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HOSPITAL
PARTNERSHIPS

Hospital partnership objectives and indicators (guided examples)



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1. Introduction – Foreword



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Dear Applicants,

We have put together these examples **as a guide to help you formulate your own objectives and indicators**. The objectives and indicators set out in this presentation come from real-life hospital experience. We have therefore taken and adapted them from those applications we have received to date.

Alongside the examples, you will find **general introductions to each topic**. These are designed to help you and your teams/partnerships gain a clearer understanding of the principles involved in formulating objectives and indicators.

The examples have been adapted and in some cases significantly modified to ensure that they are consistent with the methodological criteria for good objectives and indicators. As a result, we hope that they also reflect your local situation and needs.

The Hospital Partnerships team

2. How the examples are structured



We have chosen to base this collection on ‘types’ of measure rather than medical disciplines as they offer more relevant guidance when formulating objectives and indicators. However, we have made every effort to ensure that different medical disciplines are well represented across the examples.

Most hospital partnership projects involve measures in one of the following categories:

- **Technical equipment (medical devices, infrastructure and supplies)**
- **Training**
- **Establishing and implementing SOPs and/or other quality management approaches**

We have identified three specific types of measure within the category of **training**:

- **Training of trainers/multipliers**
- **Temporary placements**
- **Curriculum development and teaching**

We have also included examples of two particular types of measure that projects usually combine with those listed above:

- **Decentralised health care**
- **Digitalisation**

The slides entitled ‘Notes on indicator methodology’ provide an introduction to the examples for each type of measure.



3. How to find relevant examples

The first step here is to think about what you are basically trying to achieve and whether you can assign your planned measures to one of the following types/categories:

- **Technical equipment (medical devices, infrastructure and supplies)**
- **Training**
 - **Training of trainers/multipliers**
 - **Temporary placements**
 - **Curriculum development and teaching**
- **Establishing and implementing SOPs and/or other quality management approaches**
- **Decentralised health care**
- **Digitalisation**

You can then look at examples for your chosen category. In the slide headings, you will see that each category example is based on a specific medical discipline. You may even find your own! As a general principle, however, we believe that the medical discipline is less important than the methodology when formulating objectives and indicators as the examples can be applied equally well to other disciplines. That is why we have chosen to **divide the examples into types of measure** rather than medical disciplines. Nevertheless, you will find that the examples cover a wide range of disciplines, possibly including your own specialist area.

Points to consider when you study the examples:

Ideally, objectives should convey what can be achieved through the measures as a whole. Although an objective may not include every type of measure, it will often give a sense of the overall priority for the measures.

Although the two required indicators relate to the results of the measures, they do not always cover them directly. For example, take a project that involves drawing up SOPs. There may not be a specific indicator to measure this if the target is covered implicitly by other indicators.

To keep things simple, we have allocated each of the examples in this collection to a single category even though quite a few of the indicators also relate to other measures when combined with a second indicator.

In some cases we have included examples of specific baseline and target indicators. These are intended purely to clarify the nature of the indicator and should **not** be adopted as they stand. **Indicators must always be defined on the basis of the particular circumstances.**

4.1 How to formulate good objectives and indicators



As the examples in this collection demonstrate, there are many different ways of formulating objectives and indicators for hospital partnerships. It follows that there is *no one correct way* of formulating an objective or indicator. In fact, every partnership can and should formulate its own objectives and indicators.

However, you will find a series of recommendations and criteria that can help you to define clear objectives for your project and make your progress towards achieving those objectives measurable.

The **project objective** should answer the following questions:

- What do we want to have achieved at the end of the project term?
- For whom (or where) do we want to achieve the objective?

When formulating an objective, it can also be helpful to ask what can be realistically achieved during the project term with the available human and financial resources.

Indicators are reference values or variables that give specific information on complex issues and allow them to be measured. They show whether and to what extent a planned change set out in the objective has occurred. As such, they describe a state that has been achieved.

SMART criteria can be a useful guide to formulating indicators, and applications should reflect these criteria wherever possible.

- | | |
|---------------------|---|
| S specific | Is the indicator precise and specific? |
| M measurable | Is the required information available, or can it be obtained without undue expense or effort? |
| A achievable | Is the target value achievable within the scope of the project? |
| R relevant | Does the indicator measure progress towards achievement of the objective (or just one subordinate element of the objective?) |
| T time-bound | Is it clear when (or over what period) the indicator will be measured? This could be the end of the project term, although indicators are often measured over a period (e.g. a month) or at several points in time. |

4.2 How indicators are measured



To measure whether an objective has been achieved, each indicator must be allocated a baseline and a target value.

- The **baseline value** reflects the situation when the project was designed or when it started. If the baseline situation is not yet clear, it should be measured before or on commencement of the project to allow for later comparison.
- The **target value** expresses what the project wishes to achieve,

Example The number of immunological tests conducted each month in the partner hospital.
Baseline value: X tests per month
Target value: Y tests per month

Qualitative indicators, which provide information about assessments, valuations and opinions, must also be quantified.

Example The number of trained nurses from rural hospitals who confirm that the training they have received meets their needs and is consistent with local provision of intensive medical care.

Indicators that have only two possible values are a special case. These are used to measure whether a specific product (e.g. a functioning ultrasound device, a curriculum or an examination technique) is in place or not. In such cases, you will need to provide a brief description of the baseline and target state.

Example A skills lab that meets local requirements has been established and is in permanent operation.
Baseline value: no lab
Target value: 1 lab based on specifically developed criteria

When you start preparing your indicators, you will also need to consider how you are going to **obtain the required data**.

- What data or information will you need in order to measure your progress (e.g. patient numbers, number of examinations)?
- Where can you find the data (sources, e.g. minutes, reports, group surveys, statistical records)?
- How can you obtain the data you need (e.g. by evaluating documents or using a questionnaire-based survey)?
- When (or how often) do you plan to collect the data (e.g. quarterly, annually, at the end of the project term)?
- Who will collect the data?

5. Annotated examples of objectives and indicators



5.1 Notes on indicator methodology: technical equipment

Many projects involve procuring/purchasing medical devices, transporting them to the partner hospital, showing local staff how to use and maintain them, and – as the stated objective – using the devices to diagnose and treat patients and therefore improve medical care in the corresponding specialist areas.

