

Bringing the Board of Directors on Board with Quality and Safety of Clinical Care

A Co-designed Approach

Governance for Quality

Case Study and Toolkit 2018

Temple Street Children's University Hospital and Health Service Executive, Quality Improvement Division



Building a
Better Health
Service

Seirbhís Sláinte
Níos Fearr
á Forbairt



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HSE Quality Improvement Division

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Project Reflections from the CEO (as Project Sponsor)



Dear reader

I am privileged to write some reflections as part of this case study and toolkit. This case study and toolkit was part of a co-designed project approach with the Board of Directors, Temple Street Children's University Hospital and the HSE Quality Improvement Division.

As we continue on our journey to our new children's hospital in 2022, I have no doubt that the work undertaken in Temple Street will be referenced as a guide to further enhancing patient safety across the three sites and in particular the new hospital and hospitals nationally and internationally.

The challenge of delivering high quality services in cost constrained times is one positively felt by our Board members. Members of our Board of Directors are people with a passion for improving the way our services are designed and delivered. A key role for Board members is creating an environment whereby great quality care is the norm and becomes embedded in everyday practice. The input of Board members in this project was key and this theme continues to be sustained by the presentation and discussion on Quality Indicators at monthly board meetings.

"Members of our Board of Directors are people with a passion for improving the way our services are designed and delivered."

High performing hospitals all have one thing in common, and that is effective and active Board engagement, which takes on a decisive role in improving delivery in quality care. Compelling evidence backed by evidence based research and from national and international inquiries into patient care, suggests that Boards must have capable and dedicated leadership at both Board and Executive level that focuses on quality and improving patient safety.

Temple Street Children's University Hospital and the Board of Directors have successfully integrated quality into the Board agenda by shifting the focus from finance to starting the Board agenda with a patient story. This grounds the discussion that follows.

The commencement of the project titled 'Bringing the Board of Directors on Board with Quality and Safety of Clinical Care' changed the Board's functioning, including the implementation of a Board of Directors' Quality Dashboard and has extended the time element spent for quality of care discussions. The project was designed to equip the Board with the knowledge and skills to enhance their ability to lead and govern on the hospital's quality performance. This they continue to do.

Mona Baker

Chief Executive

Temple Street Children's University Hospital

Foreword

The Board of Temple Street Children's University Hospital and the HSE Quality Improvement Division, are pleased to share with you "Bringing the Board of Directors On Board with Quality and Safety of Clinical Care: a co designed approach". This case study provides a real-world example of a successful "Board in Action". We changed the way we do business, rebalancing our board agenda to give prominence to quality of care.

Evidence suggests that better performing hospitals or health system boards are associated with better clinical care outcomes. To deliver the best quality health care, process and accountability must flow from board to bedside and from bedside to board. The processes cannot be assumed. The right structures, measurement, reporting and time for full board discussion, ensure meaningful timely insight and actions for improvement. This requires board members to act as a highly functioning team who collectively have the knowledge and skills to use this information to shape culture and show leadership in directing the organisation's attention to quality of care.

This case study used a co-designed approach, where the board members worked together with the project team in an iterative process to design an approach that was tailored to the Board and hospital's needs.

Using quality improvement methods over approximately two years the board radically changed our approach to oversight and improvements in quality of care. We put quality of care first on the agenda and gave it at least 25% of meeting time. We identified quality of care measures specific to children's services and were the first organisation to use Statistical Process Control (SPC) Charts together with a structured report in a *Board of Directors' Quality Dashboard* to provide us with greater insight into the quality of care provided and the opportunities for improvement in our hospital.

We comprehensively evaluated the impact of this project on both board meetings and board members. We used quantitative measures of process change together with qualitative interviews and analysis of the impact on board members.

We anticipate that the insights of this case study will be of benefit to the Children's Hospital Group and other hospital boards. It makes a series of recommendations designed for future boards to take and use in order to create the vision, build the will and improvement capability to make change happen and sustain improvements. We publish the toolkit of resources to assist new and existing boards in using these practices.

Our thanks to Mona Baker and Eilis Murphy, Temple Street Children's University Hospital, Blaithín Gallagher, Board and Project Liaison Researcher, and Maureen Flynn, Jennifer Martin and Grainne Cosgrove, HSE Quality Improvement Division, together with all the members of the project group who designed and delivered a project that has had a significant impact. We also thank each member of the board who participated so fully in the project and are sustaining the changes.

We advocate positive decision-making, governance and accountability; where children and families' needs come first in driving safety, quality and cultures of person centeredness.



Mr Sean Sheehan

Chair of Board of Directors Temple Street Children's University Hospital



Dr Philip Crowley

*National Director Quality Improvement
Health Service Executive*

Executive Summary

Introduction

The genesis of this project was about bringing the Temple Street Children's University Hospital Board of Directors on a journey, which would result in the Board holding the hospital Executive accountable for the quality of clinical care delivered. It was a collaboration between the Board, the Project Team and the HSE Quality Improvement Division. Governing Boards of healthcare organisations are responsible for their organisations' performance (HSE 2017). Prior to this project Temple Street Children's University Hospital (TSCUH) Board of Directors received operational information on access, efficiency, human resources and finance indicators through a monthly balanced score card report, while the quality indicators were reported quarterly. Data on the score card were presented using a red, amber and green speedometer with an associated line chart, which demonstrated if the desired target was achieved.

The Board of Directors together with the project team adopted a co-designed approach to this quality improvement project. The desired outcome was to enhance the discussion and understanding of quality and safety of clinical care at board level and to facilitate the Board of Directors to individually and collectively act to hold the hospital accountable on the quality of clinical care delivered. This project provided an opportunity to rebalance the Board of Directors focus on quality of clinical care and develop a Board of Directors' Quality Dashboard with an improved narrative around the indicators. Key elements of this journey included:

- Improved understanding by the Board of quality of clinical care indicators through a process of co-designed methods.
- Introduction of a Quality Dashboard (the Board moving from seeking reassurance to obtaining assurance about quality and safety of clinical care at the hospital).
- Active participation of the Board in this process by making recommendations on actions for implementation by the Executive.

Methods

Building on the learning from the Mater Misericordiae University Hospital Board on Board Quality Improvement project (2015), Temple Street Children's University Hospital Board undertook this co-designed project with support from the HSE Quality Improvement Division (HSE-QID). The aim of this project was to identify and introduce a number of quality of clinical care indicators on a phased basis employing statistical process control charts, and to agree the usefulness of these measures. Temple Street Children's University Hospital is the first hospital in Ireland to produce statistical process control charts to report on data presented to Board of Directors. A structured communication tool BAR (Background, Assessment and Recommendation), modified from ISBAR, was developed and used to provide narrative information for board discussion on the measures presented. Using the Model for Improvement (Langley, Moen et al 2009) and Plan-Do-Study-Act (PDSA) cycles, small tests of change were undertaken at monthly board meetings from September 2016 to October 2017. To understand the Board of Directors requirements and their understanding of quality of clinical care indicators, a base line survey was completed. A focus group explored and identified emerging themes and a proposed change package was presented to the Board for endorsement.

Challenges

Some of the challenges for the project team included: accessing validated data for meaningful and relevant paediatric quality of clinical care indicators; identifying paediatric comparator sites at an early stage in the project, as well as providing support for board and project team members in gaining knowledge of and skills in measurement for improvement.

We under-estimated the time commitment required of both the Board and the project team to choose the best combination of measures and report structure as well as the impact of the project on board meetings. In hindsight the initial project timeline was over ambitious.

Results

This project has transformed how the Board does its business moving from a finance focus to one where quality and safety are at the top of the agenda.

The final Board of Directors' Quality Dashboard reflects the feedback from board members, following an iterative co-designed process, over the course of the project to focus board discussion and decision-making on quality of care. This has been a positive process with the Board of Directors actively participating in the project.

Following completion of 13 PDSA cycles the Board of Directors' Quality Dashboard contains six approved measures using a variety of Statistical Process Control charts to visually present data. The Board has made recommendations both in relation to structure and format of the report as well as actions for management on foot of information presented. Board confidence in understanding the measures presented has increased by three points on a ten-point Likert scale. Quality is now the first item on the Board agenda with a minimum of 25% of the board meeting time allocated to board discussion about quality and safety of clinical care. The challenge will be to ensure that there is a mechanism for sustainability and spread of the project into the future.

"It 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"

Board Member

Recommendations for Future Board Projects

CREATING THE VISION

- Intensive preparation with the Board and the project team is crucial.
- Focus on the rationale for embarking on the project to increase a sense of ownership and ensure rigorous planning in advance of project.

BUILDING THE WILL

- Use a co-design methodology to embed and sustain improvement.
- Develop and use a project charter to specify aim and expectations and clarify roles and responsibilities of the Board and project team.
- Conduct an assessment of need through one-to-one contact with individual board members to determine needs in relation to quality, understanding and training, prior to commencement of the project.
- Direct involvement of members of the Board on the project team is essential. Inclusion of non-executive directors from a clinical and non-clinical background is valuable.

BUILDING IMPROVEMENT CAPABILITY

- Identification of training needs on an individual basis within both groups (board and project team).
- Ensure training is available to meet the educational needs of the group (board and project team) including SPC charts, interpreting data and use of structured communication tools.
- Provide an on-going structured development programme for the Board on measurement for improvement to support them in their role in improving quality and safety.

MAKING IT HAPPEN

- Identify an overall coordinator for the development of the Board of Directors' Quality Dashboard.
- Identify the process for executive review and approval of Board of Directors' Quality Dashboard prior to issuing it with the board papers.
- Ensure the Board receive and discuss a Board of Directors' Quality Dashboard monthly to support their oversight and decision making around the quality of clinical care.
- Commence each board meeting with a patient story which can enhance the Board decision making through the linkage of the patient story to the measures presented.
- The Board of Directors' Quality and Safety committee, (informed by the Executive Quality and Safety committee) be asked on behalf of the Board of Directors, to advise the Board on the prioritisation and de-prioritisation of quality and safety indicators included in the Board of Directors' Quality Dashboard.

SUSTAINABILITY

- Disseminate and share the learning with other hospitals and group boards.
- Give consideration to making the Board of Directors Quality Dashboard visible to all staff and the public.
- Include the learning from this project in the Children's Hospital Group (CHG) board induction programme for all board members.
- Continue to prepare a monthly Board of Directors Quality Dashboard during the transition period between boards.
- During the transition phase to the New Children's Hospital seek opportunities to identify common board measures, using agreed definitions from the current three sites

