Pick ’n’ mix: an introduction to choosing and using indicators

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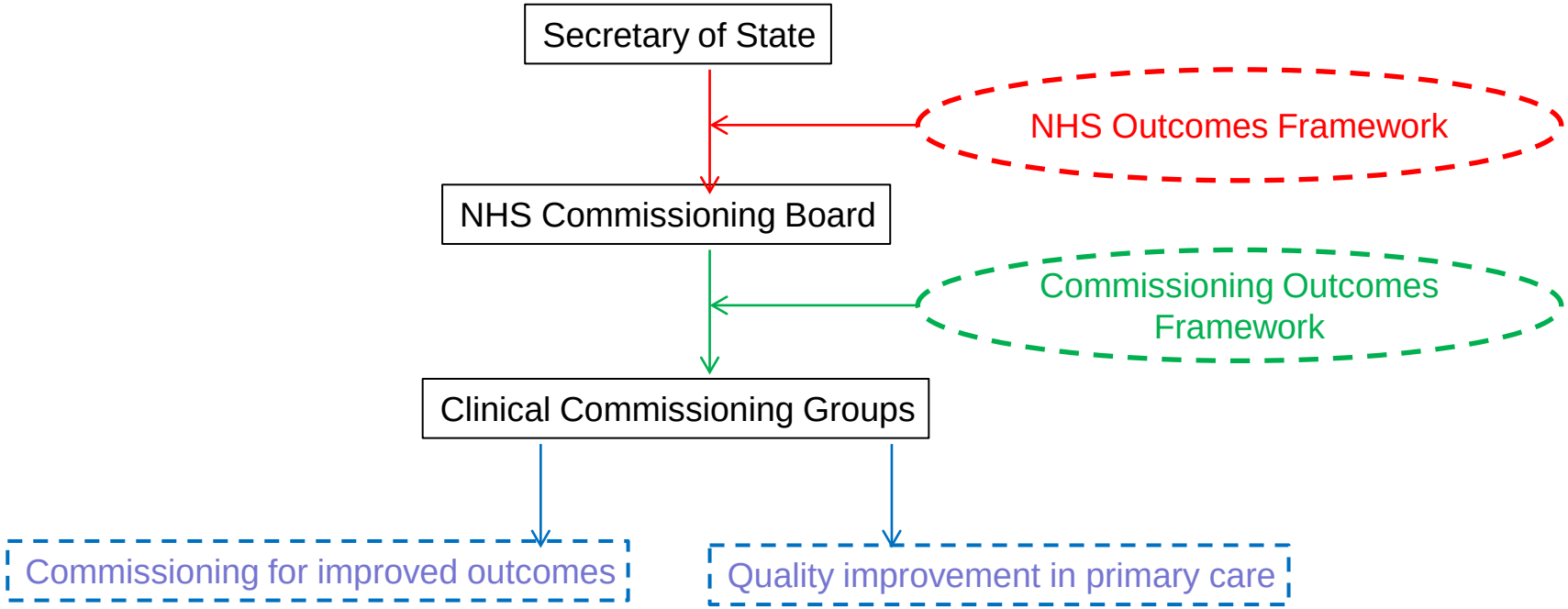
Rationale

- The Secretary of State will assess the NHS Commissioning Board's performance based on the NHS Outcomes Framework.
- The NHS Commissioning Board will assess performance of clinical commissioning groups (CCGs) based on the Commissioning Outcomes Framework.
- CCGs will be accountable for:
  - improving health care outcomes
  - improving the quality of primary care.



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Aims

- The slide set:
  - explains the need for different approaches to measurement at various levels of the health care system
  - describes the roles, strengths and limitations of structure, process and outcome indicators
  - highlights the need for using a mix of indicators for commissioning and operational purposes
  - provides examples of mixed bundles of indicators for use
  - provides tips on using data and indicators, and useful information resources

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1. The national policy context

- NHS Outcomes Framework
- NICE Quality Standards
- Commissioning Outcomes Framework

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NHS Outcomes Framework

- *The primary purpose of the NHS is to achieve good health outcomes; accountabilities should therefore be focused on outcomes, not the processes by which they are achieved*.