The degree to which change is achievable in each hospital partnership depends on the particular circumstances. Equally, the time horizons over which you may expect to achieve those results can vary tremendously. Your choice of indicators should take account of these local variables. In the following examples, the level of ambition increases from top to bottom.

Possible indicators	Comments
The medical devices are on site and ready to use.	If the circumstances are particularly challenging (e.g. the site first needs to be prepared or a great deal of preliminary work is needed), it may only be possible during the term of the project to procure the devices and ensure that they are on site and ready to use. In rare cases, it may only be realistic to procure the devices.
The conditions for using the devices (e.g. rooms, skills, SOPs and maintenance) are in place.	This indicator reflects the fact that staff need to be trained and both SOPs and maintenance plans need to be drawn up before the devices can be used. For monitoring and reporting purposes, these conditions must be specified and evidence provided that they have been met.
Number of diagnoses/treatments using the devices or correct use of the devices.	In many cases the use made of the new devices is likely to be an appropriate level of expectation. Indirectly, this shows that all the conditions have been met.
Number of patients diagnosed or successfully treated using the newly available diagnostic or therapeutic options.	The emphasis here (beyond the actual use of the devices) is on the benefits to patients, i.e. successful medical treatments that would not be possible without the devices. This is a more ambitious target. It may be achievable in cases where such devices and the associated skills are already in place



Technical equipment

Example: surgery/orthopaedics

Project objective: The provision of basic trauma surgery has improved in the area covered by the partner hospital.

Indicators	Baseline and target values	Comments
Technical equipment for use in fluoroscopy and anaesthesia is functional (in accordance with the plan for new equipment purchases and repairs)	Baseline value: 0 Target value: Plan fulfilled	The 'plan' referred to in the indicator consists both of activities (e.g. procurement) and the establishment of maintenance and repair systems. For reasons of transparency, reports should be accompanied by the plans. This should be highlighted in the project application.
Percentage of reposition procedures conducted using anaesthesia and fluoroscopy	Baseline value: x% Target value: y%	<p>This indicator is only possible because the project also conducts training measures and arranges for staff who complete training to receive appropriate certification.</p> <p>A more ambitious indicator (improvement in the number of successful repositions) would be possible if the partner hospital creates (or already has) a corresponding database.</p>



Technical equipment

Example: emergency medicine

Project objective: Patient care has improved (with a focus on COVID-19, poisoning and snake bites) through the establishment of a skills lab and appropriate training for medical staff.

Indicators	Baseline and target values	Comments
A skills lab that meets local requirements has been established and is permanently operable.	Baseline value: no lab Target value: 1 lab based on specifically developed criteria	This indicator can be very ambitious as it requires appropriate technology and corresponding quality management processes and procedures to ensure that the lab remains 'permanently operable'.
Trained staff conduct at least x ultrasound examinations per year.	Baseline value: x Target value: y	A typical combination of equipment provision, training and (not mentioned as an indicator) SOPs

Technical equipment

Example: internal medicine



Project objective: The provision of equipment and training have led to an improvement in prevention and diagnosis using sonography/endoscopy in the internal medicine departments of regional hospitals.

Indicators	Baseline and target values	Comments
Standards and procedures covering the use and maintenance of the newly procured ultrasound device are observed.	Baseline value: x Target value: 0 errors during regular checks on compliance with standards	<p>A specified time could be added to this indicator to indicate a point by which the '0 errors' target is to be achieved.</p> <p>The project submission for this example also includes proposals on how the indicator should be measured (i.e. the 'regular checks on compliance with standards' as defined in the indicator):</p> <ul style="list-style-type: none"> • regular maintenance of the devices and documentary evidence of routine maintenance including the signature of the responsible medical technician. • Group meetings to discuss the structure and quality of training offered to staff on the correct use of the devices. • Evaluation of clinical data and device data (quarterly), e.g. <ul style="list-style-type: none"> - demographic data - number of examinations per day/week - diagnoses - treatment options (conservative, interventional, surgical) - patients unable to pay for treatment/health insurance? - power supply failures/week - devices equipped with high-voltage protection - device usage per day/week
Number of correctly performed conducted ultrasound examinations per month	Baseline value: x using the existing device Target value: y on both devices together (based on the standard)	It may be possible to differentiate the numbers after the examinations have been conducted, e.g. between 'under supervision' and 'independently'.



Technical equipment

Example: paediatrics/mother and child health

Project objective: Perinatal health has improved (or the perinatal mortality rate has fallen) among mothers and children in the partner hospital.

Indicators	Baseline and target values	Comments
Integration of 2 CPAP ventilators and a portable ultrasound device into the neonatal department's routine daily treatment procedures at the partner hospital	Baseline value: x Target value: y devices in daily use (e.g. baseline - 2 devices already in use, then 3 additional devices to make a total of 5 in daily use)	Measuring device usage is straightforward and therefore easily achievable.
Proportion of prenatal and neonatal treatments conducted in accordance with national neonatal guidelines	Baseline value: x% using the existing technical equipment Target value: y% of prenatal and neonatal treatments conducted in accordance with the relevant criterion using the new devices	The hospital cannot meet the national treatment guidelines until the devices are integrated. As evidence of compliance with the guidelines is required in any case, measuring progress does not entail any additional workload. A more ambitious target could be to measure the prenatal and neonatal mortality rate compared with the mortality rate where treatment does not comply with the guidelines. This may only be feasible at a later stage.



Technical equipment

Example: eye health

Project objective: The partner organisation has introduced appropriate equipment and training that allow it to implement a new therapeutic method for treating microbial keratitis.

Indicators	Baseline and target values	Comments
A cross-linking device is in permanent use and the corresponding medicines are continuously available.	Baseline value: 0 Target value: 1 device in operation based on defined criteria/standards y medicines for a specified period	Strictly speaking, there are two indicators here: one for the device and one for the medicines. Measuring the first of these involves a set of criteria/standards that specify what the device needs in order to function correctly: e.g. room, power, maintenance plans, operating instructions in the correct language. The word 'permanently' indicates that regular checks are needed to ensure both compliance with the criteria and the availability of medicines.
Trained staff perform cross-linking procedures on patients with corneal infections.	Baseline value: 0 Target value: y standard-compliant cross-linking procedures	The target value is not simply about maximising the number of treatments. It indicates that the treatments should be of the required quality and in line with defined SOPs. It is therefore advisable to consult partners in advance in order to establish what is realistically achievable.