Project Timeline

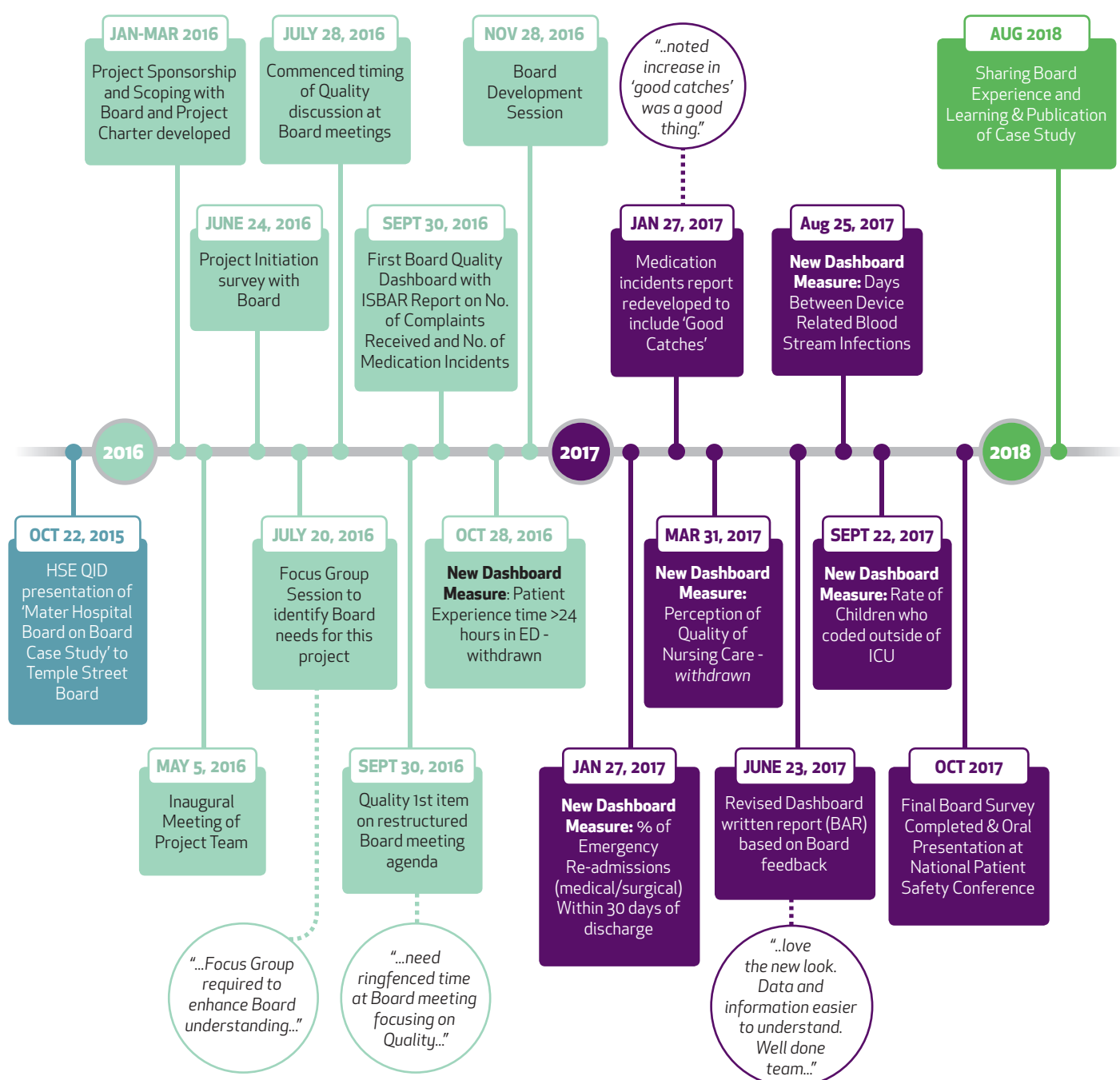
Q'S TO BOARD:

What keeps you awake at night?

Board On Board with Quality & Safety of Clinical Care – Timeline of Key Events

Q'S TO BOARD:

What would ideal report look like?



1. Introduction

Temple Street Children's University Hospital is an acute national paediatric hospital. Major specialities at the hospital include neonatal and paediatric surgery, neurology, neurosurgery, nephrology, orthopaedics, ENT and plastic surgery. The national centre for paediatric ophthalmology, the National Paediatric Craniofacial Centre (NPCC), the national airways management centre, the national meningococcal laboratory, the National Centre for Inherited Metabolic Disorders (NCIMD), the National Newborn Screening Service (NNSS) and the Irish Meningitis and Sepsis Reference Laboratory (IMSRL) are also based at Temple Street. Temple Street cares for 150,000 children per year including over 45,000 who attend the Emergency Department (ED). A staff of 90 Consultant and over 950 nursing, HSCPs (Health and Social Care Professionals) and other staff provide this care.

"In our friendly and caring environment we strive to provide the highest quality of care for all with dignity and respect. We value our staff and encourage their development."

Mission Statement, Temple Street Children's University Hospital

Temple Street Children's University Hospital is a wholly owned subsidiary of Mater Misericordiae and the Children's University Hospital Limited (MMCUL) a company limited by guarantee and not having a share capital. The hospital is overseen by a Board of Directors, comprised of nine non-executive and four executive directors, and are accountable to the overseeing Board of Governors of the holding company Mater Misericordiae and the Children's University Hospital. The competencies non-executive board members bring are varied, as members come from clinical, business, legal, accounting and information technology backgrounds. The Board of Directors hereafter referred to as 'the Board' are responsible for the safe running of the hospital. The Board has delegated responsibility for the management of the hospital to the Chief Executive and the Executive Management Committee. Increasingly boards are encouraged to put quality and safety at the top of the agenda and while patient stories matter and engage the heart, "results matter and boards need to hold healthcare managers accountable for quality of care" (Pronovost, 2018).

This case study report and toolkit describes the introduction by the Board of a co-designed Board of Directors' Quality Dashboard, aimed at moving the Board from seeking reassurance to actively obtaining assurance about quality and safety of clinical care at the hospital. It builds on the work started by the Mater Misericordiae University Hospital (MMUH) and the HSE Quality Improvement Division (2015). It describes the project methodology, board tools developed and tested, and the measures used. This report is published not only to facilitate the continuity of the project in Temple Street Children's University Hospital but will be of interest to chairs and members of hospital group boards, executive management teams and community health care organisations. It is anticipated that the resources developed for this project can be used and adapted by other boards for their own particular context (see appendices and toolkit).

The project was a collaboration between the Board, the project team and the HSE Quality Improvement Division who provided subject expertise, mentorship and support for the project.

1.1. Context for Initiative

Temple Street Children's University Hospital, is committed to providing a quality patient centred service to children, together with parents, carers and families, that is safe and achieves outcomes that reflect both international and national standards. It strives to embed quality into the core culture of the organisation.

Temple Street Children's University Hospital has established robust and effective governance structures as a mechanism to ensure the hospital is accountable for all of its actions (*Appendix 1*). In collaboration with the Board, the Hospital Executive mapped out specific actions to enhance safety as outlined in the Statement of Intent (Temple Street Children's University Hospital, 2013) and put a focus on creating a culture and environment that places quality and safety at the core of service delivery. As a result, the hospital supports, promotes and embeds a culture of continuous improvement in quality of care, and safeguards high standards of care, by providing an environment in which excellence will flourish.

1.2. Framework for Improving Quality

The Framework for Improving Quality in our Health Service (HSE, 2016) presents six drivers for improving quality. It is the combined force of drivers working together that creates the environment and acceleration for improvement, in the creation of a culture of person centred quality care that continuously improves. The framework underpins the Board's quality improvement project. Introducing a Board of Director's Quality Dashboard focuses on a number of key drivers, including governance for quality, leadership for quality, measurement for quality, and staff engagement.

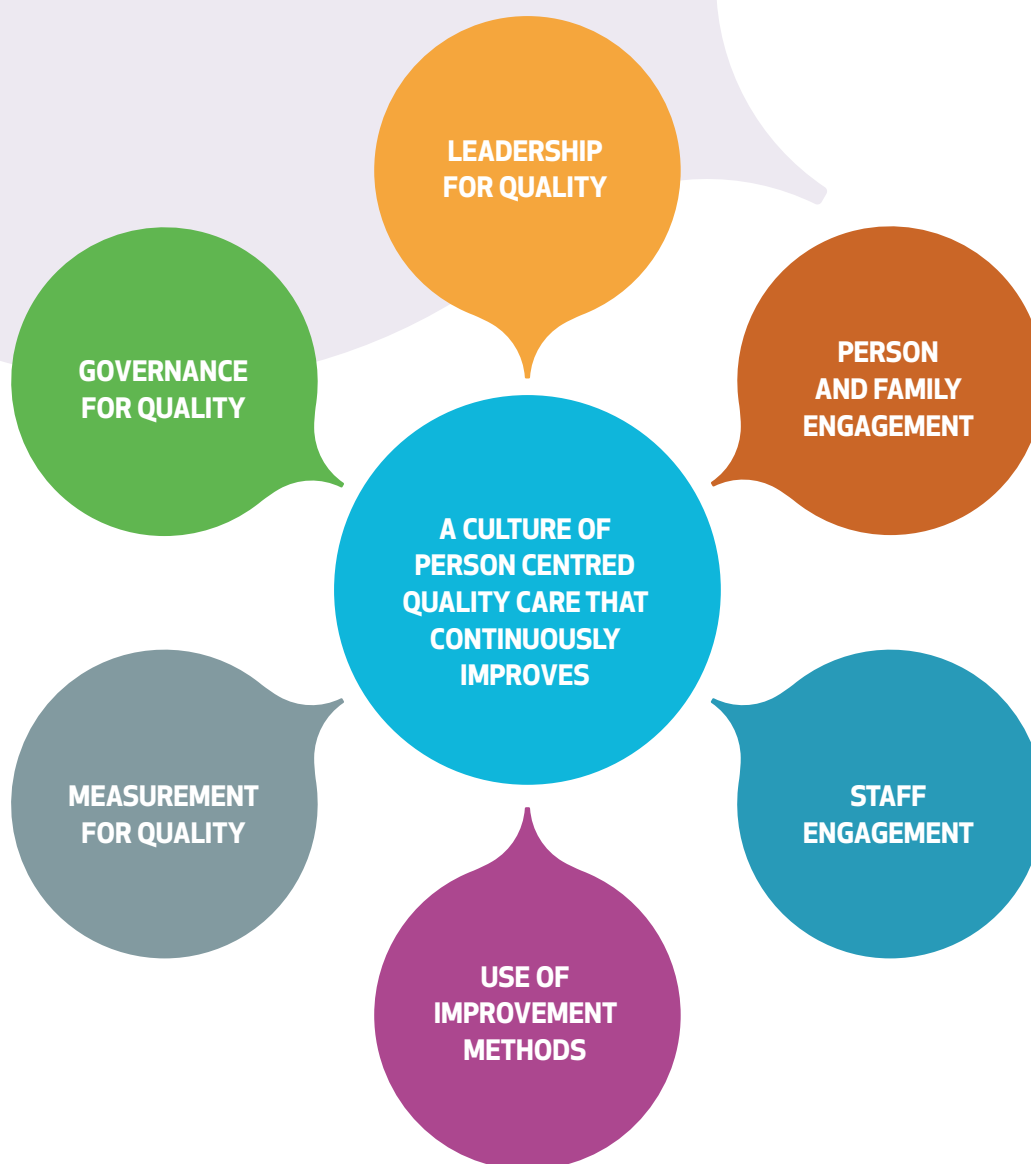


Figure 1: Framework for Improving Quality in Our Health Service (HSE 2016)

This case study presents the journey of the Board of Directors Quality Improvement Project, hereafter known as 'the project', over five stages:

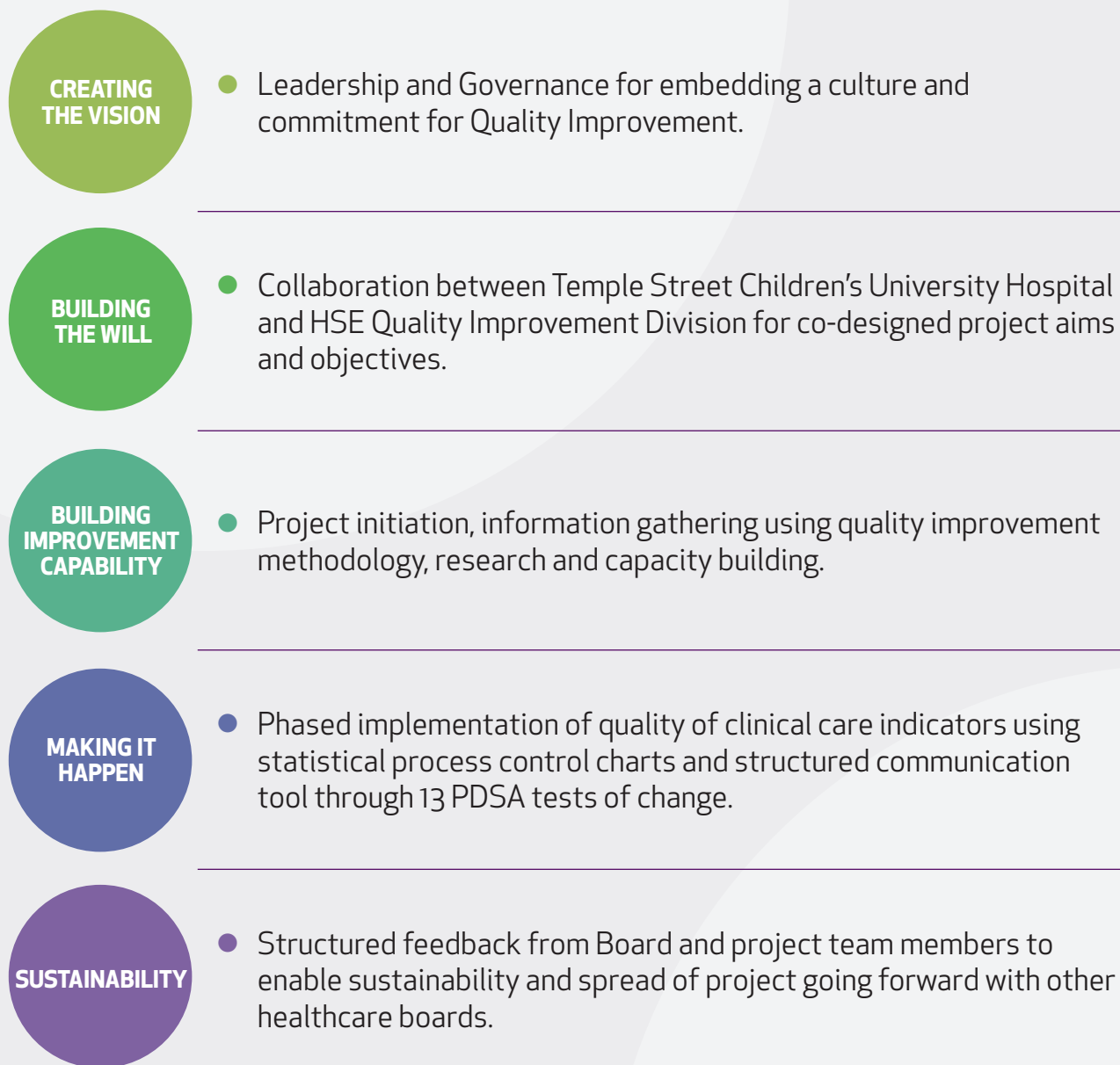


Figure 2: Quality Improvement Project Stages

Adapted from Institute for Health Care Improvement, White Paper (2013)

1.3. Ethical mindfulness

The CEO and the project team deemed the quality improvement project exempt from ethics review as it was not intended for research purposes. At the commencement of the project, Board members were given information on, and agreed to participate in focus groups, monthly surveys and at the end of the project semi-structured interviews. Monthly surveys were completed anonymously and the Quality

Manager was responsible for collection, analysis, reporting and security of data and findings from monthly board survey. The board and project liaison researcher maintained responsibility for collection, analysis, reporting and security of data from observations at the monthly board meetings and interviews with board members and surveys with project team.

2. Creating the vision

“Governance for quality and safety involves having the necessary structures, processes, standards, oversight and accountability in place to ensure that person centred, safe and effective services are delivered”

(HSE, 2017).

A hospital board has the ultimate responsibility to ensure quality and safety in their hospital. In recent years, the Board of Directors of Temple Street Children’s University Hospital have found themselves questioning and searching for an optimum way of assuring themselves that the hospital is run in a safe manner with quality of clinical care at the top of the agenda. There was a strong desire to change the content of discussions at the board meetings from a primary focus on finance, access, risk and the workforce and to move quality and safety of clinical care to the top of the agenda. This has been driven by a number of factors including the international focus on the positive impact on mortality in hospitals where boards prioritise quality and safety (Austin et al., 2017; Jones et al., 2017; Pronovost et al., 2018) as well as stories in the media of significant failings in hospitals in Ireland and in other jurisdictions (Frances, 2013; HIQA, 2012). Such stories identified shortcomings of the board of the hospitals in question, heightening the awareness of the board of Temple Street Children’s University Hospital of their responsibilities, and the need for vigilance in this regard. In addition, the establishment of Hospital Group Boards around the country as well as the establishment of a new Children’s Hospital Board provides an opportunity to prioritise quality from the start. A growing evidence base demonstrates the impact boards can have on quality and safety. Traditionally boards in healthcare have focussed more on finance, access and human resources according to Pronovost et al., 2018.

“if healthcare is to improve it will need to ensure the board takes a more systematic and disciplined approach to ensuring quality and patient safety”

(Pronovost et al., 2018).

Prior to the project the Board received a balanced scorecard which reports key performance data on access, efficiency, human resources and finance on a monthly basis using a Red Amber Green (RAG) speedometer and line chart. These measures are typically based on point in time data and do not facilitate observation of data trends and variation within the data over time. On a quarterly basis three quality indicators are included on the balanced scorecard: (i) percentage complaints dealt within 30 working days; (ii) number of deaths within the hospital (with or without post mortem); and (iii) percentage compliance with hand hygiene audits. The current focus is on reaching a target and does not support the use of information or data for improvement. It is therefore difficult to identify important issues, for example the trend over time, if variation is expected or special cause, or assessment of progress of changes within the system. Furthermore, the recent publications (Anhøj J. Hellesøe A-MB. 2016, and Mountford J., Wakefield D. 2017) have questioned the value of RAG systems noting that

“their use has been over extended beyond limitations and perhaps a lack of awareness of the limitations”

(Mountford, Wakefield 2017).

This project provided an opportunity to rebalance the Boards of Directors focus to quality of clinical care as well as developing a Board of Directors' Quality Dashboard and an improved narrative around the indicators. For this project the definition of quality of clinical care is

"clinical care that is person centred, effective, safe, and results in better health and well-being"

(HIQA, 2012).

In June 2015, the Board on Board with Quality of Clinical Care Case Study Report by the Mater Misericordiae University Hospital and HSE Quality Improvement Division was published and launched. The event was attended by the Chair of the Board of Directors of Temple Street Children's University Hospital and the CEO. This provided the impetus for the Board to expand on this work. After this launch and in response to an invitation from the National Director of the Quality Improvement Division seeking expressions of interest for a similar collaboration, the HSE Lead for Governance for Quality was invited to present to the Board in October 2015. Following this, the Board asked the CEO to explore the feasibility of a 'board on board' project in Temple Street Children's University Hospital.

A planning meeting took place between members of the HSE Quality Improvement Division, the CEO and the Quality Manager of Temple Street Children's University Hospital in January 2016, where initial aims of the quality improvement project were proposed and the development of the project charter was initiated. The final project charter was approved by the Board in May 2016 (Appendix 4). The project sponsors are the Chair of the Board of Directors Temple Street Children's University Hospital, the CEO of Temple Street Children's University Hospital and the HSE National Director Quality Improvement.

2.1. Project Aim

The overarching aim¹ was that the Board would approve and discuss eight quality of clinical care indicators over the course of the project. These indicators were initially identified and prioritised during a focus group held with the Board at the start of the project and which now form part of the monthly

Board of Directors' Quality Dashboard (see Resource 2 for the Checklist for Prioritising Measures of Quality of Care). At this focus group the Board members present identified statistical process control charts as the preferred format for the display of the data also. A structured communication tool, adapted from ISBAR was developed, the BAR² tool, and presented as a method of summarising succinctly the information related to each indicator.

The planned outcome was that quality of clinical care indicators would have priority, be discussed, assessed and where appropriate recommendations made and actions taken and reported back to the Board.

2.2. Project Scope

A project charter was presented to the Board in March 2016 (Appendix 4). By accepting to implement the project charter the Board set out to identify, agree, understand and use a core suite of quality of clinical care indicators across the four domains of quality which are person centred care, safe care, effective care and better health and wellbeing (HIQA 2012), with the indicators having priority on the agenda, being discussed and where appropriate, acted on at every board meeting.

The following were identified as outside of the scope of the project:

- Quality indicators where information is not readily available within current hospital systems.
- Non-clinical indicators e.g. health and safety.
- The development of a comprehensive CEO/ executive score card.

The aim of this project is that the Board will discuss, assess and make recommendations on clinical care indicator information by October 2017.

¹ Initially the aim was to complete the project by March 2017. This was extended to June 2017 and further to October 2017 to allow sufficient time to develop the methodology to define, collect, validate and present the data in statistical process control charts.

² BAR (Background, Assessment, Recommendation)

3. Building the will

By undertaking this project, the Board, leading by example, supports and fosters a culture of continual learning and improvement. It is imperative to have organisational buy in and ownership of the project to embed a culture of and commitment to quality improvement.

A number of actions contributed to the preparation for this project and moved the process forward:

- A Masterclass “Launch and Learn” to share information about the Mater Misericordiae University Hospital ‘Board on Board’ project was attended by the chair of the Board and CEO of Temple Street Children’s University Hospital, June 2015.
- The HSE National Director Quality Improvement wrote to all healthcare boards circulating a copy of the report on the Mater Misericordiae University Hospital project following the launch.
- The HSE Quality Improvement Division Lead Governance for Quality presented on the ‘Board on Board’ project to the Temple Street Children’s University Hospital board.
- Planning meetings were held between HSE Quality Improvement Division staff, CEO and the Quality Manager at Temple Street Children’s University Hospital.
- A draft project charter was presented to the Board for approval and acceptance.
- Meetings between Quality Managers of Temple Street Children’s University Hospital and Mater Misericordiae University Hospital to share learning.

The Temple Street Children’s University Hospital project benefitted from a sharing of personnel common to both boards; the Company Secretary, and one board member. Such sharing contributed to continuity of learning on the project. In particular, the shared board member brought her learning from Mater Misericordiae University Hospital project to Temple Street Children’s University Hospital board, was very insightful and could reassure the other board members.

Temple Street Children’s University Hospital dedicates time to quality improvement and encourages and supports the development of quality improvement capacity and capability. Staff members attended two master classes on measurement for improvement given by international expert Lloyd Provost in Dublin in 2015 and 2016. The learning from these master classes as well as the staff training in quality improvement methodology based on the Model for Improvement adapted by Institute for Healthcare Improvement, informed the approach.

“Stay with it when times get tough, it will be worth it. This is to improve the quality and safety for children”

Board Member

3.1. Making the case for change

The initial focus on 'Getting Boards on Board' started with the work of James Conway (2008) who led board interventions in the USA. He concludes that there are six actions a board can undertake to improve quality and reduce harm. These are summarised as follows:

1. **Setting an aim, publicly committing to reducing harm and achieving measurable quality improvement.**
2. **Placing quality of care information including data and the patient story at the top of the agenda.**
3. **Monitoring system level measures of quality of clinical care grounded in transparency.**
4. **Changing the culture of the organisation to meet quality improvement needs.**
5. **Ensuring appropriate learning is delivered from the board down.**
6. **Establishing executive accountability to deliver on improvement targets.**

Every member of the Board needs sufficient information at a high level to be confident that hospital services are run well, but not so much information that it becomes difficult to understand or tell what is important (Rowell et al., 2006). Top tips for data for NHS Scotland Boards were recently developed to guide board members approach to quality improvement (*Resource 1*). There is national and international evidence to show that there is scope for improvement in capacity and capability in quality improvement at every level of care (HIQA, 2012a, Frances 2013, Mannion et al., 2016, Tsai et al., 2015).

The project and the selection of quality of clinical care indicators were also informed by world leaders in the field. Cincinnati Children's Hospital in the USA began its improvement journey almost 20 years ago. It is now widely recognised as one of the world's safest and highest performing hospitals; and credited with not just improving its own outcomes, but helping other children's hospitals around the USA in their attempts to reduce harm and increase the quality of care they deliver.

Although a long and complex journey, their leaders can point to a number of key drivers which accounted for their success:

- **Leadership from board and executive level.**
- **Ambitious goals, striving to reduce rates of preventable harm dramatically.**
- **Transparency of data and display of data over time.**
- **A culture of continual improvement and resourcing the skills and expertise to drive improvement.**
- **Meaningful patient engagement.**

Evidence to demonstrate the effectiveness of the above approach is published both online and in peer reviewed journals (Brady et al., 2014).

Great Ormond Street Hospital in the UK, widely acknowledged to be one of the leading children's hospitals in the world, offers similar lessons. A key driver in their strategy is the availability of timely accurate, actionable data. (Great Ormond Street Hospital, 2017)

Similarly, The Hospital for Sick Children (SickKids) in Toronto, Canada, in its latest strategic plan states "Our improvement efforts will combine the application of improvement science with capacity building through learning, and the provision of evidence-based tools and processes."