- The NHS Outcomes Framework is a set of national goals for measuring the overall performance of the NHS

- It provides:
  - a national overview of NHS performance, with international comparisons
  - an accountability mechanism between the Secretary of State and the NHS Commissioning Board
  - a framework for driving quality improvement and outcome measurement in the NHS

- It is complemented by outcomes frameworks for public health and social care

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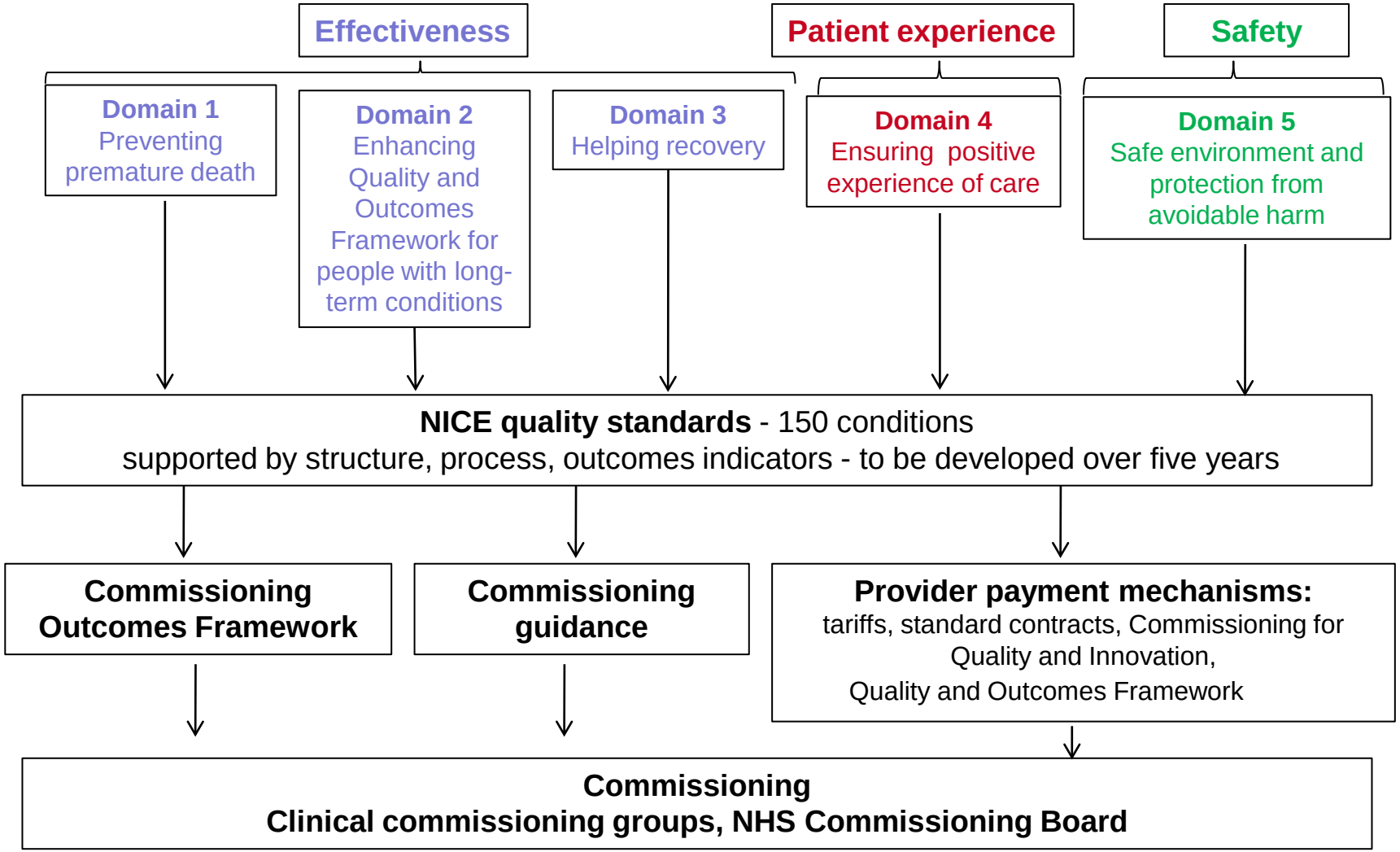
The NHS Outcomes Framework



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National Institute for Health and Clinical Excellence (NICE) Quality Standards

What are they?