5.2 Notes on indicator methodology: training



Nearly all projects include training measures for defined groups of medical and/or care staff. The degree to which change is achievable in each hospital partnership depends on the particular circumstances, e.g. the quality of prior medical training. As ever, the time horizons over which you may expect to achieve those results can vary tremendously. Your choice of indicators should take account of these local variables. In the following examples, the level of ambition increases from top to bottom.

Possible indicators	Comments
The specified target group has successfully completed all the training modules.	This very low level of ambition is only appropriate in cases where there are practical difficulties to overcome even just to hold the training sessions, e.g. ensuring that participating staff from different rural hospitals are able to attend despite transport problems, dealing with language or communication barriers, excessive workloads. The indicator could be measured either very simply on the basis of attendance lists or by means of short tests that can be used to determine whether a course has been completed 'successfully'.
Nurses from rural hospitals confirm that the training they have received meets their needs and is consistent with local treatment facilities.	Adapting courses to meet specific local needs can present a major challenge. One simple approach is to conduct a brief survey. The resulting data can also help to identify follow-up training needs and can even be used more widely as a learning opportunity for all participants.
Medical staff are using the treatment methods they learned during their training.	In most cases, the appropriate level of ambition is for course participants to apply what they have learned. You may also wish to include compliance with the relevant SOP in the indicator. We recommend specifying the target groups and (if possible and relatively simple) the treatment methods for each training course.
Number of successful treatments conducted using the methods learned during the course.	This is the most ambitious indicator as it also measures the extent to which training increases the number of successful treatments. This type of indicator should be used in cases where successful treatment outcomes are realistically achievable during the project term (possibly due in part to other parallel approaches such as the provision of new technical equipment).



Training

Example: internal medicine/emergency medicine

Project objective: Medical treatment for patients with snake bites has improved in x provinces and x selected districts in the partner country.

Indicators	Baseline and target values	Comments
Anti-venom medication is permanently available in provincial and district hospitals.	Baseline value: 0 Target value: y provincial and y district hospitals based on the distribution plan (and hospital selection based on set criteria)	Obtaining anti-venom medication in the partner country may involve numerous bureaucratic hurdles, e.g. an import licence, registration with the health ministry and an officially approved distribution plan. This type of indicator is therefore very ambitious.
Number of treatment teams from x provincial and district hospitals with relevant training	Baseline value: 0 Target value: treatment teams formed in line with set criteria, each consisting of y persons from y provincial and y district hospitals (e.g. 5 persons from 2 provincial and 5 district hospitals)	In this scenario, appropriate 'treatment teams' will need to be formed before the training commences. Once this is done, the courses will need to be organised and held in very different regions. In this context, the indicator appears realistically achievable over the project term. A possible additional phase could involve, for example, measuring the number of snake-bite treatments successfully completed in accordance with the SOP (partly because as an additional activity the project will improve data collection).



Training Example: infectiology

Project objective: The partner hospital has been equipped with the resources needed (infrastructure and training for laboratory and medical staff) to conduct examinations of aerobic blood and urine cultures and wound swabs for evidence of bacteriological infection.

Indicators	Baseline and target values	Comments
Appropriate technical and subject-specific requirements for the new examination method have been fulfilled.	Baseline value: not fulfilled Target value: fulfilled (based on a list of technical infrastructure, the required SOPs, maintenance, training for laboratory and medical staff, regular monitoring)	This indicator includes a full and complex set of requirements and is therefore ambitious as a measure of success. For quality assurance reasons, these parameters will need to be monitored in a laboratory in any case. As such, the task of measuring the indicator does not involve any additional workload.
Number of blood cultures, urine cultures and wound swabs examined per month	Baseline value: 0 Target value: min. y blood cultures/month min. y urine cultures/month min. y wound swabs/month	This indicator is simple but makes no provision for quality assurance. Although this is not required for the application, it is highly recommended in order to guarantee the long-term success of the project.

Training

Example: orthopaedics



Project objective: Treatment options for polio patients have improved following specialist training for medical staff.

Indicators	Baseline and target values	Comments
<p>Doctors, orthopaedic technicians, physiotherapists and ergotherapists are applying the new treatment methods they have learned.</p>	<p>Baseline value: information to be compiled on the principal methods currently in use</p> <p>Target value: $y\%$ of staff who complete the training are applying the new treatment methods on patients in the polio centre.</p>	<p>Information on the baseline situation may have been compiled already in order to design appropriate training courses.</p> <p>In this scenario, it is still important to record the information in a form that allows for indicator measurements to be compared.</p>
<p>Patients give feedback on their treatment using the new methods.</p>	<p>Baseline value: 0%</p> <p>Target value: at least $y\%$ of patients give feedback (e.g. at least 30% - in reality, the target value chosen will depend on how proactively the hospital requests and collects feedback from patients)</p>	<p>This is also a way of recording changes. A slightly more ambitious version of the indicator would be: 'Staff who complete the training are using the patient feedback to make further improvements in treatment.'</p> <p>Based on this wording, indicator measurements would involve monitoring both the feedback and the associated learning mechanisms. The required data could be obtained, for example, from written records of learning sessions and from patient feedback questionnaires.</p>



Training

Example: gynaecology

Project objective: The ultimate goal is to reduce maternal mortality and morbidity as a result of intrauterine death during labour and to reduce neonatal mortality. This can be achieved through practical and theoretical training for midwives so that they can provide appropriate support for the mother during labour.

Indicators	Baseline and target values	Comments
Midwives who complete the training confirm that the course takes account of their needs and their local situation and that they are using their newly acquired skills.	Baseline value: 0 Target value: confirmed by $y\%$ of midwives who complete the training.	It is easier to survey midwives directly rather than engaging an outside consultant to conduct time-consuming research. It is also possible to specify a time horizon, e.g. by seeking confirmation three months after the training. This would emphasise the practical relevance of the training. However, the project will need to identify local needs and assess the local situation so that it can plan appropriate training.
Number of midwives (f/m) qualified to correctly perform ultrasound examinations on women admitted to the labour ward.	Baseline value: 0 Target value: y midwives based on the criteria for a 'correctly' performed ultrasound examination.	The main focus here is on the quality of the examination as the procedure involves a longer period of training and support for selected and highly motivated midwives. Another useful measurement would be the above figure as a percentage of all midwives. A further indicator could measure the number of examinations 'correctly' performed by midwives.