Schultz (1994) defined three fundamental activities that form the foundation of Continuous Quality Improvement:

1. **Listening to the voice of the customer.**
2. **Listening to the voice of the process.**
3. **Using statistical process control methods (using data to make decisions).**

Advocate Healthcare, a large integrated healthcare system based in Chicago IL, USA, that includes ten acute hospitals, has incorporated measurement of data for improvement into all levels of the organisation, based on the following measurement philosophy statement;

“Responsible leadership demands that we know our data better than anyone else. It further requires that we have processes in place to accurately and consistently obtain a balanced set of measures that monitor clinical outcomes, functional status, customer satisfaction, process effectiveness and resource utilisation. Finally, we must use data to develop improvement strategies and then take action to make these strategies a reality.”

(Lloyd, 2004)

3.2. Assessing the Board of Directors' needs

The Board receive a balanced scorecard every month, which provides information on 18 measures. In addition, three quality measures are included in the balanced scorecard on a quarterly basis (Figure 3):

In order for the project team to better understand the Board of Directors' requirements and their understanding of quality of clinical care indicators the project team collected some baseline data from Board members. A paper based survey was designed to capture information on the Board of Directors' understanding of and satisfaction with quality indicators. A total of 15 surveys were issued and 8 responses were received, a 53% response rate (Appendix 7). The survey identified three important issues for the Board, i) training needs in relation to measurement and medical terminology, ii) the report format (how it looks) and iii) report content (what is discussed).

A board and project liaison researcher was invited to join the project group and to attend board meetings where she could observe and report back to the project group on the Boards' discussion about the Quality Dashboard and record the time in the meeting dedicated to discussions under the Quality heading. She was subsequently engaged to work with a sub group of the project team on the preparation of this Case Study and Toolkit.

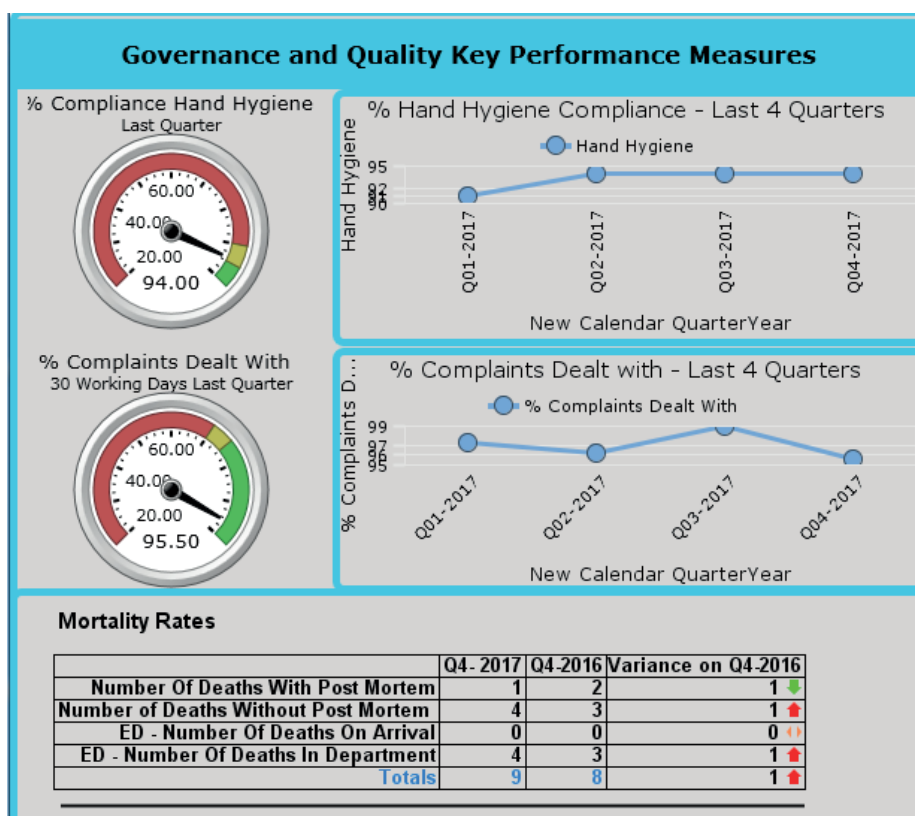


Figure 3: Extract from TSCUH Balanced Scorecard

3.3. Focus Group: Listening to voice of Directors, Executive and Corporate Managers

A focus group was held (July 2016) with the Board and staff from the executive and senior management to gather thoughts, feedback and suggestions of participants in relation to the project and to explore any further emerging themes (Appendix 9). In particular, the project team wanted to discover the Board members and other participants' thoughts on the quality of the information provided:

- the information provided in papers at board meetings on the quality of clinical care provided in the hospital.
- how the quality of clinical care information is presented and discussed.
- the educational needs of participants on quality of clinical care indicators.
- identifying areas for improvement.

The meeting was attended by 22 people including eight members of the Board (four non-executive directors, four executive directors) as well as members of the hospital executive management, quality and safety executive and the project team.

Three key agenda items were explored:

1. What keeps you awake at night?
2. What quality indicators are important? (with reference to current score card)
3. What would an ideal Board of Directors report look like?

The responses to these key agenda items are summarised in Table 1.

Table 1: Summary of focus group outcomes and proposed change package (interventions)

What keeps you awake at night?	What quality indicators are important?	Actions
• An avoidable death • Risk of what has not been done, that senior staff not aware of • What the staff on the ground know, that the Board don't • Staffing levels • Misdiagnosis/poor outcomes • Institutional blindness • Staff Safety and Wellbeing • Effective use of data to ensure quality • Lack of awareness vs. normalisation of risk • Waiting list validations (known vs. unknown) • Safety of transfer of operations to New Children's Hospital • Staff multitasking/boundaries/skills mix – competencies	• Hand Hygiene • Complaints – need thematic/categories • Health Care Associated Infections • Device Related Infection Rates • Mortality & Morbidity • Voice of the patient/parent • No. of days Theatre/PICU closes due to staffing issues • Matters of concern: capturing the voice/concerns of the staff	• Present draft report with two indicators to Board using proposed updated report format (adapted ISBAR) each month for review and discussion. • Following feedback from Board indicators will be modified to reflect feedback and recommendations.
Board Learning & Development Requirements	What ideal report would look like?	Actions
• Workshop on quality measurement and use of indicators • Booklet/resources on how to use indicator information • Quality & Safety Walk-round with staff • Workshop on Quality of Clinical Care measures • Learning from another Board	• Legible, short, concise with narrative • Revised set of Indicators • Monthly Reports • Presentation – graph vs. speedometer • Narrative/analysis attached using ISBAR or SHIFT • Flag variations • Trends indicated • Trigger Points, when something is critical we know to react	• Redesign of score card to include mean, upper, lower control limits • Measurements focused on Clinical Care outcomes (2 per domain of quality) • Analytical narrative using adapted communication tool (ISBAR)



Figure 4: Source: HSE (2016) Framework for Improving Quality in our Health Service

The results of this focus group were used to inform decisions on the selection of quality of clinical care indicators to be presented and reviewed by the Board on a monthly basis presented in appropriate statistical process control (SPC) charts. Each quality of clinical care indicator was chosen based on quality and safety measures, identified by the Board as being important to them e.g. healthcare associated infections, voice of the service user. It was agreed that the selected quality of clinical care indicators should be focused on outcome measures where possible. The identified indicators were tested for validity, agreed with the Board and introduced to the dashboard on a phased basis. The quality measures selected reflect three of the four domains of quality (*Figure 4*) as defined by the National Standards for Safer Better Healthcare (HIQA 2012b).

The project group was responsible for producing the quality of clinical care indicators for the Board in light of the identified needs and the observations at each of the board meetings. Quality of clinical care indicators were proposed and developed and presented to the Board over the duration of the project, of which six were accepted for inclusion in the Board of Directors' Quality Dashboard. Metadata sheets were developed by Temple Street Children's University Hospital

Business Intelligence Unit in conjunction with the HSE Quality Improvement Division, explicitly detailing the definition of the measure, the methodology and data source. It is intended that these quality of clinical care indicators form part of the monthly reporting to the Board going forward.

A structured communication tool based on ISBAR (Identify, Situation, Background, Assessment, Recommendation) was developed and presented as a method of summarising succinctly the information related to each quality of clinical care indicator. This report was used to guide the Board discussions, assessments and to assist them in making recommendations in response to the information provided. Following a number of PDSA cycles and feedback from the Board, specifically around repetition of information presented, the report was redesigned to include both the measurement chart and written description on the same page focussing on the "what", "why" and "so what". This was re-structured as a Background, Assessment Recommendation (BAR) report (*Resource 3*).

Tests of change were completed using Plan Do Study Act (PDSA) cycles as follows:

- Each month up to two, quality of clinical care indicators were introduced and presented to the Board.
- The monthly discussion of the Board of Directors' Quality Dashboard, assessment and recommendations were structured around the indicator using the revised communication tool hereafter called BAR (Background, Assessment, Recommendation).
- Tests of change were undertaken at each board meeting (monthly PDSA cycles).
- Feedback from board members was gathered via monthly surveys.

3.4. Change to Board Meetings

The project has resulted in a number of changes at board meetings. The Board of Directors' Quality Dashboard and BAR report along with an introductory letter is included each month as part of the board papers. The agenda for the board meeting was restructured to place quality and safety as the first item on the agenda. Items pertinent to the issue of quality and safety are grouped under the heading 'Quality' on the agenda. The patient story is used to introduce the quality agenda. Items included under the heading 'Quality Assurance and Quality Improvement' on the agenda include:

- Patient Story (linked to indicator information).
- Board of Directors' Quality Dashboard.
- Director of Nursing report.
- Clinical Directors' report.
- Quarterly Medical report.
- Quality and Safety Board report.

4. Building improvement capability

4.1. Project sponsors

A project plan was developed and sponsored by the Temple Street Children's University Hospital Chair of the Board of Directors, the CEO and the HSE National Director Quality Improvement. A project team, led by the CEO, was formed. Members of the HSE Quality Improvement Division (QID) were invited to support the project and become members of the project team. QID had previously collaborated with the Board of Directors of the Mater Misericordiae University Hospital for their Board on Board Quality Improvement Project. The learning from that project was shared with the Temple Street Children's University Hospital team and the Mater Misericordiae University Hospital Board on Board toolkit became a reference point for this Board on Board project. Staff members from Our Lady's Children's Hospital Crumlin were invited to join the team by the CEO to share the learning with a view to future collaboration.

4.2. Establishment of Board Project Team

The Project Team was selected to meet the competency requirements for the successful delivery of the project aims and objectives (Table 2 and Appendix 3). We identified project team members based on their role and function within the organisation, and their knowledge of specific data on Operations, Quality Risk and Patient Safety as pertaining to the project requirements.

Two non-executive directors with a clinical background were nominated to the project team to guide the team on the thinking of board members as we proceeded through the project and to act as an interface between board members and the Project Team.

Job Title/Function: Who	Role in Project: Why
Project Sponsor(s)	Leader in attendance at board meetings (Chair of Board) and CEO/or other board members
Project Lead	Senior Executive Manager
Project coordinator	Person who is overall project manager
Board Members	From both clinical and non-clinical background to guide the project group on how the board members from different backgrounds will use the information presented in the dashboard
Clinical Lead for Quality	Expertise from Medical Perspective
Business Intelligence Unit Manager	Data management, interpretation, and production
Group Director of Quality and Patient Safety	To provide a link between the project team, the hospital and the Children's Hospital Group
Head of Operations	Data Owner
Nurse Quality, Practice and Research Coordinator	Data Owner
Risk and Legal Services Manager	Data Owner
Project Administrator	Agenda preparation, room booking, meeting recorder, minutes, documentation, and administration
Board and Project Liaison Researcher	To provide independent external interface for feedback from board to project team
HSE Quality Improvement Division, Measurement for Improvement	Expertise and experience: Measurement for Improvement
HSE – Quality Improvement Division, Governance for Quality	Expertise and experience: Governance for Quality

Table 2: Project Team Criteria (detailed membership listed in Appendix 3)

4.3. Project Charter

The project charter (Appendix 4) outlines the problem to be addressed and the reason for the effort. The project was designed to improve and focus the discussions of the Board on the topics of quality and safety. It builds on the work started by the balanced score card on processes and also provides a focus on outcome measures. It was anticipated that this would redress a perceived imbalance in the Board discussions and shift the emphasis from finance to quality and safety. By undertaking a Board on Board quality improvement project, the Board leads by example and embeds a culture and commitment to quality improvement. This project provided an opportunity for quality of clinical care and quality improvement to have a high priority and allow the Board to individually and collectively act to hold the hospital accountable on the quality of clinical care delivered.

