changed every year, one would never be able to discern whether the adopted approach was successful.

A special exception to the above is efficiency indicators that express targets in monetary terms (e.g., outputs per unit of local currency). Assume, for instance, you manage a program that distributes mosquito nets to prevent malaria. You request $5 million to distribute 10,000 nets, yet in the final analysis, the MOF caps program funding at $4 million. In this case, it is logical for the MOF to expect that the target level for a simple input indicator, such as "number of mosquito nets distributed," would drop corresponding to the reduced budget ceiling; otherwise, they could safely assume that your request was overstated, or worse, that there were no adverse consequences from cutting your budget. By contrast, using an efficiency indicator that measures the "cost per 100 mosquito nets distributed," it would be easier for

Adjusting Monetary Targets for Inflation

Because performance indicators are designed to track progress over time, it is important to frame targets expressed in monetary terms in constant (real) prices, as opposed to current prices, so that inflation does not influence the result and distort comparisons across years.

Consider, for example, a scenario in which the MOH sets a target to reduce the cost of national health insurance, in current terms, from $50 per subscriber one year to $45 per subscriber the following year. Instead, the cost rises 4 percent, to $52 per subscriber; yet, year-on-year inflation was 10 percent. In constant terms, the cost of health insurance has actually declined, not risen. Yet, if the story were only conveyed to stakeholders in current terms, the Ministry might be unfairly viewed as not having met its target.

Converting current prices to constant prices is straightforward. First, specify a base year, setting the constant price equal to the current price, and then apply an inflation index or "deflator" to all subsequent years. Inflation indices are commonly maintained and published by the national statistics agency, which should make price conversion a straightforward exercise. Furthermore, people will understand a performance indicator better if the base year is a recent one, so that constant prices bear some resemblance to the current prices with which they are familiar.

the spending ministry to demonstrate that a 20-percent decrease in program funding would, at best, have no effect on the unit cost and, at worst, actually cause that unit cost to rise, especially when accounting for fixed program costs (personnel, vehicles, etc.).

USING HEALTH INFORMATION SYSTEMS TO MANAGE KPI DATA

Developing and using KPIs requires systematic processes and methods for gathering, managing, analyzing, distributing, and ultimately reporting performance information. Therefore, once KPIs and targets have been developed, it is necessary to establish:

- The minimum data that need to be collected
- Data sources
- Data collection methods
- Policies, capacities, and infrastructure needed to support data access, processing, and management.

In many countries, the health sector has made particular strides in the collection and management of performance data. HIS, or health management information systems (HMIS) as they are alternately called, represent an important innovation in this area.

At the country level, HIS store, process, and compile all the data concerning a population's health. Many methods and sources are available for generating those data. For simplicity, they can be divided into the following:

- **Population-based sources** – those that generate data relative to populations as a whole, such as censuses, household surveys, and civil registration (recording vital statistics on births, deaths, and causes of death)
- **Institution-based sources** – those that generate data about the operation of the services, such as individual records (tracking patient history), service records (also sometimes referred to as routine health information), and resource records (tracking revenue and costs, personnel deployed, beds available, etc.).

These sources can be supplemented with special studies and surveys, for instance, tracking changes in knowledge, attitudes, or behaviors of a target population; methods supporting disease surveillance; as well as data compiled by other government agencies, nongovernmental organizations, international organizations (e.g., WHO), and private operators (e.g., private clinics, hospitals, drug suppliers).

An integrated HIS will pull together data from a range of sources, so that all information is stored in such a way that users in different locations can easily find the data, in a form that is suited to their needs.

For example, an HIS could enable MOH M&E teams to combine information on a tuberculosis (TB) immunization program, birth and death records, and medical records to track a KPI measuring the effect of immunization on the TB incidence rate—overall, by district or region, among different segments of the population, or against international comparators. Analysts could also pull in data from government financial management information systems (GFMIS), typically hosted by the MOF, to assess the

efficiency of program spending (e.g., the cost per 1,000 patients immunized, or vaccinations per employee-day). Program and planning managers could then use these KPI data to report results, adjust targets, redeploy resources, and prioritize interventions for the most vulnerable.