Training

Example: dentistry



Project objective: There has been a qualitative and quantitative improvement in patient care in those dental practices that receive support in the form of training and technical equipment.

Indicators	Baseline and target values	Comments
Monthly patient numbers have increased within x months	Baseline value: number of patients in participating dental practices. Target value: y% increase in each practice	This indicator measures the benefits of improved treatment and technical infrastructure. It assumes that such improvements in treatment capacity will quickly spread among referring doctors, hospitals and potential patients and therefore lead to higher patient numbers.
The proportion of treatments designed to preserve rather than extract teeth (e.g. fillings, root canal treatments) has increased.	Baseline and target values both based on ratio of extraction to preservation: x:x In the above example: baseline value 10:1, target value 10:2)	Training is primarily focused on practical treatment options since extraction is very common in partner countries. This indicator can therefore serve as a direct measure of success.

5.2.1 Notes on indicator methodology: training of trainers (ToT)



Many projects want to train multipliers or trainers in order to achieve broader and more sustainable results. Projects that involve the ‘training of trainers’ are of course still training projects. Accordingly, no further reference is made to this point in the examples. The degree to which change is achievable in each hospital partnership depends on the particular circumstances, e.g. the existing skills of the trainee trainers. Equally, the time horizons over which you may expect to achieve the desired results can vary tremendously, and this can be reflected in your choice of indicators. In the following examples, the level of ambition increases from top to bottom:

Possible indicators	Comments
The specified target group has successfully completed all the ToT modules.	Depending on the local situation, it may only be realistic within the project term to select individuals who are suitable for training as multipliers or trainers, design the ToT course (with due regard for local needs and effective teaching methods) and actually conduct the ToT sessions.
After completing their training, multipliers/trainers confirm that they feel able to pass on their newly acquired knowledge (e.g. of treatment methods) to medical staff.	This indicator is more ambitious as it also examines whether the course met the needs of participants and consequently increased the probability that trainers will actually go on to train others.
Number of training sessions conducted by multipliers/trainers or number of medical staff trained by multipliers/trainers	This is a good indicator to use for most ToT projects as it demonstrates that the ToT approach is successful and really can be used to train up more staff.
Medical staff trained by multipliers/trainers are using the new treatment methods on patients.	This is particularly ambitious and requires more time than the other indicators, but it provides clear evidence of achieving the desired benefits.



Training: training of trainers (ToT) Example: intensive care medicine (ICM)

Project objective: Intensive care provision in remote areas has improved through the training and certification of nurses/carers and multipliers in order to create additional teaching capacity and ensure further continuing training.

Indicators	Baseline and target values	Comments
Nurses who have attended ICM refresher and ToT courses are conducting their own training and mentoring sessions with medical staff at rural hospitals selected on the basis of defined criteria.	Baseline value: 0 Target value: y courses at each selected hospital (e.g. each nurse who completes a ToT course conducts two training sessions and mentors 3 care staff)	This is the indicator for the ToT element of the project.
Nurses from rural hospitals confirm that the training they have received meets their needs and is consistent with local intensive care facilities.	Baseline value: 0 Target value: confirmed by y% of midwives who complete the training	This is an indicator for the training element of the project. As the focus here is on providing better equipment at decentralised healthcare facilities, it is particularly important to ensure that courses are adapted to the local situation. Courses that prepare nurses to act as trainers are only appropriate for experienced nurses. It follows that these nurses are not the same as for the first indicator.



Training: training of trainers (ToT)

Example: mother and child health

Project objective: The project has contributed to better MTCT prevention in the case of pregnant women with HIV in the area covered by the partner organisation through the use of multipliers to train medical staff so that they can identify common risk factors associated with relevant infectious diseases and therefore observe national guidelines.

Indicators	Baseline and target values	Comments
Number of suitable medical staff from various partner establishments who have completed the full multiplier training programme	Baseline value: 0 Target value: y out of y partner establishments	This indicator can be used as a good intermediate step as there will be many partner organisations that will first need to select potential candidates and give them the option to undergo training.
Multipliers who have completed the training go on to train colleagues in their own institutions.	Baseline value: 0% Target value: y% of multipliers offer regular training (e.g. monthly) in their own institutions.	

5.2.2 Notes on indicator methodology: temporary placements



Many projects arrange temporary placements, study visits and discussion forums for medical staff in partner hospitals as one element of their training programme, almost always in combination with other training measures. Consequently, the indicators usually cover not only the results of temporary placements but the training measures as a whole. As a result, you cannot always tell from the objectives and indicators whether a project includes temporary placements.

Nevertheless, we have put together a few examples that involve training for partners through temporary placements in both directions, i.e. from Germany to the partner country and vice versa.

Possible indicators	Comments
Selected medical staff have completed a temporary placement in the partner hospital.	Depending on the local situation, it may only be realistic within the project term to arrange temporary placements, e.g. if visa regulations make it difficult to arrange a longer stay in Germany.
Number of medical staff who complete a temporary placement or exchange and subsequently confirm that they are able to make use of the resulting knowledge and skills in their own working environment	While it is certainly anticipated in all such measures that participants will be able to apply the knowledge they acquire, this cannot be taken for granted. Local conditions may be so different from those at a German hospital that it can prove difficult to transfer their newly acquired knowledge. Equally, in some areas, the participant's existing level of knowledge may be inadequate. This type of indicator may be appropriate if the project executing agency is uncertain whether the knowledge can be transferred as it highlights the need for monitoring this precise factor.
Medical staff who receive this training are using their newly acquired knowledge in their own working environment.	This indicator is frequently appropriate. However, the indicator should ideally spell out the way in which the knowledge is being used.
Medical staff from Germany working in partner hospitals on temporary placements are introducing new skills, standards and methods at the partner hospital.	Unlike the previous indicators, this specifically relates to temporary placements of German medical staff in the partner country. The indicator is particularly appropriate in cases where the project aims not only to provide individual learning opportunities for participants but also to facilitate change at the partner hospital.