- They are:
  - sets of specific statements relating to the treatment of different conditions
  - markers of high-quality, cost-effective care, derived from the best available evidence
- Quality standards for around 150 topics will be developed over the next five years; 17 have been published so far
- Each standard includes 10 to 15 statements relating to best clinical practice, each associated with relevant structure, process, and outcome measures
- Given the limited availability of evidence-based outcome measures, most of the NICE measures relate to structures or processes of care that are linked to outcomes

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NICE Quality Standards

How will they be used?

- Indicators relating to the standards will be included in the Commissioning Outcomes Framework

- CCGs can use the standards:
  - for benchmarking and local audit
  - in commissioning service specifications and contractual monitoring
  - in payment mechanisms and incentive schemes - eg, Quality Outcomes Framework, Commissioning for Quality and Innovation
  - to inform commissioning guides
  - to meet their responsibility outlined in the Health and Social Care Bill to 'have regard to' NICE standards in commissioning
  - in quality accounts

- As quality assurance and improvement tools, they can also be used by care providers and professionals, regulators, and to inform patients and the public

- Many measures cannot be gathered from existing data sources and will require new data collection

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The Commissioning Outcomes Framework

- Commissioning Outcomes Framework indicators (under development by the NHS Commissioning Board) will:
  - be aligned to the NHS Outcomes Framework
  - include measures of inequality

- Their aims are to:
  - drive local improvements in health care quality and outcomes
  - hold CCGs to account for progress in delivering these outcomes
  - measure compliance with CCGs' statutory duty to promote quality and reduce inequalities
  - provide information for the public on the quality of health care commissioned by CCGs

- CCGs will be rewarded for improving selected outcomes through quality premiums

- CCGs will need to measure outcomes locally and what will improve outcomes

Context:

- more localism implies greater diversity in local contractual and management arrangements
- this enhances the need for robust use of information by commissioners locally

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NICE role

- The NHS Commissioning Board has commissioned NICE to develop the quality and outcome indicators in the Commissioning Outcomes Framework

- The Framework will include:
  - NHS Outcomes Framework indicators measurable at CCG level
  - indicators based on NICE quality standards that link to the Framework
  - other indicators linked to the Framework where standards are not available.

- Indicators proposed by NICE's Advisory Committee are subject to public consultation, feasibility testing by the Information Centre, and approval by the NHS Commissioning Board.

- NICE has recently published its proposed indicators for the Commissioning Outcomes Framework, grouped by condition and mapped to the five domains in the NHS Outcomes Framework

- COF will also include indicators from the Public Health Outcomes Framework that CCGs are jointly responsible for with local authorities

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Examples of indicators proposed by NICE

- Some process indicators:
  - antenatal assessment <13 weeks
  - physical checks in people with serious mental illness
  - structured education for people with diabetes
  - people with stroke reviewed <6 months of leaving hospital
  - psychological support after stroke

- Focus on outcome indicators:
  - recovery following talking therapies
  - under 75 mortality rate from cancer
  - hospital admissions for ambulatory care-sensitive conditions
  - mortality within 30 days of hospital admission for stroke
  - emergency re-admissions within 30 days of discharge from hospital
  - health-related quality of life for people with long-term conditions
  - patient experience of GP out-of-hours services
  - Patient Reported Outcome Measures

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2. Measurement for commissioning

- Key duties of CCGs that depend on the use of data
- Local health economies: indicators for populations and providers

