Developing Key Performance Indicators

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Types of PM

- There are three types of performance measures:
  1. Key result indicators (KRIs) - tell you how you have done in a perspective.
  2. Performance indicators (PIs) - tell you what to do.
  3. Key Performance Indicators (KPIs) - tell you what to do to increase performance dramatically.

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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.
- Key Performance Indicators (KPIs) are quantitative and qualitative **measures** used to review an organization's progress against its **goals**.
- KPIs provide a **measurement** tool.

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What are KPIs?

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- KPIs represent a set of **measures** focusing on those aspects of organizational performance that are the most **critical** for the current and future success of the organization.
- KPIs measure performance by showing **trends** to demonstrate that improvements are being made over time.
- KPIs also measure performance by **comparing** results against standards or other similar organizations.

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KPI Characteristics

KPI characteristics identified in the literature are:

1. **Relevant** to and consistent with the specific organization's vision, strategy and objectives.
2. **Focused** on organization wide strategic value rather than non-critical local business outcomes.
3. **Representative** – appropriate to the organization together with its operational performance.

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KPI Characteristics

4. **Realistic** – fits into the organization 's constraints and cost effective;
5. **Specific** – clear and focused to avoid misinterpretation or ambiguity;
6. **Attainable** – requires targets to be set that are observable, achievable, reasonable and credible under expected conditions as well as independently validated;
7. **Measurable** – can be quantified/measured and may be either quantitative or qualitative;

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KPI Characteristics

- **Timely** – achievable within the given timeframe;
- **Understood** – individuals and groups know how their behaviors and activities contribute to overall agency goals;
- **Agreed** – all contributors agree and share responsibility within the agency;
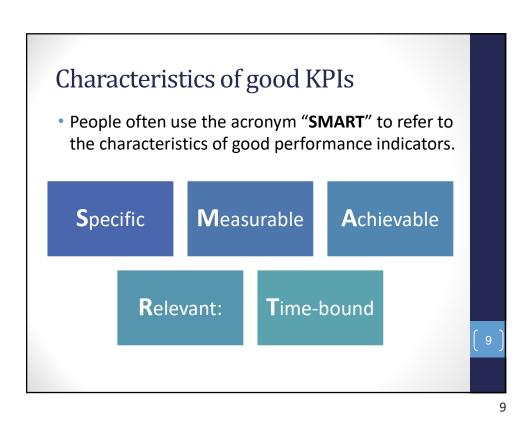- **Reported** – regular reports are made available to all stakeholders and contributors;

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KPI Characteristics

- **Governed** – accountability and responsibility is defined and understood;
- **Resourced** – the program is cost effective and adequately resourced throughout its lifetime.
- **Assessed** – regular assessment to ensure that they remain relevant.

  They should be SMART

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Characteristics of good KPIs

- People often use the acronym "**SMART**" to refer to the characteristics of good performance indicators.

Specific	**M**easurable	**A**chievable

Relevant:	**T**ime-bound

TYPES OF KPI

Process KPI	• Measure the efficiency or productivity of a business process. Ex. Time to complete a customer order
Input KPI	• Measure assets and resources Ex. Funding for training!
Output KPI	• Measure the financial & nonfinancial results of business activities. Ex. Net profit, # of new clients.
Leading KPI	• Measure activities that have a significant impact on future performance. Ex. % of high Performers
Lagging KPI	• Measure success or failure after an event. Ex. most financial KPIs
Outcome KPI	• Measures benefits of performance as an outcome of a business activity. Ex. employee satisfaction rate
Qualitative KPI	• Descriptive measure. Like an opinion, or a character. .
Quantitative KPI	• Measures results in numbers, uses average's, ratio's, percentages. Ex. $revenue per employee.

Using KPIs in the Health Sector

- 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

Using KPIs in the Health Sector

- Compare performance across geographic locations.
- Benchmark performance against regional and international peers or norms.
- Allow stakeholders to independently judge health sector performance.
- KPIs are specific and measurable elements of health and social care that can be used to assess quality of care.

Using KPIs in the Health Sector

- KPIs are measures of performance, based on standards determined through evidence-based, academic literature or through the consensus of experts when evidence is unavailable.

- According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in the United States, KPIs are not intended to be direct measures of quality but instead act as alerts to warn us of opportunities for improvement in the process and outcome of service-user care.

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Alignment with Strategic Direct

Strategic Vision and Objectives

Vision	{ What do we want to be in the future?
Strategy	{ How do we intend to accomplish our vision?
Objectives	{ What must we complete to move forward?
Critical Success Factors	{ What areas must we focus on to achieve our vision?
Key Performance Indicators	{ What are our metric indicators of success?
Key Action Initiatives	{ What action programs will achieve our performance goals?

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Key performance indicators for healthcare quality assessment

- The ability to monitor healthcare quality is essential in order to effectively measure performance which can be done with the assistance of KPIs.
- KPIs facilitate the capture of healthcare trends as a quantitative measure of quality.
- They make an inference about the quality of care provided and indicate areas that require further investigation.