Training: temporary placements

Example: infectiology

Project objective: Medical hygiene standards have improved through temporary placements and study visits for students and junior doctors at both partner hospitals.

Indicators	Baseline and target values	Comments
Number of students/junior doctors at partner hospitals who take part in the different training measures	Baseline value: x temporary placements in Germany from the partner country and x temporary placements in the partner country from Germany Target value: y temporary placements in Germany from the partner country with a corresponding certificate y temporary placements in the partner country from Germany with a corresponding certificate	Consideration must be given both to the selection of appropriate candidates and to the preparations on both sides. This is a realistic indicator based on past experience of this follow-on project. The indicator has been refined to include certification criteria that provide a qualitative measure of the success of temporary placement programmes.
Number of training events conducted for other medical staff and students by students/junior doctors who completed a temporary placement	Baseline value: x from the first project term Target value: y (e.g. 3 training sessions per quarter conducted by students and junior doctors who received training through the project)	This indicator measures the impact of those who completed a temporary placement and went on to act as trainers/multipliers. Further measures involving the provision of technical equipment will be required in order to achieve real improvements in hospital hygiene standards.



Training: temporary placements and discussions/networking

Example: mental health

Project objective: The quality of training for psychiatrists has improved through events, regular discussions and networking between academic institutions in both countries. Ultimately, this has led to improved treatment and care for mental health patients.

Indicators	Baseline and target values	Comments
Number of participants in the jointly coordinated online seminars addressing the priority issues	Baseline value: 0 Target value: y participants in each of y courses	Networking is an implicit element of this indicator since the intention is to jointly coordinate the seminar content and presentation in such a way that they meet the needs of the specified target group. A less ambitious indicator could have been simply to offer the online courses.
The temporary placements and the subsequent mechanisms for sharing newly acquired skills lead to internal changes or change projects.	Baseline value: 0 Target value: min. y planned changes for each person who completes a temporary placement	This indicator implies that temporary placements will be planned and conducted in order to achieve and subsequently measure specific changes. Whether the target value is realistically achievable will depend on how radical the changes are.

5.2.3 Notes on indicator methodology: curriculum development and teaching



In some projects the focus is on developing curricula and on the associated teaching. Courses may be taught at universities, university hospitals or through non-academic courses.

All training projects need to develop course content and possibly also teaching methods. In most cases, however, this is not regarded as a core element of the project or as an indicator. Only very few projects treat this as an activity in its own right. Having said that, in some projects curriculum development and formalised teaching methods play a more important role.

In the following examples on this slide, the level of ambition of the indicators increases from top to bottom.

Possible indicators	Comments
A needs-based curriculum is in place.	In some cases the work involved in identifying local needs and required changes can be so extensive (e.g. if the project covers a number of regions, hospitals or decentralised healthcare facilities) that this alone can be treated as a realistically achievable indicator.
Number of training events based on the new curriculum	Applying the curriculum is the next logical step in the sequence of measurable results. In some case it may be appropriate to measure the number of participants, e.g. if a new curriculum is introduced for an established course as a way of generating more interest in the training.
Number of those who completed the training or a study element (e.g. a specific course or module) who sat a final exam or were awarded a certificate	Depending on the length of the training and the lead-in work (e.g. developing the curriculum or selecting appropriate candidates in complex social environments), projects may be limited to demonstrating successful completion of their training.
Participants who complete the training based on the new curriculum go on to confirm that the curriculum meets their needs and that they are able to apply what they have learned to their work.	This indicator is very similar to the other training indicators but specifically notes that the course is based on a new curriculum.



Training: curriculum development and teaching

Example: internal medicine

Project objective: University teaching on non-communicable diseases has improved through the development and completion of an NCD curriculum/teaching plan for doctors and medical students.

Indicators	Baseline and target values	Comments
Selected local experts confirm that the curriculum/teaching plan meets the needs of local hospitals.	Baseline value: 0 Target value: min. y experts	In order to adapt a curriculum to local needs, the project must have a precise understanding of those needs. This type of indicator may therefore be realistic in terms of what is achievable.
Concrete plans to implement the curriculum are in place by the end of the project.	Baseline value: 0 Target value: At least y% of training in the next semester can proceed using the new curriculum (e.g. at least 50%, where possible indicating which courses will be based on the new curriculum)	Purely university-based projects are rare. In such cases, however, it is important to note when selecting realistic indicators that it may only be possible to implement new initiatives during the actual semesters.



Training: Curriculum development and teaching

Example: dentistry

Project objective: The project aims to train young women for careers in dentistry, thus creating training opportunities for this disadvantaged target group, and to contribute to improvements in the provision of dental treatment in remote partner communities.

Indicators	Baseline and target values	Comments
Number of training courses successfully completed by young women from socio-economically disadvantaged households	Baseline value Dental technician: 0 Dental assistant: 0 Target value Dental technician: y Dental assistant: y	As these are two-year courses, the completion figures will be for participants who began training in the first phase of the project. Those who only began training in this second project phase cannot be included in the completion figures until the next phase. Evidence that the women who take the course are from socio-economically disadvantaged households should be compiled using a methodologically robust but simple procedure. In general this is only possible with very well-established local partner organisations.
Number of women who complete the course and go on to obtain formal post-training employment within x months	Baseline value Dental technician: 0 Dental assistant: 0 Target value Dental technician: y Dental assistant: y	Once participants have completed the course, this is the crucial step towards achieving sustainable results. For longer courses, however, it may not be possible to compile this kind of data until the end of the second or even third project phase. The indicator in this example reflects the fact that partner hospitals and practices will have to appoint qualified new staff (including women) to operate the new equipment and to this end can draw on the skills of the women who have completed the training. As envisaged in the plans, the overall result will be an improvement in the provision of dental care.



Training: Curriculum development and teaching

Example: mother and child health

Project objective: The infant mortality rate has fallen through the introduction of training for doctors based on a neonatal training curriculum and the (re)organisation of neonatology at the partner hospital.