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Key duties of CCGs that depend on the use of data (1)

- **General:**
  - commission health care services for local populations
  - continuous quality improvement
  - reduce inequalities in access to and outcomes of health care

- **Planning services:**
  - contribute, with local authorities and health and wellbeing boards, to joint strategic needs assessments and health and wellbeing board strategy
  - co-ordinate care across consortia, health and social care

- **Agreeing and commissioning services:**
  - specification and management of contracts, pay- for-performance schemes, eg, Commissioning for Quality and Innovation
  - development of joint commissioning arrangements

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Key duties of CCGs that depend on the use of data (2)

- **Monitoring services:**
  - monitor performance against contracts
  - review effectiveness of services
  - use information to improve services and influence commissioning decisions
  - use the Commissioning Outcomes Framework and other intelligence to benchmark quality and outcomes
  - provide information to NHS Commissioning Board, Information Centre, Care Quality Commission and others as required

- **Improving quality of primary care:**
  - assist the NHS Commissioning Board in its duty to improve primary care quality
  - review access to and quality of general practice services
  - use comparative practice-level data to review patient needs, practice performance and outcomes
  - identify poor performance at practice/practitioner level

Local health economies: indicators for populations and for providers

- CCGs will need to use a mix of:
  - population-based indicators to:
    - assess local health care needs including inequalities
    - plan and commission services
    - work with local authorities to improve public health
    - monitor access to, quality and outcomes of health care services
  - provider-based indicators to:
    - plan and commission services
    - monitor access to, quality and outcomes of health care services
    - manage contracts and pay-for-performance (P4P) schemes
    - identify poor performance and take steps to address it

- Indicators will be needed for:
  - a range of conditions, services
  - different population, patient groups

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3. An introduction to measurement

- Introduction to indicator types
- Characteristics, examples and pros and cons of:
  - structure indicators
  - process indicators
  - outcome indicators
- National to local, a diversified approach to measurement

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Introduction to indicator types

- Avedis Donabedian, a pioneer of the principles of health care quality measurement identified three dimensions of quality: structure, process and outcome

- *'Outcomes remain the ultimate validators of the effectiveness and quality of medical care'* but they *'must be used with discrimination'*

- It is also important to know about the:
  - environment in which care occurs (measures of structure)
  - whether 'medicine is properly practised' (measures of process)

- Outcomes depend on having the right structures and processes in place.
  structure + process = outcomes

- These principles are used internationally

- Each of these indicator types has its strengths and limitations

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Structure indicators

- Structural measures describe infrastructure or provider-level attributes that impact on the quality and outcomes of care

- Examples include:
  - patients treated on a specialist stroke unit
  - attributes relating to clinicians (such as board certification, training)
  - staffing ratios
  - surgical volumes
  - access to equipment eg, MRI scanners.

- Some structural measures - eg, surgical volumes - are more predictive of hospital performance than process or direct outcome measures

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Structure indicators: pros and cons

Pros	Cons
Expedient / inexpensive	Limited number of measures, especially for ambulatory care
Data often available	Not always actionable – eg, a small hospital cannot readily become a high-volume centre
Efficient – one indicator may relate to several outcomes	Work better as markers of aggregate performance than performance of individual providers
Often evidence-based	Less appealing to many than outcome indicators

Process indicators

- Process indicators describe care processes provided to:
  - populations - eg, preventive services such as cancer screening, immunisation
  - patients - eg, patients given a brain scan within 24 hours of a stroke

- Further examples include:
  - waiting times for treatment
  - neuropathy testing in diabetic patients
  - patients given statins on discharge after myocardial infarction
  - venous thromboembolism prophylaxis for surgical patients

- Process indicators are often the only practical way to assess the quality of medical care, and are especially useful in the context of chronic disease management and ambulatory care

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Process indicators: pros and cons