Supported by appropriate information and communications technology (ICT), a national HIS can enable connectivity and data sharing between and among central or federal MOHs, statistics offices, the MOF/GFMIS, and every hospital, clinic, laboratory, and pharmacy across the country. Automated databases not only facilitate electronic storage and management of data, but also enable analysts at any level to collate and present those data in ways that resonate with different target audiences. District health centers can use those data to track and manage their inventories and prioritize procurements. Meanwhile, health ministry M&E teams can use the HIS to collate vast data sets, map KPI data (e.g., using "heat maps" to graphically display and visually assess epidemiological patterns), or produce user-friendly dashboards that track performance against targets and inform programmatic decision making.

Yet, for an HIS to produce all the value it should, the system must be built on high-quality data that can be used to guide day-to-day operations, track performance, learn from past results, and improve accountability. A basic principle of a functioning HIS, therefore, is that data should be recorded once, at its source, and should be usable at the level at which it is captured. This means that the system needs to be available locally, at the point of service delivery, and that at each level, from central hospitals to remote health outposts, definitions and documentation must be standardized and understandable, so that collection is not duplicated, errors are minimized, and reporting does not create additional burdens or divert resources from primary frontline health care activities.

It also means that there must be data analysis capacity at the level of collection, so that managers can act immediately on the information collected and need not wait for feedback from higher levels.

Unfortunately, this has not been the scenario in most developing countries, where the systems designed to track health data often fall short. Reasons include the following:

- **Data quality is low.** Data errors are very high, due in part to complicated data collection registers and forms, low skills, excessive data collection requirements, and inaccurate transfer of data from patient records. Therefore, data are often of low quality and not trusted for decision making.
- **Data are not used.** Data quality may be sufficient, but there are no processes or channels in place for using the data, other than completing reports for transmission to district or national authorities.
- **Data flows are not timely.** If the HIS does not produce timely, accurate, and complete data, program officers will resort to ad hoc data collection, which is neither efficient nor sustainable.
- **Systems are fragmented.** Health units may find themselves using different forms or parallel systems to collect the same information for different stakeholders, from district health officers, to the central MOH, to donor partners, resulting in duplication, inefficiency, and inconsistency.

- **Data are not valued.** Managers and staff might not appreciate the importance of their roles in the information process, and they have little incentive to give data processes the care and attention required.

These factors not only undermine performance management at the local level, but because effective program planning and M&E depends on data quality at the point of collection, they also frustrate efforts to implement KPIs at the national level. HIS systems, on paper, can bring uniformity and order to data collection and management, but the success of an HIS, or any information system for that matter, hinges not only on technical capabilities, but also on non-technical constraints. The administrative unit responsible for the health information systems, typically housed within the MOH, plays a key role in addressing these constraints. Measures can include the following:

- Simplification and rationalization of forms and reporting requirements
- Development of essential or *minimum* data sets for KPIs and PIs (see box below)
- Capacity building and training for health workers in data collection and processing
- Introduction of regular staff meetings to review facilities' performance and target improvements
- Production and dissemination of newsletters and other reports, providing feedback on program performance and evidence of where data were used to improve performance at various levels.

Developing Minimum Data Sets for KPIs

Minimum data sets (MDS) can help to streamline data management and align the monitoring of indicators, both KPIs and ordinary PIs, with routine data collection processes. When defining a KPI, therefore, the MDS should include only the core data elements required to operationalize that KPI, and to the extent possible, maximize use of routine HIS data, in order to minimize burdens and avoid the danger of information overload. Commonly, the HIS will maintain a data dictionary containing a list of data element definitions and attributes that support the consistent collection and use of data for different purposes and by different users.

To ensure that these and other measures are executed, the MOH should incorporate in its budget planning, first, the costs of building or procuring necessary ICT and, second, the recurrent costs of maintaining staff and other resources necessary to carry out system maintenance, data quality audits, and routine health information and statistics functions—not just at the level of the central MOH, but also at the district level and/or at other points where HIS data are captured. Data quality audits not only serve to validate the data collected, but also to identify and minimize the risks of reporting and input errors at all stages of the measurement process.