Indicators	Baseline and target values	Comments
Paediatricians trained through the project as neonatologists (using the appropriate curriculum) go on to conduct their own regular training events at the partner university hospital.	Baseline value: 0 Target value: at least y needs-based training events on new neonatology-related subjects (i.e. subjects not covered by the existing curriculum)	Importantly, the new curriculum must cover aspects of neonatology that medical staff at the partner university hospital have not previously learned. The courses run to prepare paediatricians to work as neonatologists include temporary placements and a wide range of other training measures.
Measures in the new curriculum that are designed to improve patient care in this area have been institutionalised at the hospital.	Baseline value: x SOPs Target value: y new SOPs implemented and taught (through training events) by neonatologists e.g. 5 SOPs already in place and 3 new SOPs introduced.	Measure to provide technical equipment are covered implicitly by this indicator as they are a precondition for implementing the new SOPs.

5.3 Notes on indicator methodology: SOPs and quality management

Most projects involve developing and implementing SOPs in conjunction with the introduction of new medical devices and/or new or improved treatment methods. Depending on the project's main focus, an indicator may relate directly to these measures or indirectly to their results.

The following examples illustrate some of the options. Again, the level of ambition increases from top to bottom.

Possible indicators	Comments
Locally adapted SOPs are in place for the new treatment method.	This indicator is relatively unambitious but may be realistic depending on the project time frame. A more ambitious wording could be: Participating medical staff have been trained to implement new, locally adapted SOPs.
A simple quality management system is in place to monitor the proper use and maintenance of new devices.	A more ambitious indicator could also specify that the devices are continuously operable. This presupposes that they are correctly used and maintained (see also 'Technical equipment'). In this case, a quality management system is implicit in the indicator.
The SOPs for the new treatment methods are observed by all participants.	The question here, depending on the specific context, is whether it is easier to measure compliance with the SOPs through interviews/focus group discussions or using treatment data as proposed in the next indicator.
More cases of illness x can be diagnosed and/or treated.	The assumption here is that this result is only possible if the appropriate SOPs are observed in relation to treatment or quality management for the new devices.



SOPs and quality management

Example: hospital and quality management / general practice

Project objective: The introduction of new SOPs and quality management systems has led to more effective processes and procedures in general practice for a growing number of patients.

Indicators	Baseline and target values	Comments
Newly introduced SOPs are observed by medical staff who have received appropriate training.	Baseline value: 0 Target value: max. y errors/discrepancies per quarter in the use of SOPs	For example, errors could be identified through observation and entry in a corresponding log. An alternative approach would be to focus on learning opportunities, e.g. through focus group discussions.
Basic medicines are always available in the required quantity and quality.	Baseline value: the percentage of medicines for which the practice has experienced availability problems in the past (data to be collected to establish this baseline) x = % of daily requirements Target value: 100% of daily requirements of the medicines shown in the corresponding list	This indicator assumes that previously inadequate supplies of medicines have been caused by poor management and can therefore be resolved by specifying simple new processes. Measuring results in this way is easier than measuring compliance with the processes.



SOPs and quality management

Example: internal medicine

Project objective: Patients with diabetes mellitus at a regional hospital are given earlier and better treatment. In order to meet this objective, a mechanism has been established to identify patients with previously undiagnosed diabetes mellitus and provide information about the disease (complications and treatment options).

Indicators	Baseline and target values	Comments
Percentage of patients examined for diabetes using predefined criteria and percentage of those examined who are given a new diagnosis of diabetes	Baseline value: to be recorded at the start of the project Y%, of whom y% with diabetes	When compiling data, it is important to make clear how many at-risk patients are anticipated as this number will be the 'parent population' (i.e. 100%). Out of this total, the project can then measure how many were examined, how many were newly diagnosed and (the second indicator) how many were given information about their diagnosis.
Percentage of newly diagnosed patients who have received information about diabetes (complications and treatment).	Baseline value: 0% (as new SOP) Target value: y% of newly diagnosed patients within a specified period x	This can be measured very simply using a list of those patients who have been given information. A more fruitful option that could provide useful data for subsequent work would be to conduct an ad hoc survey of patients.



SOPs and quality management

Example: mother and child health

Project objective: An obstetric quality management programme at public health centres in region x has improved treatment quality and patient safety and has contributed to a decline in maternal and neonatal mortality rates in the project region.

Indicators	Baseline and target values	Comments
Health centres have the routine equipment they need (e.g. stethoscopes and RR devices) to conduct preventive examinations during pregnancy and deliveries in accordance with guidelines.	Baseline value: x% of criteria met (baseline to be determined) Target value: y% of criteria met (e.g. previous equipment level 20%, possible target 50%)	The baseline and target values should be measured against the criteria established in the WHO/USAID Maternal and Child Health Integrated Program. Given that the project covers a large number of rural health centres, this indicator is highly ambitious and can only be achieved if the newly introduced quality management system is implemented. This also involves conducting regular assessments using the specified criteria.
Percentage of health centre staff with the expertise needed to conduct preventive examinations during pregnancy and deliveries.	Baseline value: x% (to be determined) Target value: y% of each relevant staff category at the health centre (e.g. 80% of doctors, 40% of junior doctors, 60% of midwives)	During the implementation phase, the project will need to identify needs for the training component. This step will provide the baseline values to be used when monitoring the indicators. At this stage, the project can measure participation in training events and the regularity of checks on treatment and examination procedures as part of the quality management system in accordance with criteria set out in the WHO/USAID Maternal and Child Health Integrated Program. The second of these options is certainly more reliable but also more demanding.



SOPs and quality management

Example: orthopaedics

Project objective: The treatment of club foot in children has improved in a network of hospitals.

Indicators	Baseline and target values	Comments
The standard for osteotomy treatment and post-operative care is being implemented.	Baseline value: 0 Target value: Out of x specifications in the standard, y are being implemented at the end of the project for y% of patients. (e.g. out of 12 specifications in the standard, 8 are being implemented for 50% of patients.)	'x specifications in the standard' refers to the number of detailed criteria in the standard as there may be parts of the standard that are easier to implement than others. The project will also measure the number of club foot patients for whom the specifications in the standard have been implemented.
After their training, doctors and medical staff in the network share their experience of applying the methods they have learned and of implementing the standards.	Baseline value: 0 Target value: quarterly, at least y% of doctors and medical staff	This indicator is designed to promote joint learning through follow-up discussions.