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Types of Indicators

- KPIs can be characterized according to whether they are **generic** or **specific** and by both the **type and function of care** for which the measurement is intended.
- KPIs can be targeted to measure performance that is relevant to all service-users or they can measure aspects of a service that are relevant to a specific service user population:

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Types of Indicators

- **Generic** KPIs measure aspects of performance relevant to the majority of service users and do not target a specific service user population. For example, the number of service users awaiting admission from the emergency department for more than six hours.
- **Specific** KPIs are related to a specific service user population and measure particular aspects of care related to those service users. For example, the percentage of children that have been referred for speech and language therapy that wait more than three months from referral to assessment.

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Types of Indicators

- KPIs can be classified according to the type of care for which the measurement process was developed. For example: preventive, acute or chronic care:
  - **Preventive** care refers to the maintenance of health and prevention of illness such as in immunization programs.
  - **Acute** care usually refers to care given for a new onset illness or for a sudden deterioration in chronic conditions and may involve short term medical care or surgery.

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Types of Indicators

- **Chronic** care usually refers to the long term care of chronic diseases or conditions such as maintaining acceptable blood glucose levels and prevention of complications in diabetes through medication and lifestyle

- Also, KPIs can be classified according to the function of care, which can be: screening, diagnosis, treatment and follow-up.

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Development of KPIs

- A number of factors should to be considered when developing and evaluating KPIs:
  1. Define the audience and use for measurement.
  2. Consult with stakeholders and advisory group.
  3. Choose the area to measure.
  4. Achieve a balance in measurement.
  5. Determine selection criteria.
  6. Define the indicator
     - Identify the target population
     - Define the target to be achieved
     - Threshold for action
     - Action

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Define the audience and use for measurement

- It is important to define the intended audience in order to identify and develop a suitable KPI.
- The audience refers to the person or group for whom the KPI will aid decision-making and can be the service-user, the clinician, the public, the facility or the healthcare system.

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Define the audience and use for measurement

- It is essential to note that whether the goal of the measurement is for benchmarking, either internally for quality improvement purposes or externally against standards or other organizations, will influence the KPI selection process.
- Before embarking on the performance measurement process, it is necessary to identify the domains for which the measurement is intended, which may in turn be dependent on the audience

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Consult with stakeholders and advisory group

- There should be consultation with all stakeholders throughout the data development process.
- Consultation facilitates the identification of the **needs** of stakeholders while simultaneously contributes to the **acceptance** of the selected KPIs.

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Consult with stakeholders and advisory group

- Consultation also facilitates **agreement** about data elements and assists in familiarization with the data and standards.
- Consultation with **decision-makers** can assist in identifying their information needs and subsequent use for that information.
- Consultation with **service providers** can also assist in identifying their information needs, and elicit what data they can provide.

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Choose the Area to Measure

- Choosing the area to be measured should be based on the **importance** of the problem, service-user safety, potential for improvement and controllability by health or social care system/professionals
- A healthcare problem is important if it is associated with significant morbidity and mortality, has high service-user volumes and is costly to treat.

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Achieve a Balance in Measurement

- The diversity of stakeholders in health and social care requires that there is a need for measures across multiple domains to satisfy their different information needs.
- Performance frameworks identify domains of healthcare performance that can be used as a basis for the development of performance indicator sets, such as the HCQI project.

HCQI : Health Care Quality Indicators project, initiated in 2002

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Achieve a balance in measurement

- A number of approaches have been developed to assist in identifying a balanced set of KPIs including:
  1. The "**balanced scorecard**" which was originally developed by Kaplan and Norton.
  2. The "**Three Es**" framework uses the three domains of economy, efficiency and effectiveness.

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The "Three Es" framework

- **Economy** - which measures the acquisition of human and material resources of the appropriate quality and quantity at the lowest cost
- **Efficiency** - which measures the capacity to provide effective healthcare using minimum resources.
- **Effectiveness** - which measures the degree to which the organization attains established goals.

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The "Balanced Scorecard" method