During the project the following measurements were used to assess the work of the project:

- **Board members self-assessed their confidence in understanding quality of clinical care indicators.** The aim was that this would increase by a minimum of one point on a ten-point Likert scale as a result of this project.
- **The percentage of board time allocated to quality and safety discussion was recorded and monitored at each meeting by the external board and project liaison researcher.** Feedback from the board and project liaison researcher was provided to the project team after each board meeting, which informed changes to the Board of Directors' Quality Dashboard format, structure and narrative provided. This reflected the projects iterative co-designed approach.
- **The number of recommendations for actions made by the Board as a result of the discussion of the Board of Directors' Quality Dashboard recorded in the minutes and reported on at subsequent meeting.**

5. Making it happen

5.1. Quality Improvement Methodology

The quality improvement methodology used was based on the Model for Improvement (Langley, Moen et al, 2009), using small tests of change/Plan Do Study Act Cycles. The Model for Improvement is a powerful tool for accelerating improvement. Use of the Model for Improvement required a number of logical steps which were followed.

The first step in using the Model for Improvement is to establish an aim to identify what we are trying to accomplish. Secondly, measures are chosen to determine if a change is an improvement, and thirdly changes that may result in an improvement are identified.

Question:

What is a PDSA?

Answer:

- A change or new procedure, process or system to be introduced is developed (Plan).
- Implemented for a specific timeframe on a small scale with a minimal cohort of stakeholders (Do).
- Evaluated (Study).
- Adjusted (Act), with repeated PDSA cycles, until it is fit for purpose and wholesale implementation.

Source: Adapted from Associates in Process Improvement (Langley, Moen et al, 2009)

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

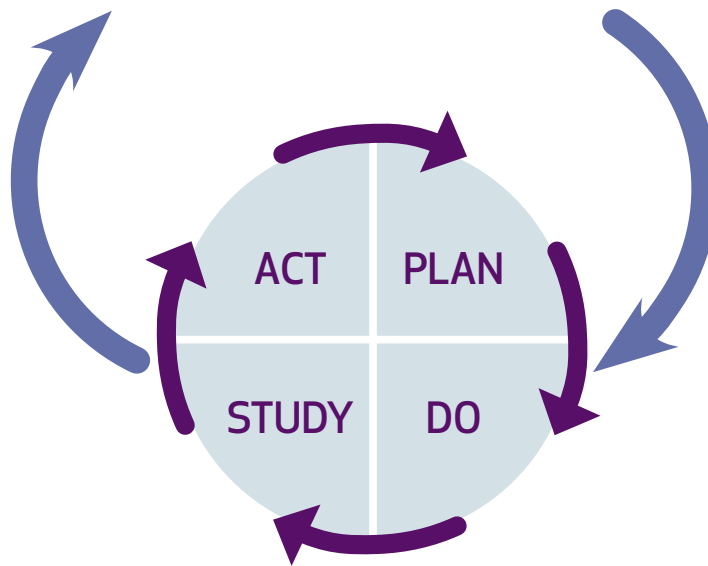


Figure 5: Model for Improvement

Question:

What is a Driver Diagram?

Answer:

It's a Plan on a Page

They usually have three or more levels to include:

- A goal or vision: 'Aim'.
- Primary Drivers: high-level factors that you need to influence in order to achieve the goal i.e. processes, structures and culture.
- Secondary Drivers: components and activities leading to primary drivers.

5.2. Driver diagram

A driver diagram, which is a visual tool used to describe theories of improvement, was developed (read from right to left). In an improvement project a driver diagram is useful to help organise theories and ideas to answer the question, “what change can be made that will result in an improvement?” (*Appendix 5*). Driver diagrams are a type of structured logic chart, which provide a “theory of change” (Provost and Bennett, 2015).

It is recommended that where possible, there are associated measures for each of the secondary drivers identified in a driver diagram. In doing so a driver diagram can provide an overall picture of the improvement project and facilitate tracking progress towards a goal. Therefore, a fourth level, measures of change, is included on the driver diagram for this project.

5.3. Establishing Measures

The project team used quantitative measures to determine if a specific change actually led to an improvement (see *Appendix 6* for project measurement plan). Each month a PDSA cycle was implemented which involved:

1. **Selecting the changes e.g. introducing a new quality of clinical care indicator and adapting the presentation in light of both quantitative and qualitative feedback gained from each iteration.**
2. **Testing the changes.**
3. **Implementing the changes.**
4. **Learning from and acting on the tests of change.**
5. **Finding out if the change resulted in an improvement by measuring board responses via a monthly survey.**

5.4 Selecting the changes (Interventions)

Ideas for change may come from the insights of those who work in the system, from change concepts or other creative thinking techniques, or by borrowing from the experience of others who have successfully improved. International and national experience and guidance for boards informed the identification of the change packages (interventions) to achieve the project aims and objectives.

5.4.1 Plan Do Study Act

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in a real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method adapted for action-oriented learning (see Table 3 for the PDSA cycles of this project).

During the project we measured the Board's understanding, perception and amount of time given to discussing quality of care and collated their qualitative feedback on a monthly basis. The interventions that were introduced using PDSA cycles are outlined in section 5.4.2.

5.4.2 Change packages (interventions) for co-design project

- Develop a Board of Directors' Quality Dashboard and test it over time.
- Develop a Board of Directors written report and test it over time.
- Present and analyse quality indicators using statistical process control methodology.
- Present the written report for consideration by the Board at their monthly meetings.
- Board and project liaison researcher attends the monthly board meetings, observes the reaction of the Board discussions and reports back to the project team for the project life time.
- Provide the Board with an educational session and targeted reading.
- Provide the Board with a cover letter that includes instructions for each month.
- Move quality and safety to the top of the board agenda and make it the first item of the meeting.
- Group all items relating to quality and safety under this agenda item.
- Time the discussion of all items under the quality and safety heading of the agenda.
- Ask a different individual board member (or two) to comment on the Board of Directors' Quality Dashboard each month.
- Include recommendations from the Board in relation to the Quality Dashboard, in board minute action logs which are reviewed at subsequent meetings.

An example of a change in medication safety practice, that was implemented as a result of the project is:

Medication/Good Catches:

The review of the dashboard stimulated a discussion of the Non-Consultant Hospital Doctors (NCHD) prescribing practices. Opportunities for improvements were identified. The Board took a particular interest in supporting NCHD education in this area and the executive reported back on the development of a number of NCHD master classes by pharmacists to be rolled out at each NCHD changeover. The Board continues to monitor this indicator on a monthly basis.

5.5 Statistical Process Control Charts

For the purposes of this project and following discussion at the Board focus group, the use of Statistical Process Control (SPC) charts was agreed for presenting the data, making Temple Street Children's University Hospital the first hospital in Ireland to present the data in this way. The charts selected for use on the Board of Directors' Quality Dashboard are designed to move the Board away from focusing on one point in time to looking at changes and improvements over time. An SPC chart consists of data plotted in order, usually over time (weeks, months etc.). It includes a centre line based on the average of the data. It also includes upper and lower control limits based on statistical calculations (3 sigma deviations from the average).

The control limits are based on the variation in the observed data. The control limits reflect the expected range of variation within the data, and do not reflect the desired range of variation in terms of quality of care. The probability of any data point falling outside of the control limits by chance alone is very small, and is a signal of non-random (special cause) variation. Special cause variation may be due to an improvement or may be due to an unusual event or dis-improvement. For example, special cause variation was identified in the indicator on medication incidents included in the Board of Directors Quality Dashboard as a result of improved recognition and reporting (*Resource 3*). In addition to a data point outside of the control limits, there are four other rules that indicate special cause variation. (*Resource 6: Guidance Notes on Statistical Process Control Charts*).

There are different types of SPC charts depending on the type of data being analysed; however, the interpretation of the charts remains the same. The SPC chart types used in this project are as follows:

- **C Chart:** Used for counts (numbers) of non-conformities, e.g. medication incidents, complaints.
- **U Chart:** Used for counts expressed as a rate, e.g. number of children who coded outside of ICU as a rate per 1,000 bed days.
- **P Chart:** Used for percentage data, e.g. percentage of emergency readmissions within 30 days of discharge.
- **T Chart:** Used for the time between rare events, e.g. days between device related infections.

5.6 Testing the changes: PDSA rapid cycles of change

After testing a change on a small scale, the project team implemented the learning from each test, and refined the changes using rapid PDSA cycles of change (Table 3).

PDSA 1 Understanding Board direction and needs	• Board focus group. Post Focus Group survey with Board provided valuable feedback and an opportunity for Board members to make suggestions on how the quality of clinical care indicator information is provided and discussed at board meetings. • Use of After Action Reflection (AAR) by the project group - validated as a positive addition to methodology. Knowledge gained and change made: • Introduction to the project, driver diagram, data capturing. • Monthly sample Quality Dashboard will be presented in ISBAR report.
PDSA 2 and 3 Board report and communication tool	• ISBAR report (structured communication tool) developed, in order to structure the written report and board discussion of the Board of Directors' Quality Dashboard. Two versions tested (one without Assessment and Recommendation completed; and one with ISBAR fully completed). Change made: • A modified report evolved following Board feedback which included Executive Assessment and Recommendations.
PDSA 4 Test inclusion of first indicators on Dashboard	• 'Medication Incidents Reported'; and 'Number of Complaints Received' over a 12-month period tested. • Under-reporting of medication incidents is a significant problem nationally and internationally. Change made: • Two quality of clinical care indicators introduced to Board for consideration in sample Board of Directors' Quality Dashboard.
PDSA 5 Test inclusion of third indicator on Dashboard	• Third measurement tested, '% Patients in Emergency Department greater than 24 hours'. Knowledge gained and change made: • Measurement withdrawn per Board feedback: this measurement was not considered a useful Board metric as data is not reported in real time.
PDSA 6 Test inclusion of fourth indicator on Dashboard	• 'Overall Score for Patient Experience of Nursing Care'. Change made: • Measurement withdrawn following Board recommendation as this quality of clinical care indicator was already included in Director of Nursing report to the Board.
PDSA 7 Restructure of Board of Directors Meeting Agenda	• Board of Directors meeting agenda was restructured to ensure quality first agenda item for discussion. • Project recorder to record % time spent on quality of clinical care indicator discussion at Board meetings; includes the Patient Story, Board on Board Project, Director of Nursing and Clinical Directors' reports. Changes made: • Board of Directors meeting minutes will record Board recommendations in relation to quality of clinical care indicators. • Quality now driving the Board of Directors' meeting agenda.

PDSA 8 Board of Directors Development Session	- Board of Directors focused development session held in November 2016 to increase understanding of quality of clinical care indicators and agree format for indicator presentation. Attendees included board members, executive and some of project team. Knowledge gained: - Surveys taken before and after the session showed enhanced levels of confidence in interpreting/analysing quality of clinical care indicators in SPC/run charts by Board members.
PDSA 9 Test inclusion of fifth indicator on Dashboard	'% Emergency readmissions (surgical and medical) within 30 days of discharge' tested. - Following temporary suspension from sample Quality Dashboard to validate against HIPE (hospital in-patient enquiry system), the readmission rates are now combined and reported as one measurement in line with an international benchmark. Knowledge gained and change made: - The measurement reported is aligned with the Children's Hospitals Ohio Solutions for Patient Safety definition. Will continue to monitor this indicator for 6-12 months.
PDSA 10 Test inclusion of sixth indicator on Dashboard	- Medication Incidents inclusive of 'Good Catches'. Further review of SPC chart demonstrates the total number of medication incidents with the inclusion of a new chart for 'good catches'. Board recognised increase in reporting as "a good thing" for Patient Safety in TSCUH. Under-reporting of medication incidents is a significant problem nationally and internationally. Knowledge gained: - Promotion of a culture of reporting and shared learning in TSCUH
PDSA 11 Test of Restructured communication report and layout	- Based on board feedback a revised report format was tested which maintains the characteristics of the ISBAR but is presented beside the SPC chart for ease of interpretation. Change made: - Revised report is called BAR (Background, Assessment, Recommendation) report.
PDSA 12 Test inclusion of seventh indicator on Dashboard	'Clinically Significant Device Related Blood Stream Infections' added to the Quality Dashboard. Each data point represents an episode of bloodstream infection linked to an invasive medical device (mainly central venous catheters) and is measured in days between episodes. Change made: - Updated insertion and maintenance care bundles for vascular catheters have been developed, and are being implemented as part of a wider improvement programme around vascular access devices.
PDSA 13 Test inclusion of eight indicator on Dashboard	'Emergency Codes Outside the Intensive Care Unit' added to the dashboard. This is a measurement based on international measurement for Paediatric care as presented by Cincinnati Children's Hospital. Knowledge gained and change made: - The measurement reported is aligned with the Cincinnati Children's Hospital definition of emergency codes outside the ICU. Will continue to monitor this indicator.