SOPs and quality management

Example: anaesthesia

Project objective: PDA has been introduced with appropriate training in order to improve pain management in cases of spontaneous birth.

Indicators	Baseline and target values	Comments
After their training, doctors confirm that the curriculum and the newly developed SOPs meet requirements for the introduction and use of PDA.	Baseline value: 0 Target value: $y\%$ of doctors who complete the training	Doctors cannot be expected to provide this confirmation unless they have a certain amount of experience of the procedure. The introduction of new SOPs provides opportunities for continued learning, with the potential to refine the SOPs in response to specific local conditions.
After their training, doctors use PDA for suitable patients in accordance with the criteria.	Baseline value: 0 Target value: $y\%$ of patients identified as suitable based on the criteria	To measure the 'parent population' for this indicator (i.e. 100%), the project will need to determine the number of potential patients based on the specified criteria. Another indicator could measure the level of satisfaction with PDA among patients.



SOPs and quality management

Example: ENT

Project objective: Cochlear implants have been introduced as a long-term treatment for children with severe hearing loss through the provision of new equipment and training at the partner hospital.

Indicators	Baseline and target values	Comments
The required technical and medical conditions for the use of CI implants as a treatment for children under the age of four are continuously fulfilled.	Baseline value: conditions not fulfilled Target value: conditions fulfilled on the basis of a list setting out requirements for technical infrastructure, SOPs, maintenance and training for medical staff	This is a highly complex indicator requiring a lot of detailed work to specify the target situation so that it can be regularly measured. As a major component of project implementation, however, this work is useful when conducting regular assessments.
Cochlear implant procedures are conducted independently by hospital staff who have completed the training.	Baseline value: 0 Target value: y implants per year, increasing to a maximum of x children per year (dependent on funding) (e.g. first project year = preparatory work, second project year = 10 implants, third project year = 15 implants)	To measure this indicator, the project will need a rough idea of the likely number of children needing an implant (assuming that the hospital intends to offer an implant to all such children). The indicator time horizons should also reflect the need for preparatory work as this will determine when it is realistic to start conducting the implant procedures during the project term.

5.4 Notes on indicator methodology: Decentralised health services



Some projects involve establishing or strengthening decentralised health services, e.g. basic health centres or decentralised units linked to large hospitals. Depending on the project's main focus, an indicator may relate directly to these measures or indirectly to their results.

The following examples illustrate some of the options. Again, the level of ambition increases from top to bottom.

Possible indicators	Comments
Staff have been selected and prepared for the new health centres.	These may be existing staff who are transferred to other locations or newly appointed staff. The reference to preparation covers the full range of potential measures.
Establishment of new decentralised services based on the plan	This indicator is straightforward. It presupposes the existence of a plan designed to reach operational readiness at the new health care centre(s). Nevertheless, it is important to ensure that the plan is realistic.
Number of decentralised units that have achieved full operational readiness	This indicator goes a little further by specifying that the new units are ready to operate, i.e. all the conditions for treating patients have been fulfilled.
Care is provided in accordance with existing quality standards for x patients at the new units.	This is the most ambitious indicator as it also covers patient care and compliance with the relevant SOPs and quality standards.



Decentralised health services

Example: infectiology

Project objective: Community health workers and traditional healers have been deployed to provide early decentralised diagnosis and treatment options for tuberculosis and HIV, especially among women.

Indicators	Baseline and target values	Comments
Number of fully used tuberculosis rapid assessment posts	Baseline value: x Target value: y	Investments will be required in medical devices and equipment, training, awareness-raising and quality management in order to fulfil this indicator. A system will need to be in place to assess these exact points and criteria on a regular basis. This is more challenging in decentralised systems than in a hospital.
Proportion of women with TB (compared with men) whose condition has been diagnosed and who have therefore been informed and can be treated (Increase women TB case notification)	Baseline value: x% women Target value: y% women	This indicator addresses the issue of gender justice in health care provision. As women have less access to central hospitals, the idea is that decentralised units would be in a better position to diagnose this target group. To measure this result, the project will first need to establish the total number of diagnosed cases and then disaggregate the total by gender. While this indicator is a good measure of gender justice, it is also highly challenging. The maximum percentage for the indicator would be 50% or higher depending on the corresponding disease rate for women in the region.



Decentralised health services

Example: mother and child health

Project objective: Decentralised obstetric care in remote areas has improved through the training and certification of nurses/carers and multipliers in order to create additional teaching capacity and ensure further continuing training.

Indicators	Baseline and target values	Comments
Nurses from rural obstetric facilities confirm that the training they have received meets their needs.	Baseline value: 0 Target value: min. $\gamma\%$ of nurses who complete the training	As the focus here is on improving the resources available at decentralised facilities, it is particularly important to adapt the training content to local conditions. If possible, to ensure that the indicator offers robust data, responses should be obtained from all nurses who complete the training. Otherwise, there is a risk of generating a high confirmation rate from a low number of responses.
Nurses who have completed the training go on to conduct their own training and mentoring sessions with medical staff at rural obstetric facilities selected on the basis of defined criteria.	Baseline value: 0 Target value: $\gamma\%$ of nurses who complete the training x training sessions	Working with multipliers is a common strategy in projects that involve establishing or providing qualified staff for decentralised health centres. In many such cases, this will be a suitable indicator.



Decentralised health services

Example: mental health

Project objective: Locally available psychiatric care and community-based treatment for people with chronic psychiatric conditions have improved through appropriate staff training and measures to speed up the decentralisation of the partner hospital's services.

Indicators	Baseline and target values	Comments
The network of decentralised psychiatric provision in the wider region covered by the partner hospital has been expanded to include one new centre.	Baseline value: 1 Target value: 2	While this indicator appears simple, the project will need to define precisely what it means before the result can be measured, i.e. is the centre already in operation or merely prepared for operation?
Senior doctors, nurses and therapists at the hospital and its decentralised facilities are ready to provide medical care for patients at the new location.	Baseline value: x for the new location Target value: y	The chosen target value will depend on the level of need at the new centre. The project will need to clarify to what extent the appointments involve new staff so that it can specify a baseline value on this basis. It will also need to specify which preparatory measures are covered by the indicator and can be used to measure whether staff are prepared or not yet prepared.