Pros	Cons
Most evidence-based indicators are process related	Often too specific, narrow
Direct measure of quality when evidence-based	Links with outcomes are variable, sometimes unclear
Reflect care that patients receive	Can become tick box exercise
Easily measured, data collection easier	Potentially subject to manipulation
Easy to interpret	May have little appeal for patients
Not subject to time lags	
Don’t require risk adjustment	
Are actionable, therefore useful for quality improvement, performance assessment	

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Outcome indicators

- Outcome indicators reflect the end result of health care, but can reflect the effects of other factors also. Outcomes can be final (eg, death) or intermediate (eg ,blood pressure control)

- There are different types of outcomes, for example:
  - population outcomes - eg, cancer mortality, hospital admission rates
  - clinical care outcomes – eg, readmission rates
  - adverse events – eg, hospital-acquired infections
  - patients' experience of care
  - patients' health status

- Outcome measurement is generally most practical and widely applied in:
  - surgery, eg, cardiac surgery mortality
  - acute care, where the link between intervention and outcome is relatively direct, timely and amenable to risk adjustment

- There are fewer examples of outcome measures for primary and ambulatory medical care

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Variation in performance on outcome indicators

Category of explanation	Sources of variation
Differences in patient types	Patient characteristics – eg, co-morbidity, severity, socio-economic status
Impact of external factors	For example, quality of primary, community, ambulance care, local availability of hospices
Measurement challenges	Ascertaining risk factors, availability of data, method of analysis – eg, method of risk adjustment
Chance	Random variation, influenced by numbers of cases and frequency of outcomes
Differences in quality of care	Use of proven interventions

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Outcome indicators: pros and cons

Pros	Cons
Face validity	Link to care quality variable or unclear - eg, a patient admitted with acute myocardial infarction may not survive despite good-quality care
Reflect all processes of care	Affected by factors unrelated to care quality
Effective where close causal link exists between intervention and outcome	Attribution not easy to interpret
Measurement and feedback drives improvement	Measurement challenges: - risk adjustment - good-quality clinical data - outcomes often low-frequency events
Not easily manipulated	Potential for risk avoidance
Effectively applied in surgery – eg, cardiac surgery	Limited use in primary, medical, ambulatory care
	Time lag between care and outcome

