Measurement for Improving Quality and Safety

“Improvement focused oversight is better serviced by measurement processes (Statistical Process Control and Run Charts) that encourage action when the data signals concerns or success – rather than requiring effort of actions responding to inherent variation in the data being considered”

(National Health Service Scotland, 2017)
Measurement and information for quality and safety means boards having relevant and informative measures and that these measures are presented in an accessible way. The board can understand and use them to seek assurance and assess current performance objectives and inform quality and safety programmes. Organisations will have a large suite of indicators collated for regulation or performance purposes e.g. National Performance Scorecard. Indicators can measure the quality and safety of different aspects of care delivery. Measures that are relevant to the board should answer the basic questions of “is our care getting better”? (Canadian Patient Safety Institute, 2011). Boards can select a small set of agreed measures to focus on linked to improvement strategies over time.

These measures can be balanced to reflect agreed domains of quality and safety for example, the “Standards for Safer Better Healthcare” (HIQA, 2012a):
- Person Centred Care and Support
- Effective Care and Support
- Safe Care and Support
- Better Health and Wellbeing.

Quality improvement measures for boards can include data such as mortality data, infection rates, staff and service user experience. Organisation-wide measures can enable boards to benchmark their provider and to monitor progress over time. Boards can also support the organisation’s management team in sustaining a strong reporting culture within the provider they have oversight for (Tsai et al., 2015). Robust data collection and data validation processes are an integral part of an effective measurement for improvement programme. A successful measurement system includes:
- Multiple sources of information
- Selection and prioritisation of measures
- Presentation of measures
- Analysis and use of measures for understanding trends over time
- Understanding of variation and benchmarking against peers.

Different groups in the organisation will have different focal points for monitoring quality and accordingly, indicators need to be measured at different levels. A common framework is to classify indicators as ‘big dots’ or ‘little dots’ (Martin et al., 2007). The source of the information below has been adapted from A guide to developing and accessing a quality plan (Collaborative for Excellence in Healthcare Quality, 2012).

**Big Dots** are the key focal point for the board and the executive team, sometimes referred to as whole system measures (Doolan-Noble et al., 2015; Heenan et al., 2010). They are:
- Measures used to evaluate overall organisational performance and the effectiveness of strategies
- Institution-wide
- Outcome driven
- A reflection of the organisation’s strategic priorities and quality definition
- Multi-faceted connections to the “Little Dots” or processes.

**Little Dots** are the focal point of the executive team responsible for quality and safety and are:
- The operational measures that lead to the desired outcome or ‘Big Dots’
- Outcome Measures (specific and targeted to measure activity progress). Examples of outcome measures include: infection rates, mortality, service user experience
- Process Measures (assess what the healthcare provider did for the service user and how well it was done). Examples of process measures include: proportion of patients with myocardial infarction who received thrombolysis, nursing and midwifery quality care metrics
- Structures Indicators (measuring people, space or money) e.g. access to specific technologies or units, e.g. MRI scan and stroke units.
Multiple Sources of Information Available to the Board

Boards have many sources of information on the quality and safety of services from the organisation:
- Actions arising from incidents, serious reportable events, case reviews
- Items on the risk register
- Results from national and local clinical audit programmes (e.g. National Office of Clinical Audit and National Quality Improvement Specialty programmes)
- Assessments against standards
- Data on performance and activity – quality of care indicators measured over time
- Service user and staff suggestions for improvement.

Prioritisation of Measures

On an annual basis, a small group of key quality measures can be prioritised reflecting a board organisational improvement strategy. Measures can be prioritised using local prioritisation tools / checklists (see Resource for template) or based on analysis of a number of sources of information.

Table 5: Principles that underpin good information on quality of care

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<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Quantitative data, including metrics and trends, with narrative that interprets the data and draws on ‘soft intelligence’ such as service user stories.</td>
</tr>
<tr>
<td>2</td>
<td>Succinct presentations that focus on one area, issue or service at a time.</td>
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<td>3</td>
<td>Consistency in presentation and format of clinical information.</td>
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<td>4</td>
<td>A transparent process for identifying new priorities.</td>
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<td>5</td>
<td>A regular, protected slot on the agenda, which allows sufficient time for discussion.</td>
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<tr>
<td>6</td>
<td>Comparative and benchmarked data.</td>
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<tr>
<td>7</td>
<td>Monitoring of trends in data over time.</td>
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Source: adapted from Machell et al., (2009)

Presentation of Measures

Prioritised measures can be presented in a visual board of directors’ quality dashboard format. The use of Statistical Process Control (SPC) charts / run charts are particularly valuable for driving and demonstrating quality improvement and the board may wish to seek specialist advice on the best charts to use (Perla et al., 2011; Schmidtke et al., 2017). This approach examines the difference between natural variation (known as ‘common cause variation’) and variation that can be controlled (‘special cause variation’). Data is collected over time to show whether a process is within control limits in order to identify areas for improvement. Run charts / SPC charts can be presented in a format that demonstrates performance over time, thereby providing an opportunity for identifying the impact of an improvement activity and whether a variation is expected or unexpected. The chart can be annotated to describe reasons for variation (see Resource for guidance on charts). The introduction of control charts into board papers is a simple process that would greatly improve board members’ ability to avoid reacting to and acting on data that only shows expected variation. In so doing considering the role of chance in their decisions and ultimately provide better management for service user care.

Great Boards are able to articulate the difference between common cause and special cause variation; they can read a control chart and understand the relationship between, measurement, improvement and results.

(The Health Foundation 2013).
Understanding Measures
Performance measures that can be easily interpreted by all executive and non-executive members of a healthcare board can be a timely assessment of current performance in targeted areas (for example monthly data points). On an annual basis, guidance and support can be provided to the board on understanding new measures prioritised. Briefing on the principles of measurement for improvement and the presentation and display of data are an integral part of board induction and development programme (NHS Scotland, 2016a).

Analysing and Using Measures
For each board meeting, the measures are updated to reflect current performance. Trends are highlighted in a summary report to the board. Tools such as an ISBAR (Identify-Situation-Background-Assessment-Recommendation) can aide in structuring the discussion and assessment of measures and to support the presentation of actions and recommendations made by the board (see Resource for sample dashboard and ISBAR flow sheet). As part of the review of measures, integration with other data sources such as qualitative data (e.g. service user feedback / surveys / outcomes of audits) will ensure that the themes presented are consistent. The organisation’s results can also be reviewed in relation to comparable organisations via national clinical audit programmes and all other nationally comparative data.

Reflections on the Mater Hospital Board on Board Project … The board of directors’ quality of clinical care dashboard enabled us to think and reflect… are we getting the right information on the quality of clinical care …what information do we need to make decisions on quality, and align these with very difficult decisions on budget and finance …it really influenced the board in putting quality at the top of the agenda.

(Prof Mary Day, former CEO Mater Hospital, 2014).

Board Considerations - Measurement for Improving Quality and Safety

- Do we know how good we are? (depends on availability of organisational data and whether the board and executive review the data to assess performance)
- Do we know where we stand relative to the best? (most healthcare providers look internally at data, but have limited ways of knowing where they stand relative to other organisations, when they see that gap, it’s often very provocative)
- Do we know where our variation exists? (even if a healthcare provider is measuring and reviewing data—both internally and as a benchmark against comparable providers—what good is the data if it doesn’t identify weakness)
- Do we know our rate of improvement over time? (most people think that they’re getting better much more quickly than they actually are, walking through these four questions is often a provocative assessment and does help providers speed up the velocity of improvement in their organisation)

Source: Adapted: from Bisognano (2013)