DEFINING THE FREQUENCY OF KPI REPORTING

As described above, KPI data elements should be collected and recorded, to the extent possible, at their source, including as part of routine service delivery. The frequency of data collection, therefore, can vary from daily to monthly, or less often, depending on the nature of the event being captured.

For the purpose of monitoring KPIs, however, it may not always be necessary to process those data with the same frequency as they are collected. The frequency of data analysis and reporting will depend on the urgency of decisions to be made based on the KPI or the level of monitoring required.

For instance, data on mother-to-child HIV transmission may be collected by health facilities on a daily basis, but for system- or program-level tracking and budget requests, they may only be scrutinized on a quarterly or annual basis.

Some programs will produce information only sporadically (e.g., disease outbreak response, disaster relief), making routine, ongoing measurement impractical, but ad hoc, high-frequency reporting essential for program execution.

Still other programs will produce so much data so constantly that there is danger of information overload, which can cause confusion or obscure critical information about program results. This is especially true for MOHs, where the sheer volume of diagnoses, treatments, and patient records can overwhelm absorptive capacity. In such cases, management decisions will need to be made regarding appropriate collection and reporting intervals.

Avoiding Information Overload

As KPIs are increasingly used to support performance management, and as advances are made in instituting health information systems, expectations will need to be managed to avoid information overload. In some cases, new executives (especially those lacking expertise in the programs for which they are now responsible) may not know how to define program success or which KPIs to ask for. In other cases, program managers may simply be unsure of what the organization's strategy or executives will require down the road and, as a result, will allow KPIs to proliferate.

Analysis of similar programs domestically or in countries with longer KPI experience can provide insights to reduce the risk of information overload. Moreover, as planning, program, and M&E staff gain experience in creating and evaluating KPIs, they will be able to rationalize data requirements over time, sharpening focus on the most useful metrics.

Annex D provides a template with the type of detail that should be included when defining a KPI, its data requirements, data sources, and data collection and reporting processes. This is followed by an example, using this template, of a clinical KPI, adapted from WHO's World Health Statistics indicator compendium (WHO, 2013).

INTERPRETING KPI DATA

Conducting sound analysis and interpretation of performance data is as important as establishing good indicators and targets in the first place. When conducting program M&E, analysts can easily misread trends in performance data. For instance, a seemingly minor change in a KPI level may be meaningful in light of program circumstances or outside influences. Indeed, a small increase in the HIV infection rate, in the face of a larger increase in the prevalence of extramarital sex, can signal progress in HIV prevention activities. Or, a small increase in the cost of administering a certain vaccination, in the face of a very large increase in the cost of the serum itself, might reflect critical efficiencies achieved in program implementation.

By the same token, a program should not always be credited for outcomes realized, even if those outcomes directly align with the program's stated objectives. The earlier example, in which the rate of diarrheal disease declined more markedly with improvements in water supply and sanitation systems than with distribution of water purification tablets, provides a case in point.

To the extent possible, KPI analysis and reporting should consider all factors, good and bad, in order to facilitate an honest assessment of program results. Moreover, reporting should support interpretation of results by multiple audiences, not only that of policymakers, program managers, and budget analysts. For example, health professionals may benefit from information presented with clinical detail, whereas politicians and citizens will typically respond to information presented in a more summarized approach.

CONCLUSION

Countries around the world are increasingly embracing budgetary and reporting approaches designed to provide public sector decision makers, parliaments, and citizens with a clearer picture of what governments achieve for the public funds they spend. Performance measurement, and the use of KPIs, is central to this evolution, providing feedback to inform and improve public service delivery and promoting accountability by demonstrating to stakeholders the results that government action has produced. Because of their importance to both budget management and accountability, moreover, KPIs also represent a key point of convergence between spending ministries and MOFs, as a tool for planning and evaluating program performance, as well as for negotiating budget requests.

This document represents a resource to support planning, program, and M&E units in developing and using KPIs, with special emphasis on application of KPIs in the health sector, where safety, speed, access, and even cost can have "life or death" consequences. It provides guidelines, tools, and tips for thinking strategically about program planning, selecting performance indicators, setting KPI targets, and collecting, evaluating, and managing performance data, notably with the support of routine HIS. These processes are not presented as a series of steps, and although the discussion follows a seemingly logical sequence, the process of KPI development and implementation does not always follow a straight line, but instead must be flexible to respond to programmatic needs, institutional changes, and political imperatives.