Table 3: PDSA Rapid Cycles of Change

5.7 Measuring the Changes

The following measures were used by the project team to determine if a change was an improvement:

- Percentage of board time allocated to quality and safety issues as observed at the board meeting.
- Board members self-assessed confidence in understanding quality of clinical care indicators (the aim was to increase self-assessed confidence in understanding by minimum of one point on a ten-point Likert scale).
- Board members rating of the usefulness of quality of clinical care indicators in understanding how the hospital is performing over time (aim to increase by minimum of one point on a ten-point Likert scale).
- Board members self-assessed adequacy of the time given to assess and discuss quality of clinical care indicators during the board meeting (aim to increase by minimum of one point on a ten-point Likert scale).
- Board members rating of the usefulness of board tools (adapted ISBAR, subsequently BAR) in facilitating discussion of quality of clinical care indicators.
- Number of recommendations for actions made by the Board, recorded in the minutes and reported on at subsequent meeting.

These measures are presented on the following run charts:

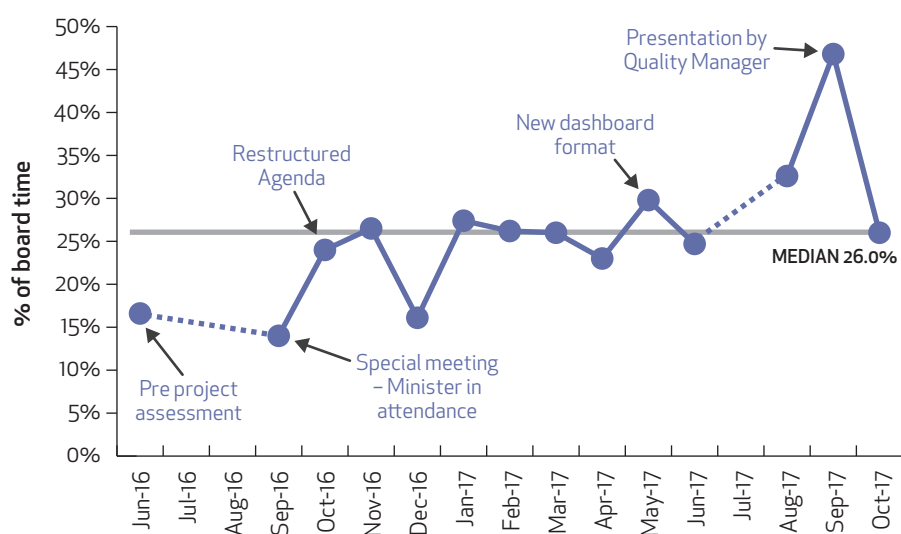


Figure 6: Percentage of board time allocated to the Board of Directors' Quality Dashboard and Patient Story

Figure 6 shows the percentage of board time allocated to discussion of the Board of Directors' Quality Dashboard and the patient story. At the June 2016 meeting during which the pre project assessment was carried out, 17% of the board time was spent on this issue. The following board meeting in September 2016 was a special meeting focussed on the new children's hospital with the Minister for Health in attendance. The percentage of board time dedicated to this project was therefore lower during this board meeting. The percentage of board time spent on the dashboard and the patient story increased with the introduction of the restructured agenda in November 2016, and with the new dashboard format introduced in May 2017. In September 2017 the Quality Manager presented to the Board on the project which resulted in almost half of the meeting time dedicated to the project.

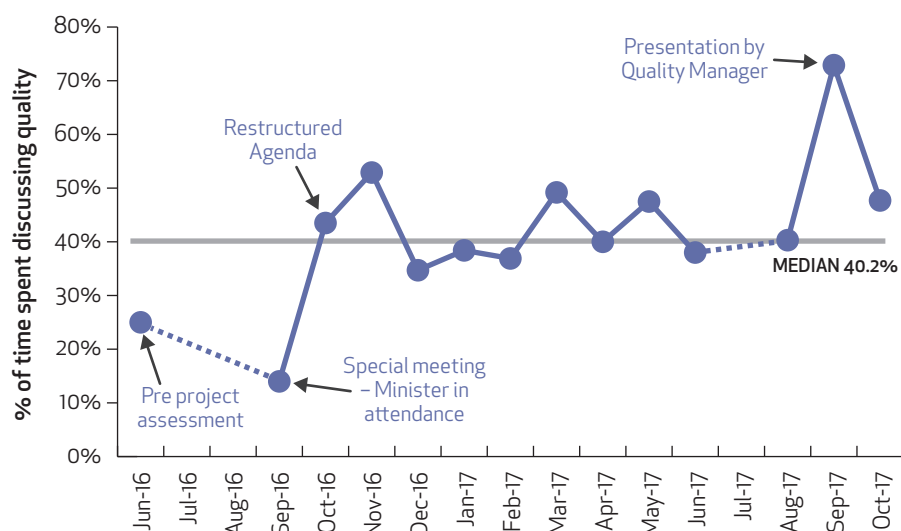


Figure 7: Total percentage of board time allocated to quality and safety issues as observed at the board meeting

In addition to discussions on the Board of Directors Quality Dashboard and the patient story at board meetings, further discussions on quality issues often take place during other agenda items. *Figure 7* shows the total percentage of board time allocated to quality and safety issues as observed at board meetings. Since the beginning of this project the median percentage of board time dedicated to quality and safety issues has been 40%.

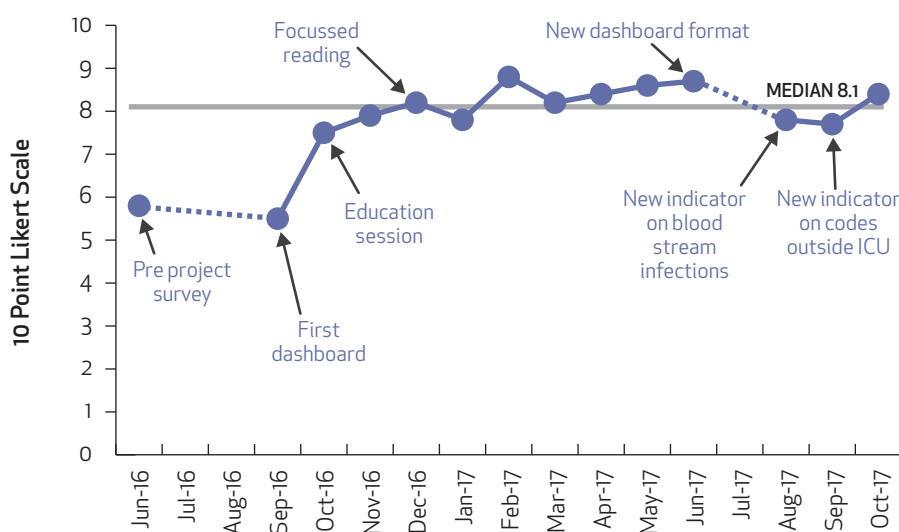


Figure 8: Board members self-assessed confidence in understanding information provided on quality indicators

Figure 8 shows the board members self-assessed confidence in understanding the information provided on the quality indicators. This was measured on a ten point Likert scale. At the beginning of the project the average board member's rating was 5.8. This decreased slightly with the introduction of the first Board of Directors' Quality Dashboard in September 2016. It also decreased with the introduction of new indicators related to device related bloodstream infections and codes outside of ICU as board members were unfamiliar with these indicators. Board members self-assessed confidence increased following the education session and provision of focussed reading materials. Confidence also increased with the presentation of the updated dashboard format in June 2017. Overall confidence increased by more than two points on the ten point Likert scale.

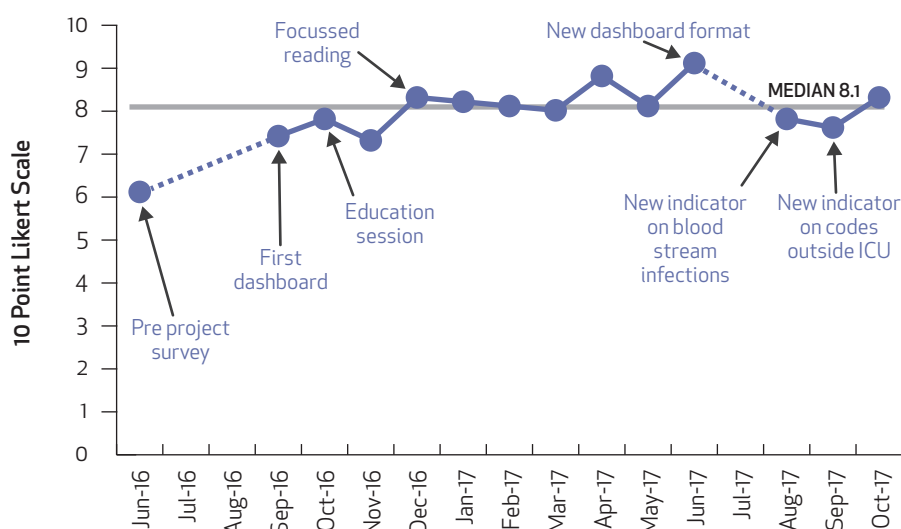


Figure 9: Board members self-assessment of the usefulness of the measures in understanding how the hospital is performing on quality

Figure 9 shows Board members self-assessment of the usefulness of the measures in understanding how the hospital is performing on quality using a ten point Likert scale. At the commencement of the project, the average Board members rating of this measurement was 6.0 and over time this increased to a median score of 8.1. This was aided by an improved dashboard format in June 2017 as well as improved narrative when new indicators were introduced, using 'why,' 'what' and 'so what' headings to explain the importance of the measure chosen for the organisation.

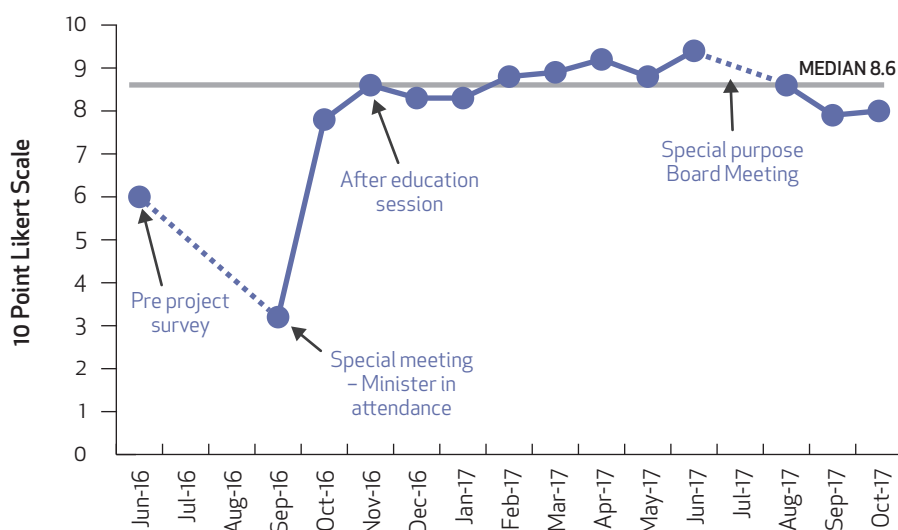


Figure 10: Adequacy of time for discussion on quality as assessed by board members

Figure 10 shows the adequacy of time for discussion on quality as assessed by board members. This measurement indicated an increase of over two points on a ten point Likert scale with a median score of 8.6. This improvement coincided with the introduction of the restructured Board meeting agenda in October 2016. As a consequence there was an increase in time spent on discussion of quality (see figures 6 and 7).