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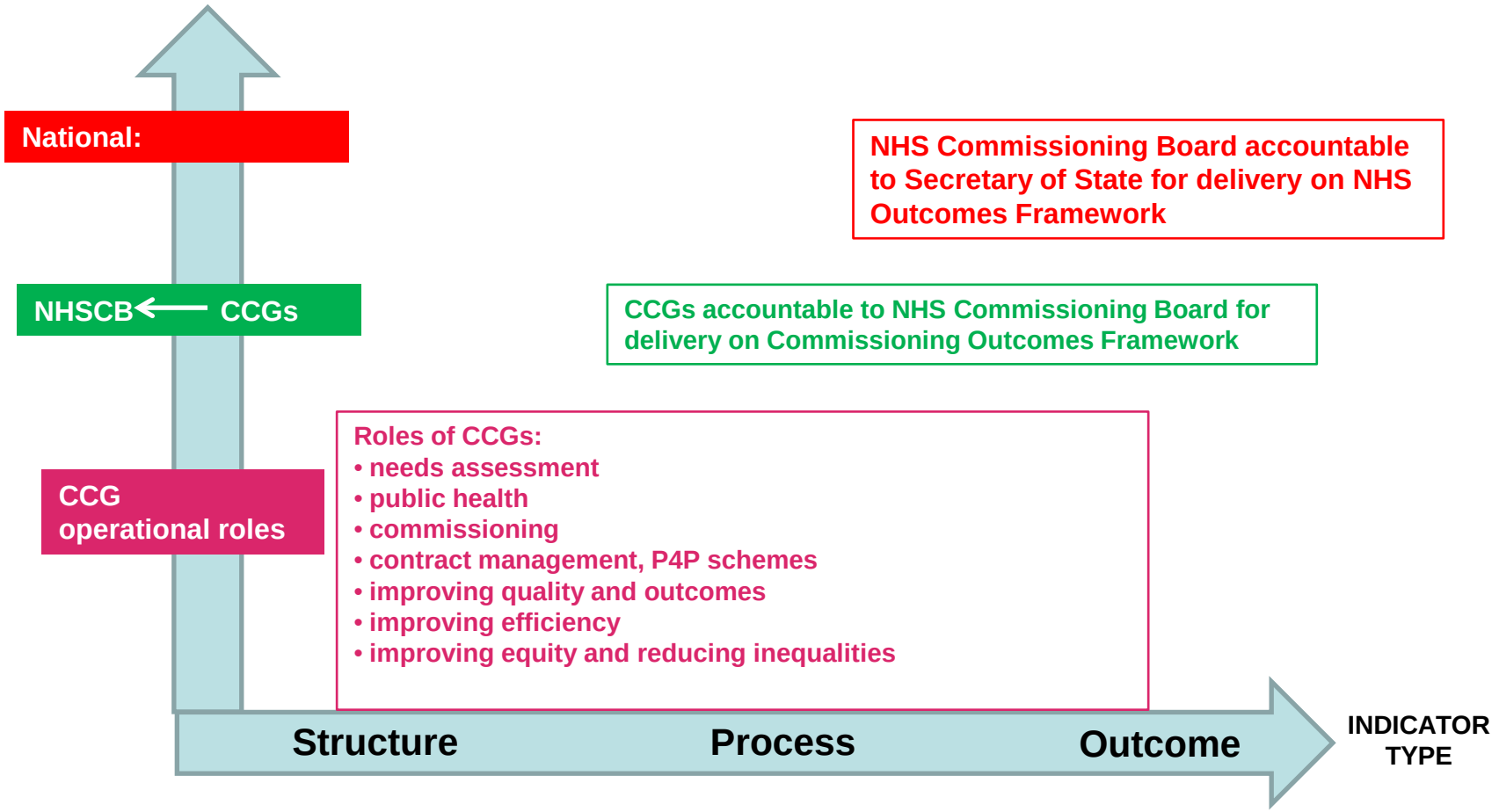
The right indicator mix depends on the level of accountability

Generally, the broader the perspective (eg ,national), the greater the relevance of outcome measures.



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National to local: a diversified approach to measurement

- At local health economy level, CCGs will find a mix of structure, process and outcome measures most useful for operational purposes

- This is because:
  - outcome goals need to be disaggregated and ‘operationalised’ into mechanisms for delivering improved outcomes
  - it is important to know where to target local action
  - structure/process/intermediate outcome indicators are more timely for monitoring progress
  - dimensions of quality (including equity) that are not outcomes should be monitored locally - eg access, waiting times, care co-ordination for people with chronic disease, efficiency, value for money

4. Using a mix of indicators to improve outcomes – an example

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Cancer

- Cancer survival in England compares poorly with survival in OECD countries
- Some contributory factors are:
  - delays in diagnosis and treatment
  - variations in access to and quality of treatment
- Cancer is a priority in the NHS and Public Health Outcomes Frameworks
- CCGs as commissioners and GPs as gatekeepers have a key role in improving cancer outcomes
- Relevant policy documents are:
  - cancer strategy January 2011
  - cancer commissioning guidance July 2011