Institutionalizing KPIs is a long-term exercise. International experience suggests that it can take several years for programs to develop the necessary information, systems, and staff capacity to establish meaningful standards, benchmarks, and targets of performance. These tasks are naturally compounded by the challenge of changing the way government institutions budget, debate and set policies, and interact with the public. This document is but one contribution to the suite of tools designed to support that transformation.

ANNEX A: TEMPLATES FOR LOGIC MODELS

Template:
Analysis of Strategic Goals through Logic Models

Government Ministry, Department, or Unit Name:

Mission:

Problems and Needs	Policies	Objectives

Template:
Developing Performance Indicators through Logic Models

Program Name:

Program Objective:

Program, Directorate/Unit	Inputs	Activities	Outputs	Outcomes

ANNEX B. SPECIAL TYPES OF INDICATORS

The following discussion looks at two special types of performance indicators that can be especially useful for planning, program, and M&E managers in tracking and analyzing program performance: efficiency indicators and administrative output indicators.

Efficiency Indicators. Efficiency indicators look at program outputs or outcomes relative to the resources required to produce them. They are often stated as the average quantity (or cost) of a resource used to produce one unit of output, the number of outputs per resource (person, machine, etc.), or the time it takes to complete a task. Since performance budgeting is based on connecting resources with results, it makes sense to compare the cost with the service or benefit. Efficiency indicators can help answer critical questions about how well a government ministry or program is deploying resources for the public good. For instance:

- How much does it cost per patient diagnosed, or per vaccination administered?
- At current staffing, how many patients per hour can the emergency medicine department handle?
- What is the ambulance response time per emergency call?
- How many midwives were trained per year by each trainer?

Efficiency indicators allow us to compare different ways of achieving the same goal (e.g., different methods of delivering services and goods). A plan to increase health care access could compare the cost per patient served of building one large hospital in a provincial hub versus building several smaller health centers throughout the province. Similarly, in addressing traffic congestion in a region, a planning or program analyst could compare alternative transportation project options in terms of the cost per savings in passenger travel time.

Using Efficiency Indicators to Monitor and Evaluate Staff Deployment

Program managers often elect to adopt at least one efficiency indicator to show that in implementing a program, they are striving to control costs or deliver more "bang for the buck." In order to develop good efficiency indicators, managers need to know which employees are working on which processes or outputs. With this information, they can calculate the amount of output per employee. If employees work on more than one output, managers can make a simple estimate of how they allocate their time; it could be as simple as assuming that employees who work on more than one output split their time equally between each output, (e.g., seeing patients versus completing paperwork). Some programs go one step further and allocate personnel and other costs to specific cost centers to get the full cost per output. The data generated by GFMIS systems are making such approaches increasingly possible.

Efficiency indicators are particularly useful in tracking staff deployment, which is vitally important considering that personnel expenditure often represents the largest portion of budgetary outlays. For example, consider the following indicators:

- Number of outputs, such as flu shots, screenings, or patients served per employee
- Time it takes an employee (on average across all employees) to produce certain outputs, such as responding to the public for services requested (flu shots, vaccinations, etc.)
- Number of staff deployed to deliver a service, such as the number of nurses per hospital bed.

Of course, efficiency indicators alone should not be used to make management decisions. Viewed in isolation, efficiency indicators might encourage "budget hawks" to indiscriminately cut staffing or otherwise use accounting tricks to hide costs that should legitimately be attributed to a certain output. Efficiency indicators provide important information to help make budget decisions and encourage government agencies and their staff to think about ways to improve performance, but they should not be the sole basis for budget decisions.

Administrative Output Indicators. It can be difficult to develop indicators for purely process or administrative work, since administrative programs are often processing or managing something, rather than producing an easily counted product. However, everyone does something, and there are always methods of measuring what is done, even if the indicators are not perfect measures. The Human Resources Department, for instance, can be assessed by annual surveys of its "customers" (i.e., the employees whose pay, benefits, and professional development they support).