5.8 Board engagement with the project

An essential component of the Board on Board project was to promote and facilitate the Boards' engagement with and support for not only the project but also the type, quality and usefulness of the measures presented from a governance for quality perspective.

The monthly board survey provided quantitative data on the Boards' understanding of the measures and their usefulness. Broad engagement with the project and with the measures presented was evaluated by recording the time spent on discussing quality during the meeting, and through identifying the number of board recommendations and executive recommendations endorsed, as recorded in the Board minutes. A key shift for the Board was the move from reviewing three quality metrics quarterly on the balanced score card to monthly discussions on quality of clinical care indicators and making specific Board recommendations based on these discussions.

During the project, September 2016 through to October 2017, nine quality of clinical care indicators were presented to the Board of which six were approved for inclusion on the Board of Directors' Quality Dashboard. As a result of the introduction of this dashboard and BAR report, 27 new recommendations were made by the Board while they

also endorsed 58 of the Executive's recommendations. All recommendations have been analysed and prioritised. Implementation will be reviewed within the hospitals quality and safety governance structures and progress reported upwards to Board.

Core recommendations identified across all measures can be summarised as follows:

- Inclusion of a patient story by CEO in narrative around complaints reported.
- Identification of paediatric specific benchmarks either nationally or internationally where appropriate.
- The Executive to identify specific measures to address medication prescribing errors.
- Record and graph "good catches" as well as medication incidents.
- Serious incidents be addressed and outcome of reviews to be notified to Board.
- The Executive to ensure that staff are supported at ward level in managing high risk patients outside ICU.

As a result of the Board reviewing complaints overall and specifically a patient story linked to the complaints reported, the following changes were made to improve the patient experience in the Phlebotomy department as outlined below.

Complaints Received:

A complaint regarding the phlebotomy service was received. To gain further insight it was agreed that board members, both executive and non-executive, would visit the phlebotomy area for a walk-round and obtain further information from the Executive. Patient flow was identified as an issue and in particular the current GP walk-in service, which resulted in patients experiencing long delays in phlebotomy waiting times and overcrowding in the out-patients department.

Feedback was given at a subsequent board meeting and the following actions were taken:

- Review of staffing levels.
- Updates to the website including a swift queue online booking system.
- Installation of a child friendly delivery chute for the timely delivery of samples. Children can watch their samples flying along the chute and into the laboratory.

6. Sustaining the project and sharing the learning

This project was the first step in implementing quality improvement at board level. To ensure active engagement with all participants a co-design methodology was employed and an iterative process that responded to identified needs and concerns was followed. Feedback was gathered from board members and the project team and is reported below. Learning from this project was shared nationally through both oral and poster presentations at the 2nd National Patient Safety Office Conference in Dublin Castle (October 2017) and internationally at Forum for Quality and Safety in Healthcare in Amsterdam (May 2018).

6.1 Board Feedback on Project

One to one interviews were conducted with the members of the Board to explore the benefits or other consequences from the introduction of the Board of Directors' Quality Dashboard, which tasks the Board with identifying and approving agreed quality of clinical care measurements for discussion at their monthly board meeting. This in turn will allow them to address the balance in focus of their meetings to ensure adequate time is given to quality and safety issues. A secondary aim is to improve the narrative around the discussions of quality through the use of a communication tool, which provides narrative to accompany the SPC charts. The Board of Directors' Quality Dashboard is designed to guide and support the Board and build their confidence to fulfil their duties in actively seeking assurance on quality and safety of clinical care outcomes provided to the Board on a monthly basis. It aims to provide sufficient information at a high level to give the Board confidence that hospital services are run well in an understandable way. Individual semi structured interviews were conducted with board members between June and September 2017 to ascertain their perceptions on the project and its impact on them as board members, on the board meetings and on the improvement in their understanding of quality and safety of clinical care (Appendix 10). All interviews were recorded and transcribed. Analysis was conducted and the following themes emerged after coding as described below:

"The Board of Directors' Quality Dashboard has impacted hugely on the board discussions in a positive manner. Put quality and safety to the forefront. Allowed us join the dots."

Board Member

6.1.1 Impact on Board Meetings

The responses from board members indicate their need to know and understand why they are doing this project. Realistic expectations about what this project will achieve and how the Board of Directors' Quality Dashboard fits into the other information they receive should be outlined clearly at the beginning of the project. It is important to inform the Board undertaking such a project that a Quality Dashboard will help expand their understanding of quality and safety. The project team can use the opportunity to demonstrate for the Board that quality and safety of clinical care permeates every single aspect of hospital life and that the Quality Dashboard will capture some of this via the four domains of quality. This in turn will allow them recognise the "So what?", a question that was often repeated by board members during this project.

"It does seem to be a more quality driven board meeting now."

Board Member

The change in discussion among the Board as they moved from discussing the presentation of information, to in-depth discussion of the quality and safety issues presented via the dashboard demonstrates that the Board has made a successful change. There is recognition among board members of the importance of quality of care, and the Board gained an understanding about the difference between process measures and outcome measures, and the role the Board plays in quality of clinical care. However, as part of the learning from this project we would suggest that those engaging in future similar projects ensure that there is awareness among the board members that quality and safety of clinical care is an outcome while finance, access and people are enablers.

"What I would like to think is that the Executive Management Committee feels they have a much more positive and active response from the Board to the issues raised by them."

Board Member

The introduction of the Board of Directors' Quality Dashboard has had a major impact on the agenda of the board meeting whereby it is acknowledged by respondents that the agenda has changed now as a result of the project. The **focus of meetings has shifted from finance to quality**:

"...the agenda has changed. In previous years the big focus was on finance."

Board Member

"I think probably it put quality to the forefront. More discussion – a lot of concern expressed that a lot of board meeting had been taken up with finance."

Board Member

According to respondents the introduction of the Board of Directors' Quality Dashboard **project has changed the discussions around the board room table**:

"It has greatly improved the quality of the discussion, around quality and safety of clinical care. My impression is that I think the majority of board members if not all, have gained additional skills and expertise and can comment and ask questions in relation to clinical quality and safety."

Board Member

"More questioning and understanding – much more conversation about quality at board level. It allows for more discussion on what is a quality measure – why and what data means, and what the hospital is doing about it to improve quality of service, joined up the dots."

Board Member

Board members are also conscious of how the project may impact on the Executive and staff of the hospital. There were questions from board members about how the information and feedback from the board discussion on the quality and safety indicators is being fed back to staff and how the staff responses to this feedback are being monitored.

Overall, **board members want their feedback to support staff and improve on the good work that is already being done in the hospital**:

"When the Board talks about quality, is there a two-way feed? Does the discussion on quality take place at the board level and end there? Is quality evidence based at a local level - is it embedded within the hospital culture not just at board level? Is it filtering in both directions, up and down through staff?"

Board Member

"Feedback down to staff, still needs to be worked on - no formal mechanism in place yet."

Board Member

Evidence in terms of triangulation of information by the **Board of Directors actively seeking their own assurances** can be found in the statement below:

"I think it is beginning to address our needs and it is going a good ways towards it but I wouldn't like to see us depending on this exclusively as satisfying our quality requirement."

Board Member

There is also recognition of the **many factors that contribute to the success of such a project, in particular the participants**. The role of both the chairperson of the Board of Directors and the CEO were highlighted for their contribution in making the project a success:

"...Hugely impressed with manner in which the Chairman of the Board of Directors, chairs and listens to everyone's contribution – project succeeded because of this. This contributed to the success."

Board Member

"...fantastic CEO is the driving force behind a good change of an innovative positive nature"

Board Member

"CEO has been very brave, so much has been learned in the last several months of the project. Fantastic opportunities and huge potential for learning from this project."

Board Member

The project is supported by a number of staff from the HSE's Quality Improvement Division who are also acknowledged as being a great help to the project:

"...very helpful to the project team particular their experience and expertise."

Board Member

"...wouldn't be able to do it without them. We needed the nurturing they could give."

Board Member

"Having the expertise of the QID was critical."

Board Member

It was the Boards' decision to run with statistical process charts for the Board of Directors' Quality Dashboard. **This is a first for Irish hospital boards and shows great leadership to other boards.** When asked whether or not the SPC approach should be applied to other measures most of the respondents agreed that it should be where appropriate. This is despite great difficulty among the board members initially in understanding SPC charts:

"Every measure should be on a run chart, either SPC or a simple run chart if SPC is not necessary."

Board Member

The **learning and understanding which the Board developed** through the project and their **ability to interrogate the data** is also evident in the following statements:

"I hadn't come across ISBAR communication tool before. That was interesting. I always felt I had a bit of an understanding of statistics, but input in describing how the data was recorded was a light bulb moment for me, but also, I think for others too... in that it's not saying whether the data is good or bad, but whether it is a common cause, if it is between the two lines or if it is a special cause. If it is above the line and when it is above the line we would then start to question."

Board Member

"Things have definitely improved over the year... understanding of data increased."

Board Member

"The quality project has improved the knowledge of the Board."

Board Member

"Various perspectives [are] always good and [it is] good to challenge the data."

Board Member

6.1.2 Impact on Individual Board Members

Each board member is individually legally responsible as a director for the hospital and its actions. This project has been developed and introduced to **help deepen understanding and provide assurance on quality and safety matters** in the hospital. In light of the comments below it seems that the project has had

some success in increasing their knowledge. This **impact of the project on individual board members is evident** from the following quotes:

"Gives confidence to the Board that it is run in a safe and quality manner."

Board Member

"It brings you up right close and personal with quality, it makes it very real. In previous years the big focus was on finance, now it's on quality."

Board Member

"Makes me more alert and more aware."

Board Member

"The questions being asked by the Board in relation to quality and safety are appropriate and relevant and they are not getting side-tracked."

Board Member

6.1.3. Patient Story

The **use of the 'Patient Story' at the top of the quality and safety item on the agenda 'keeps it real and meaningful'**. It is suggested by respondents that there should always be an attempt to **make the link between the 'patient story' and the information on the dashboard**:

"When we linked complaints to patient story it was very valuable."

Board Member

"Patient Story brings up real issues, it is interesting and there is learning."

Board Member

"Patient story added colour for me."

Board Member

"When a complaint or a compliment comes in and is related to the measures, this is very useful. Joins the dots – makes it more real."

Board Member

"Patient story broadens our knowledge of reality of what is happening in the hospital."

Board Member

6.1.4. Board Communication Tool

The initial iterations of the communication tool, which has been adapted from ISBAR, provided opportunities for learning for the project team to reach the understanding required among the Board. The **benefit of co-learning and co-design** allowed the project

team to incorporate the feedback from the board members after each iteration until ease of understanding was achieved. The result is the tool called BAR (Background, Assessment, Recommendation), which accompanies each indicator. The **Board members report that the BAR improved their understanding of the measures presented:**

"It is... the most important piece as it gives us what they [indicators] are going to do, how we are going to sort the problem out."

Board Member

6.1.5. Introduction of New Indicators

The project team grew to understand the importance of informing the Board how and why an indicator is chosen and what is expected of them in relation to this at board level. The learning gained from this **project demonstrates that it is essential that the 'So what?' is explained.**

Preparation in relation to the presentation of new indicators to the Board could include inviting an expert to come and talk to the Board about the indicator in lay terms to ensure that the **Board understands the actual impact of NOT monitoring the measurement:**

"What is important is that we have specific way of looking at each measure making sure we understand that we have definitions, i.e. what it is that we are measuring? What are the national standards that we are being judged on in relation to a particular measure? What is the current situation in relation to previous and now? If changes are needed, have we identified that the executive is required to go and make those changes?"