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Cancer

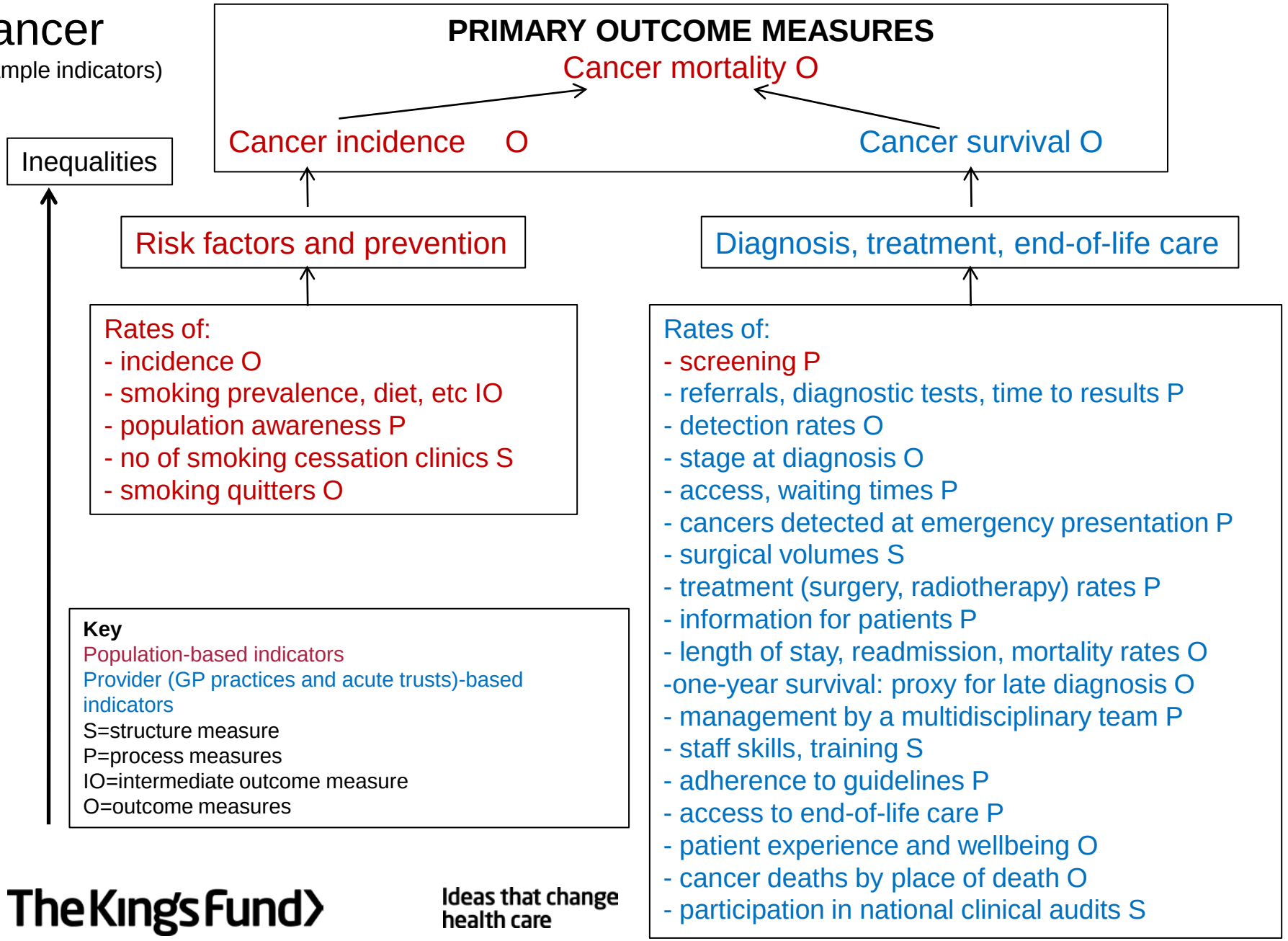
- NHS Outcomes Framework, Domain 1 'Preventing premature mortality', includes indicators on:
  - cancer mortality at ages under 75
  - cancer survival (lung, breast, colorectal)

- Reducing cancer mortality depends on:
  - reducing cancer incidence - ie the number of people who develop cancer, AND
  - improving cancer survival - ie, the number of patients treated successfully

- Improving these outcomes requires improvement in the underlying drivers - eg:
  - reducing cancer incidence depends on preventive measures such as access to smoking cessation services (process measure)
  - improving cancer survival depends on ,eg ,screening, timely referral, treatment rates (process measures), and staff capacity/skills and surgical volumes (structure measures)

Cancer

(example indicators)



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5. Issues and tips to consider when using data and indicators