Following are some examples of administrative output indicators:

- Number of actions initiated or completed
- Average time per completed action
- Average cost per completed action
- Number of actions completed within deadline
- Administrative cost as percentage of total cost.

Other ways of measuring administrative performance include the following:

- Percentage of staff with a certain qualification, certification, or training
- Error rate in performing a task
- Clean audit of financial statements
- Customer satisfaction; for example, percentage of service recipients that rate the service provided as "high quality" (as measured in surveys or feedback forms)

Since administrative units are responsible for facilitating the work of the various programs, another approach is to simply judge the administrative unit's performance on the success of those programs—for example, by the percentage of performance targets that the government department or unit as a whole meets. Typical administrative outputs that can be measured by performance indicators for quantity and quality are forms, applications, approvals, inspections, reports, certifications, investigations, reviews, and proposals.

ANNEX C. SAMPLE KPIs

The following is an excerpt from the Jordan Budget Manual: A Guide to Policy, Process, and Analytic Techniques produced by the USAID Jordan Fiscal Reform II Project in 2012. The guidance provided below, while developed for Jordanian needs and priorities, is relevant to any country seeking to use key performance indicators as part of the public sector's suite of performance management tools.

The following are examples of how selected departments of the government of Jordan transformed suboptimal KPIs into high-quality KPIs in the course of deepening the transition to results-oriented budgeting. For each indicator, the example shows the old indicator, the problems with the old indicator, the new or additional indicator, and an analysis of the new or additional indicator. Note that each program has other indicators in addition to the ones that are focused on here.

Ministry of Social Development – Social Defense Program

Old Indicator:

- Number of juveniles benefiting from social defense services.

Problems with the Old Indicator:

- The indicator does not explain what specifically is meant by "benefiting." We can assume that it is counting juveniles participating in the program.
- It is not clear whether there will be an independent judge to determine whether a juvenile is benefiting from the services. Thus, the indicator assumes that anyone participating in the program benefits from it, but that is not necessarily true.

New Indicator:

- Percentage of juveniles released from detention centers who have no conflict with the law for up to one year after release.

Analysis of the New Indicator:

- **S**pecific: Defines "benefiting" as "no conflict with the law."
- **M**easurable: Yes, and hard to manipulate because the police, not the Ministry of Social Development, are doing the evaluation.
- **A**chievable: Ministry management is empowered with the flexibility and incentive to experiment with different methods to prevent recidivism.
- **R**elevant: Yes, conflict with the law during the first year after release is probably representative of overall rehabilitation of juvenile delinquents. However, it also depends on the level of police work.
- **T**ime-bound: By setting a one-year window, it gives feedback to the ministry quickly enough to adapt depending on how the program is working.

Ministry of Social Development – Social Development and Combating Poverty Program

Old Indicator:

- Number of families benefiting from productive families projects.

Problems with the Old Indicator:

- The indicator does not explain what specifically is meant by "benefiting." We can assume that it is counting families participating in the program.
- It is not clear whether there will be an independent judge to determine whether a family is benefiting from the services. Thus, the indicator assumes that anyone participating in the program benefits from it, but that is not necessarily true.

New Indicator:

- Percentage of families leaving the National Aid Fund (NAF) rolls as a result of productive families assistance and remaining off the NAF rolls for two years.

Analysis of the New Indicator:

- **S**pecific: Defines "benefiting" as improved income.
- **M**easurable: Would need to compare overall rate of people leaving NAF rolls with rate of people who are participating in the productive families program. The comparison may require analysis to determine whether it is the most ambitious people who participate in the program, and thus it is their ambition rather than the program that leads them to leave the NAF rolls.
- **A**chievable: Ministry management is empowered with the flexibility and incentive to experiment with different methods to reduce NAF expenditure.
- **R**elevant: Yes, in that no longer needing assistance is probably representative of higher incomes and lower poverty levels.
- **T**ime-bound: Yes.

Ministry of Education – Administration and Support Services Program

Old Indicator (keep with revisions):

- Number of annually trained educational leaders

Problems with the Old Indicator:

- More training may not be the only way to solve the problem, which is how to get more effective production from ministry employees.

Additional Indicator:

- Percentage of Ministry of Education employees expressing job satisfaction, as measured by an annual employee survey.