- In 1992, Robert Kaplan and David Norton introduced the Balanced Scorecard concept as a way of motivating and measuring an organization's performance.
- The method looks at four interconnected perspectives (dimensions). These are:
  1. **Financial** – How do we look to our stakeholders?
  2. **Customer** – How well do we satisfy our internal and external customer's needs?
  3. **Internal Business Process** – How well do we perform at key internal business (sub)processes?
  4. **Learning and Growth** – Are we able to sustain innovation, change, and continuous improvement?
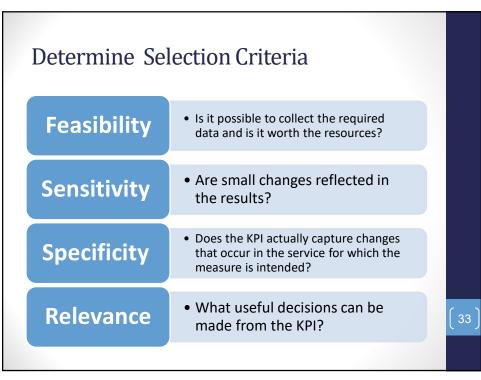
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Balanced Scorecard Perspectives
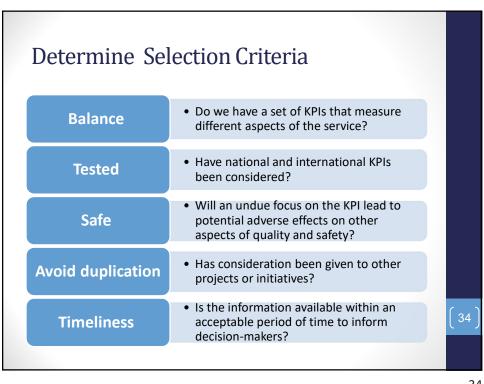

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Achieve a balance in measurement

- In the **United Kingdom**, the performance assessment framework measures performance in six main areas:
  1. health improvement
  2. fair access
  3. effective delivery of appropriate care
  4. efficiency
  5. service-user/career experience
  6. health outcomes.
- the process of achieving a balanced set of KPIs can be assisted by incorporating the structure, process and outcome classification into the methodology for assessing the healthcare system.

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Determine Selection Criteria

Validity	• Does the KPI measure what it is supposed to measure?
Reliability	• Does the KPI provide a consistent measure?
Explicit evidence base	• Is the KPI supported by scientific evidence or the consensus of experts?
Acceptability	• Are the KPIs acceptable?

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Determine Selection Criteria

Feasibility	• Is it possible to collect the required data and is it worth the resources?
Sensitivity	• Are small changes reflected in the results?
Specificity	• Does the KPI actually capture changes that occur in the service for which the measure is intended?
Relevance	• What useful decisions can be made from the KPI?

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Determine Selection Criteria

Balance	• Do we have a set of KPIs that measure different aspects of the service?
Tested	• Have national and international KPIs been considered?
Safe	• Will an undue focus on the KPI lead to potential adverse effects on other aspects of quality and safety?
Avoid duplication	• Has consideration been given to other projects or initiatives?
Timeliness	• Is the information available within an acceptable period of time to inform decision-makers?

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Define the Indicator

- A clear definition of the indicator ensures that it is appropriately interpreted by those with responsibility for collecting the data.
- Including the rationale for the measurement will provide context and highlight the importance of the subject being measured.
  - Identify the target population
  - Define the target to be achieved
  - Threshold for action
  - Action

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Identify the target population

- The target population is called the denominator and includes all service 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.
- More specific information regarding the target population can be given under the headings of inclusion criteria and exclusion criteria.

Target Audience!

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Setting KPI 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.

Targets Setting Summary

Introduction	Targets are those values (determined in each KPI) that the management wants to achieve within a certain time.	
Purpose	To make the KPIs and the measurement more quantifiable and measureable	
Suitable Techniques	• Benchmarking • Forecasting	• Feasibility studies • Market Research
Expected Outcomes	Once the targets setting is done, it is expected to have:	• KPIs targets • Targets values & units

Threshold for action

- Determining a threshold for action assists in deciding when it is appropriate or necessary to institute changes in response to the measurement.
- The threshold should be negotiated with the service provider and will depend on the resources and level of service available.

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Action

- Unless actions are taken based on results, the measurement process will become an end in itself and will not contribute to quality improvement.
- There should be an agreement reached with stakeholders for actions in response to performance indicator results.
- There may be a series of incremental actions depending on the variation of the result from the target.

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Develop the Minimum Data Set (MDS)

- Once KPIs have been developed, it is necessary to determine what data needs to be collected for each KPI being used to measure performance.
- The minimum data set should be developed based solely on the essential data required to operationalize the KPI.
- The MDS should be incorporated into a data dictionary to ensure the data is clearly defined and values are agreed.
- A data dictionary contains a list of data element definitions and attributes which supports the consistent collection of data for different purposes and by different people/organizations.

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Develop the Minimum Data Set (MDS)

1. Define the level of health information
2. Define the frequency of collection
3. Document the data collection process
4. Identify data sources
5. Identify data for development
6. Assess compliance with Information Governance
7. Plan data quality checks

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Data reporting to stakeholders

- There should be a plan to outline how and when the results of the measurement process are released to stakeholders and the public.
- Dashboards are one example of a method for presenting information to inform decision-making.
- Performance results are presented graphically through a series of charts, gauges or tables and facilitate comparison of actual performance against desired results.

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Data reporting to stakeholders

- Determine frequency of processing and analysis.
- Define method of analysis
  - Define type of measure
- Determine level of aggregation.
- Develop risk-adjustment strategy.

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