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Some issues for commissioners to consider in using data (1)

Measurement is indispensable for conducting NHS business. Some issues that need consideration when using indicators are:

- **Data quality and coding patterns**: These vary across data sets and providers due to differences in data coverage, coding quality etc (further information available from Information Centre). Commissioners can use contracts to drive improvements in data quality

- **Analytical methodologies:** Indicator values depend on the statistical methods used, which can differ between agencies (as with hospital mortality rates). They can also be biased by limitations of the available data

- **Timeliness of data:** Commissioners need real-time or near equivalent data, but often there is a trade-off between timeliness and data quality

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Some issues for commissioners to consider in using data (2)

- **Benchmarking:** Can be useful for peer comparisons and identifying outliers, but should be used with discretion. Variations can be caused by factors unrelated to care quality
- **Data for non-NHS providers:** Private and voluntary health care providers often do not have data that is comparable to NHS data, but this can be required through contractual arrangements
- **Managing use of information:** CCGs must prioritise their use of information in accordance with local priorities . Collaboration with CCG partners and experts in public health and quality measurement can help with this and also facilitate benchmarking
- **Exploiting new data sources and opportunities:** for example, through increased availability of clinical audit data, data linkage, data from general practice, and other developments, including those outlined in the Information Strategy

Some tips for commissioners

1. **Build on the useful indicators and analytical tools that are available**
2. **Maximise use of available data sets in developing new indicators**
3. **Avoid a narrow focus**
4. **Use a balanced indicator mix**
5. **Examine variations**
6. **Analyse inequalities**
7. **Monitor trends over time**
8. **Ensure a coherent approach to measurement**
9. **Ensure good information governance**
10. **Use indicators to promote learning and improvement**

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6. Conclusions

Conclusions

- Informed use of information is critical for effective commissioning
- Indicators should be used selectively at population and provider level for different conditions and population groups.
- Commissioners will need to use measurements according to their functions:
  - outcome indicators for monitoring progress on goals
  - structure and process indicators as actionable levers
- There is much NHS data and experience in measurement available to build on.
- Challenges ahead include measuring:
  - inequalities (problems with data availability and small numbers)
  - quality of services provided by non-NHS providers
  - quality of care for people with chronic conditions and multi-morbidities
  - care co-ordination
  - quality along whole care pathways, and across providers, care settings

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7. Data sources, references and further information

This section includes:

- key sources of data and indicators
- references and information sources

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Key indicator, data sources (not a comprehensive list)

Indicators/data for GP practices
Information Centre indicator portal
APHO practice profiles
QOF
Prescribing
GP patient survey
GP practice records, GP datasets eg GPRD

Indicators for commissioners
Information Centre indicator portal
DH commissioning toolkit
Community health profiles
Health poverty index
DH programme budgeting toolkit

Indicators/data for providers and/or commissioners
Information Centre indicator portal
Indicators for quality improvement
CQC patient experience surveys
NHS Staff surveys
PROMs
PEAT
NHS comparators
Better care better value indicators
Secondary uses service / HES admitted patient care data set
Outpatient commissioning data set
A&E commissioning data set
Mental Health Minimum Data Set

Organisations with data, indicators
Information Centre
Office for National Statistics
Department of Health
Care Quality Commission
Quality Observatories
Public Health Observatories
Health Protection Agency
National Patient Safety Agency
Healthcare Quality Improvement Partnership (national clinical audits)

For more data sources see:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_129743.pdf

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US Centers for Medicare and Medicaid Services (CMS):
General background on CMS quality indicators:
https://www.cms.gov/
https://www.cms.gov/QualityInitiativesGenInfo/01_Overview.asp#TopOfPage
CMS quality indicators for hospital inpatients:
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1138900298473
http://www.hospitalqualityalliance.org/hospitalqualityalliance/qualitymeasures/qualitymeasures.html
CMS quality indicators for hospital outpatients:
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier1&cid=1192804525137
CMS quality indicators for physicians:
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