Analysis of the Additional Indicator:

- **S**pecific: Morale is less specific than number trained.

- **M**easurable: Can be usefully measured if the survey is designed correctly.
- **A**chievable: Yes, gives management flexibility to consider options to improve staff morale, such as spending more on salaries, materials, professional development, or other items.
- **R**elevant: Yes, assumes happy staff equals effective staff, although it may require more analysis to determine what actions or factors will most contribute to a productive ministry workforce.
- **T**ime-bound: It is an annual measurement.

Ministry of Education – Vocational Secondary Education Program

Old Indicator:

- Number of students enrolled in vocational education

Problems with the Old Indicator:

- More vocational education may not be the only way to solve the problem, which is how to improve employment opportunities for young people.

New Indicator:

- Percentage of vocational secondary graduates employed in the trade for which they were trained within one year of completing training.

Analysis of the New Indicator:

- **S**pecific: "Employment rate" is a specific way of measuring the benefit.
- **M**easurable: Yes, although it depends on good reporting of data.
- **A**chievable: Depends on external factors, including the condition of the job market. Yet in principle, it gives the ministry flexibility and incentive to focus on the quality of training as a key determinant of post-graduation employment.
- **R**elevant: Yes, the goal of the vocational education is not to put students in school, but to give them an education that will get them a job. Depends in part on the economy, so will require some analysis to sort out external factors.
- **T**ime-bound: It is an annual goal.

Ministry of Agriculture – Animal Resources, Veterinary, and Laboratories Program

Old Indicator:

- Quantities of white meat, red meat, egg, and milk production.

Problems with the Old Indicator:

- Provides the wrong incentive, encouraging greater quantity of production rather than greater profitability of production.
- Doesn't tie to the national agenda.

New Indicators:

- Percentage of increase in farmer income from livestock production.

Analysis of the New Indicators:

- **S**pecific: Farmer income is a specific way of measuring the benefit.
- **M**easurable: Yes, farmer income, calculated as the value of production minus the cost of production, is regularly estimated by the Department of Statistics. To make monitoring and evaluation even more robust, one might consider disaggregating analysis, e.g., by farm size.
- **A**chievable: The ministry provides animal health services, genetic improvements through breeding, and training, all of which are designed to increase stakeholder incomes.
- **R**elevant: Yes, increasing agricultural production, and in turn farmer income, is one of the explicit goals stated in the national agenda.
- **T**ime-bound: Yes. It is an annual goal.

Ministry of Agriculture – Reclaiming and Developing Lands Program

Old Indicator (keep):

- Increase in capacity of the water harvest

Problems with the Old Indicator:

- Since Jordan's water supply is among the lowest in the world, increasing water collection alone may not be sufficient for realizing the country's agricultural production goals. Program and KPI design should encourage making the best use of existing water, not only pumping more of it.

Additional Indicator:

- Annual m3 of water saved per dinar [the local currency] spent due to maintenance projects

Analysis of the Additional Indicator:

- **S**pecific: Amount of water is specific.
- **M**easurable: Difficult, but possible. It would require estimates based on average water availability and/or engineering estimates of project benefits. Sample studies could be undertaken to determine whether engineering estimates are correct.
- **A**chievable: Yes, the ministry is implementing programs to improve irrigation canals and water reservoirs, which can contribute to reductions in water loss rates.
- **R**elevant: Yes, the goal in the national agenda is to increase agricultural productivity, in part, through improvements in water utilization.
- **T**ime-bound: Yes. It is an annual goal

ANNEX D: KPI TEMPLATE

The KPI template, presented in Table D.1, provides key elements that should be included when defining a KPI. However, the template can be expanded, adapted, or customized to meet the needs of those that develop KPIs in different services. A practice health example applying this template is presented in Table D.2 on the next page.