5.5 Notes on indicator methodology: Digitalisation



Some projects involve establishing digital systems or improving the way they are used to provide health services. In some cases, the planned measures can vary tremendously, e.g. from compiling digital records of patient data through to digital diagnostic and treatment methods. Depending on the project's main focus, an indicator may relate directly to these measures or indirectly to their results.

The following examples illustrate some of the options. Again, the level of ambition increases from top to bottom.

Possible indicators	Comments
A digital system to record and manage patient data is ready for operation.	This indicator measures the progress made in equipping healthcare facilities with hardware and software and in setting up those systems to meet the project's specific needs.
An algorithm (or program) for which a specific diagnostic method has been developed and tested.	In some cases it may be necessary to develop appropriate software. This may be a realistic objective on its own for the project term as it presupposes the availability of equipment and skills. It may be necessary to source the required skills externally.
The specified data are recorded and regularly analysed by specially trained staff.	This relates to the use of the new system. Preparing staff to make independent use of digital systems is often challenging. As such, the indicator can be regarded as ambitious. It also incorporates a learning mechanism (regular analysis) and therefore requires a defined procedure. Who will analyse the data and who will learn from it?
Number of patients identified and treated using the new diagnostic method	This is the most ambitious indicator as it goes beyond the mere availability of digital systems. Additionally, it measures the extent to which those systems are being used for diagnostic and treatment purposes, and this in turn presupposes suitable training, SOPs and quality standards.



Digitalisation Example: infectiology

Project objective: Case detection and treatment rates have improved for patients with tuberculosis and diabetes in region x.

Indicators	Baseline and target values	Comments
A suitable algorithm has been developed for bidirectional screening.	Baseline value: 0 Target value: 1	In this case, technical improvements are an important factor and should therefore be measured through an indicator.
Improved coverage through bidirectional screening of diabetes and tuberculosis patients for pregnant women and people living with DM, TB and AIDS	Baseline value: x% of the specified patient group Target value: y% of the specified patient group	The initial indicator measures the case detection rate. As this does not tell us whether all detected cases will have access to treatment, a second indicator may be required. The project will need to determine a baseline value for the second indicator that covers the patient group with appropriate selection criteria. Later, this will make it possible to measure the precise change in the specified group.



Digitalisation

Example: internal medicine

Project objective: Nephrological care has improved through the digitalisation of patient records and the strengthening of immunological diagnostics.

Indicators	Baseline and target values	Comments
Number of digitalised patient records at the hospital/in the nephrology department as a proportion of all patient records	Baseline value: 0 Target value: y% of all patient records	Using a percentage makes it clearer how much progress has been made in the digitalisation of patient records compared with all patient records. A simpler approach would be to measure the number of digitalised patient records as an absolute figure.
Number of immunological tests conducted each month in the partner hospital	Baseline value: x Target value: y	This indicator measures another component of the project. The only correlation here with increased digitalisation is that digitalised record-keeping is less time-consuming and therefore eases the pressure on managers and on capacity. In turn, this can allow the hospital to conduct more tests per month, for example.



Digitalisation

Example: Paediatrics

Project objective: Children with congenital heart conditions are treated earlier, and the mortality rate for this patient group has therefore decreased through training and the development and implementation of remote sensing technologies.

Indicators	Baseline and target values	Comments
The mortality rate among children under the age of five with cardiac defects has fallen as a result of early diagnosis.	Baseline value: x deaths per 1,000 children under the age of five with cardiac defects in the region per year Target value: y deaths per 1,000 children under the age of five with cardiac defects in the region per year	This indicator is very ambitious as it directly adopts the WHO's own mortality indicator. In all such cases, however, it is important to ask whether such a target is realistically achievable in the project term. In this context, the project explains that the introduction of cloud-connected oximetry by hospital operating departments leads to a x% improvement in the early diagnosis of CHD among children under the age of five, thus considerably improving their chances of appropriate treatment at the correct time and therefore justifying the indicator.
Medical staff who have received training in creating patient profiles and recording data compile relevant data on cardiovascular disease and forward it to the project management team.	Baseline value: 0 Target value: 100% of the diagnostic data have been received by the project management team 3 months after training has been completed and the technical infrastructure has been provided.	The indicator could also specify what the project management team will do with the data (e.g. based on joint analysis of the data, proposals have been generated for further improvements in data management and diagnostic methods).



Digitalisation

Example: general practice - patient safety

Project objective: E-learning courses offered by the project have improved patient safety and hygiene conditions at the partner hospital.

Indicators	Baseline and target values	Comments
Number of e-learning courses designed for use in local conditions	Baseline value: x events Target value: y events	To achieve this indicator, the project will need to develop locally adapted training content, install the required technical infrastructure and hold the training events. Alternatively, the indicator could relate to the number of staff who complete an e-learning course on the subject.
Number of in-house hygiene courses successfully organised and run by the project	Baseline value: 0 hygiene courses successfully organised and run by the project Target value: y hygiene courses successfully organised and run by the project	For the purposes of this indicator, local change projects of this kind need to establish criteria/indicators that define/measure 'success'. Courses that meet the criteria can then be included in the count. Deciding on a realistic figure will depend not only on the motivation but also the ambition and scale of local change projects.

Digitalisation

Example: haematology



Project objective: The availability and safety of blood products at the partner hospital have improved following the introduction of a digital blood donor database and online training.

Indicators	Baseline and target values	Comments
The ratio between blood donations from volunteers and blood donations from the families of patients	Baseline value: x% Target value: y% (actual project values for this example: baseline 10%, target 20%)	<p>The project wishes to facilitate an increase in the number of voluntary donations. Under present conditions, this is largely unachievable.</p> <p>The indicator can be regarded as ambitious since measures that encourage people to donate blood are accompanied by the introduction and management of a donor database. The database is essential as a way of generating values for indicator measurement.</p>
Number of online training course organised and run by the project	Baseline value: x Target value: y	<p>This indicator can only be achieved if the partner hospital receives the technical equipment needed to conduct virtual training events.</p> <p>Alternatively, rather than the actual number of training events, the indicator could measure the number of participants.</p>



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