Table D.1. KPI Template

	Element	Description
1	KPI title	Exact title of the KPI
2	KPI description	Description of the KPI including a description of the target population.
3	KPI rationale	Rationale for the measurement of the KPI.
4	KPI target	Indicate the target for the KPI – a target should be set for the KPI to inform progress towards an acceptable level of performance.
5	KPI calculation	Indicate how the KPI will be calculated. This should contain information on the numerator and denominator. This should also contain information on the inclusion and exclusion criteria. The target population is called the denominator and includes all services, users, or events that qualify for inclusion in the measurement process. The subset of the target population that meets the criteria as defined in the indicator is called the numerator.
6	Data source(s)	Indicate what data source(s) will be used for the KPI; for example, data sources include administrative databases, medical records, national health information resources, and/or survey data.
7	Data collection frequency	Indicate how often the data to support the KPI will be collected ☐Daily ☐Weekly ☐Monthly ☐Quarterly ☐Bi-annually ☐Annually ☐Other – give details: _____
8	International comparison	Indicate if this KPI is collected in other jurisdictions outside of your country and therefore allows for international comparison.
9	KPI monitoring	Indicate how often the KPI will be monitored and by whom
10	KPI reporting frequency	Indicate how often the KPI will be reported ☐Daily ☐Weekly ☐Monthly ☐Quarterly ☐Bi-annually ☐Annually ☐Other – give details: _____
11	KPI is reported in which reports	Indicate where the KPI will be reported. For example, the KPI may be reported in annual reports, annual service plans, quarterly performance reports, budget requests, or others.
12	Limitations	Indicate any factors or characteristics of the indicator or its data elements that might compromise the accuracy of results.
13	Additional Information	Provide any other information relevant to the KPI

Table D.2 presents an example, using the above template, for a hypothetical KPI that has been adapted from WHO's World Health Statistics indicator compendium (WHO, 2013).

Table D.2. Example of Clinical KPI Using the KPI Template

	Element	Description
1	KPI title	Pregnant women living with HIV who received antiretroviral therapy (ART) for preventing mother-to-child transmission (%)
2	KPI description	The percentage of the estimated population of pregnant women with advanced HIV infection who, at the end of the reporting period, were receiving ART in accordance with the nationally approved treatment protocols (or WHO/UNAIDS standards).
3	KPI rationale	As the HIV epidemic matures, increasing numbers of people are reaching advanced stages of HIV infection. ART has been shown to reduce mortality among those infected and efforts are being made to make it more affordable within low- and middle-income countries. This indicator assesses the progress in providing ART to all people with advanced HIV infection.
4	KPI target	2014: 62% 2015: 67% 2016: 73% 2017: 74% 2018: 75%
5	KPI calculation	$\frac{\text{Numerator}}{\text{Denominator}} \times 100$ *Numerator*: Number of HIV-positive pregnant women who received the most effective antiretroviral regimens as recommended by WHO (i.e., excluding single-dose nevirapine) during the past 12 months to reduce mother-to-child transmission. *Denominator*: Estimated total number of reported HIV-positive pregnant women within the past 12 months.
6	Data source(s)	• Facility reporting systems • Administrative reporting systems • Surveillance system • See also "Additional Information" below.
7	Data collection frequency	☑ Daily ☐Weekly ☐Monthly ☐Quarterly ☐Bi-annually ☐Annually ☐Other – give details: _____
8	International comparison	WHO and UNAIDS report the same KPI annually for most low- and middle-income countries.
9	KPI monitoring	Monitored on a monthly basis by the National HIV/AIDS Control Agency
10	KPI reporting frequency	☐Daily ☐Weekly ☐Monthly ☑ Quarterly ☐Bi-annually ☑Annually ☐Other – give details: _____

	Element	Description
11	KPI is reported in which reports	The KPI shall be reported in national quarterly HIV/AIDS program performance reports and in the program's annual performance review.
12	Limitations	The indicator measures antiretroviral drugs dispensed and not those consumed; therefore, it is not possible to determine adherence to the regimen in most cases. The postpartum regimen ('tail') to avoid transmission during breastfeeding and to reduce the mother's resistance to nevirapine are not captured by this indicator, even though they are recommended by WHO as standards of care for prevention of mother-to-child transmission of HIV.
13	Additional Information	Methods of measurement include: • For the numerator – national program records aggregated from program monitoring tools, such as patient registers and summary reporting forms. • For the denominator – antenatal clinic surveillance surveys, combined with demographic data and appropriate adjustments related to coverage of antenatal care surveys.

ANNEX E: REFERENCES

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