Board Member

6.1.6. Ownership and Origin of Project

Despite board members' acknowledgement that constant questions about quality and safety were being raised at board level there is some confusion about the origins of the project. The majority of respondents do not know where or how the project originated. Most feel it was something they were helping the executive with and a number stated that this impacted on ownership. However, some board members recognise that such questions prompted the project:

"Every meeting raised questions about safety, this was the trigger."

Board Member

"Board want to focus on quality and we were given this as a way of doing it."

Board Member

6.1.7. Unintended Benefits

During the course of the interviews respondents were asked if they were aware of any unintended or unexpected benefits to participating in this project. The responses below indicate that there were many unintended additional benefits of engaging in this project.

"it has brought the Board closer – it challenged us and that is a good thing."

Board Member

"Feeling board is getting more transparent information. CEO feels she can bring things to the Board, which are very real, complex and challenging. Board of Directors are then reassured that things are not being brushed under the carpet. There is a culture of transparency."

Board Member

"I think the principles can be applied to any other functions. Don't react to one point in time, instead look at the trend and drill down into it."

Board Member

"I've been at many conferences where they talked about losing the traffic lights and introducing SPC but that hadn't happened. We were at the forefront of change and that felt good to be involved."

Board Member

"Fantastic opportunities and huge potential for learning from this project."

Board Member

6.1.8. Unintended Negative Consequences

They were also asked about possible unintended negative consequences. The statement below summarises concisely the feeling among board members:

"There is nothing negative about being introduced to something new that benefits the place you are working for. If I struggle at bit, well so what... the whole thing is hugely positive."

Board Member

6.1.9. Challenges in Adopting the Board of Directors' Quality Dashboard

The biggest challenge perceived by board members concerns their confidence that the metrics received are the right measures and that the data is accurate. It is important to find a way to assure the Board about what exactly the quality of clinical care indicators represent. It is also **important to assure the Board that such measures**, while providing a picture of quality and safety **are underpinned by a broad spectrum of robust safety measures** including audit, inspection, operational measures and CEO dashboard.

"I am concerned that the quality indicators do not cover all the areas of quality that we should be concerned about."

Board Member

"Having the confidence that we are measuring what we think we are measuring." "Ensuring the accuracy and veracity of the data."

Board Member

"Lack of expertise in identifying paediatric indicators used on other countries with similar populations and types."

Board Member

6.1.10. Sustaining the Project

Board members were enthusiastic about preserving and sharing the learning from this project during the transition process as it moves to incorporation within the new National Children's Hospital. The **majority of respondents would highly recommend other boards taking on such a project**. To quote one board member who felt that this project, which offers the opportunity to focus on quality and safety of clinical care, is the "most important thing we should be doing". Another board member recommended it "without reservation, it is most compelling in its potential, not only for quality but for children's safety".

For board members who are not from a clinical background "it can provide help in understanding and developing a keen insight into the day-to-day operations of an organisation that is concerned with life-and-death."

Board Member

When asked for further suggestions about how to make the board Quality Dashboard sustainable for Temple Street going forward, **appropriate education for board members** on measurement for improvement and the use of dashboards was cited as very important. A number of respondents also stated that it was important to have a designated person who will be responsible for the Board of Directors' Quality Dashboard and to explain its role in governance in the hospital.

"What is making it more difficult is that we don't have a Director of Quality at TSCUH but a dedicated person in post is essential for this to become business as usual. It is bit like doing financial planning without a director of finance."

Board Member

6.1.11. Improving the Project

Comments from respondents have been analysed to identify a number of areas where one could improve such a project on a rerun. Their responses signal that **more in depth discussions at board level prior to taking on the project** would have improved ownership. It is also suggested that having more board members on the project team, would help. The Board nominated two directors from a healthcare background because the project was in relation to quality of clinical care. In hindsight it **would have been helpful to include a board member who is not from a healthcare background** to identify areas that may need to be addressed for other directors without a clinical background. More time spent up front by the project team assessing and addressing the Board's needs could have improved ownership of this project by board members. In future projects, **it is highly recommended that individual interviews with board members are conducted at the start of the project**, to ascertain and identify their training and knowledge requirements to allow them competently look at quality of clinical care. In the words of some board members:

"No challenges once you understand - training should come much earlier."

Board Member

"Prior training without technical lingo, statistical technical management speak is a bit like gobbledygook to me."

Board Member

This shows that **the project initiation phase is crucial to its success and ownership**. It is imperative to provide training to the Board to allow them understand and act on the information received on quality and safety. This in turn will build the confidence of the Board and **provide them with the ability to ask the right questions**. It is important to ensure that the Board understand what co-design is and how they are contributing to the development of a bespoke Board of Directors' Quality Dashboard that will provide the necessary information to **allow them hold the executive to account on quality of clinical care**.

Some board members recognised and appreciated the co-design element of the project:

"I liked the organic nature of it, the fact that it was growing and we were being educated and figuring it out together, inputting into it-and then it was being changed."

Board Member

Other board members were frustrated with the process at the beginning in particular the amount of time they needed to come to terms with the project:

"I am very familiar now with the project, I have been frustrated at times, tried and manipulated the various thing so many times, had to make so many changes, trying to get bespoke model."

Board Member

"We have spent a lot of time trying to get this new quality tool up and running and understanding it so some of the other things fall by the way side, we just don't have enough time. Actually, it is a function of time and lack of it that we need to address."

Board Member

6.2 Project Team Feedback on Quality Improvement Project

Feedback was sought from members of the project team in the last months of the project on their involvement. We had a 100% response rate. Project members were issued with a questionnaire with open ended questions to gather their thoughts, learning and opinion about the project (Appendix 11). The responses were analysed and coded by theme. This section of the report highlights some of the information gained from their feedback.

6.2.1. Understanding

According to respondents the dashboard is very informative and the description of the indicators outlines the measures being looked at. The **use of data and SPC charts provides a real-time picture of patient safety and clinical outcomes**. The Board of Directors' Quality Dashboard gives the Board an understanding of the culture of reporting, allows them see the learning from events, **look at trends** and types of complaints and see how the hospital can learn from the patient/parent experience. **Future projects would be advised to ensure that there is clarity of purpose and equal understanding among all project members**. Co-design of the project charter by the Board with the project team contributes to a stronger understanding for all participants in the project.

6.2.2. Improvements

Feedback to the project team from the Board and project liaison researcher demonstrated that the Board of Directors' Quality Dashboard **generated rigorous discussion and in depth questioning at board level** on the information received. The Board made recommendations to the executive for improvements in relation to quality and safety, which they followed up at future meetings. This confirms that as a result of this project the Board have moved from a position of passively receiving reassurance from the executive to actively seeking assurance.

6.2.3. Importance of Preparation

Responses from the project team **recommended that preparation for future projects should include individual contact with each board member at the start of the project** to allow individual assessment of their knowledge and training needs in relation to quality and safety. It is important to ensure that such identified needs are presented clearly and addressed by the project group. Similarly, **expectations of the Board should be clarified and time commitments in relation to the project should be identified**. A number of members of the project team, including those with prior training, voiced some difficulties in using SPC charts and the structured communication tool ISBAR. Prior training, as well as **training required throughout the project**, would have benefitted both the project team as well as board members.

"Heightening awareness of board members of their responsibility. Most important I believe the project gives access to the Board of Directors to drill down to details."

Board Member

6.2.4. Additional Unintended Benefits

The project gives an opportunity to staff to look at and validate their data more regularly. It enables the data owners to use and interrogate their data and **report in a manner that demonstrates improvement over time**. It also gives a better understanding to the project group of how the Board functions, and how **the perspective of the Board may differ from managers, clinicians, and others in the hospital**. Gaining a greater insight into the workings of the Board, their level of knowledge regarding quality and safety and how the Executive supports the Board in their pivotal role in driving improvements in quality and safety was very beneficial to the project team. Using such measurements is an effective means of creating the conversation and making an informed decision about the quality and safety of clinical care.

It is recognised by project team members that **this project helps to create two-way dialogue**, allowing the measures of quality of care to cascade up and down through the organisation in an organic way.

6.2.5. Challenges in Delivering the Monthly Board of Directors' Quality Dashboard

Time, expertise, accuracy and availability of data were highlighted as the biggest challenges in producing the Board of Directors' Quality Dashboard. Another challenge was the unforeseen loss of significant expertise during the course of the project. It was **recognised that it is important to have a clearly defined pathway for executive review and approval** of the Board of Directors' Quality Dashboard prior to inclusion in the board papers.

6.2.6. Areas to address that may improve project

Project team members felt that this project would have benefited from being able to access information on international benchmarks where available. In the future it would be **important to identify comparator sites at an early stage in the project**. The feedback indicates that it is important to develop confidence and competence in the project team. The **development of a resource pack** which can be updated on a regular basis would be useful particularly in succession planning and in helping to allay difficulties that arise as project staff change.

6.2.7. Sustaining the project

In order to ensure the sustainability of the Board of Directors' Quality Dashboard, the project team suggested that improvement related to the use of the dashboard should be demonstrated and evidenced. Respondents **recommend that the Board of Directors' Quality Dashboard should be made visible to all staff** within the hospital and that all quality metrics and dashboards at other levels in the hospital should be aligned with it e.g. hand hygiene as it relates to blood stream infections.

6.2.8. Leadership

All respondents commented that this project strongly benefitted from leadership within the hospital showing their commitment to the project through having the CEO chair the project team meetings. It is beneficial to have such decision making authority available in the project team. It is further recommended that a defined process should be established and **agreed to get the appropriate data from the "Bedside to the Board" in a timely manner** – ensuring everyone understands their role. It is recognised that the accuracy of data is crucial as maintaining the trust of the Board in the process is precious.

6.2.9. Involvement of the Quality Improvement Division

It was noted by the respondents that the **mentoring and expertise of members of the HSE Quality Improvement Division was invaluable** for the project. Comments on their participation recognised them as being "very committed to the project, and willing and available to provide support when needed" and "Excellent, very knowledgeable".

7. Conclusion

The project was designed to achieve an outcome which would ensure that quality of clinical care gained and maintained priority on the agenda of the Board of Directors' meetings at Temple Street Children's University Hospital. This would result in quality of clinical care being discussed, assessed and appropriate recommendations made and actions taken and reported back to the Board. Some board members did not initially make the connection between the introduction of the quality and safety project and its impact on their responsibilities. There was some initial grappling with the project as the board members were asked to step outside of their comfort zone to make decisions on what could impact on life and death situations. The restructuring of the agenda, which placed quality and safety as the first item for discussion, provides a new space and time for board members to discuss quality of care issues at the board meetings.

An example of the Board of Directors' Quality Dashboard with real data is included as Resource 3 and reflects the input from board members over the course of this project to focus board discussion and decision-making on quality of clinical care. This has been a positive iterative co-design process with the Board of Directors actively participating in the project.

Following completion of 13 PDSA cycles the Board of Directors' Quality Dashboard contains six approved measures using a variety of Statistical Process Control charts to visually present data with a structured way to discuss the dashboard information during board meetings. The Board has made recommendations both in relation to structure and format of the Board of Directors' Quality Dashboard, as well as actions for management on foot of information presented each month. Board confidence in understanding the measures presented has increased by three points on a ten-point Likert scale. The project has been successful in that it stimulated the Board to move from an environment of seeking reassurance to actively obtaining assurance from the executive in relation to quality and safety of clinical care. Quality is now the first item on the Board agenda with a minimum of 25% of the board meeting time allocated to Quality and Safety. The challenge will be to ensure that there is a mechanism for sustainability and spread of the project into the future.

This final quote from a board member helps demonstrate that the overall project objectives are being achieved:

"In the last meeting and the meeting before there was a lot of members who were not normally discussing quality who took part in the discussion, it seemed they were more familiar and at ease with the information and they were involved more, with incisive comments and challenging issues...more board members who are not experts on quality are contributing and challenging - we need that challenging piece."

Board Member

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9. Appendices

Appendix 1: Governance Structures

Appendix 2: List of Board Members

Appendix 3: Project Team Members

Appendix 4: Project Charter

Appendix 5: Driver Diagram

Appendix 6: Project Measurement Plan

Appendix 7: Sample Board of Directors' Monthly Survey Form

Appendix 8: Outline of the project initiation focus group with Board members

Appendix 9: Outline of the semi structured interview with Board Members

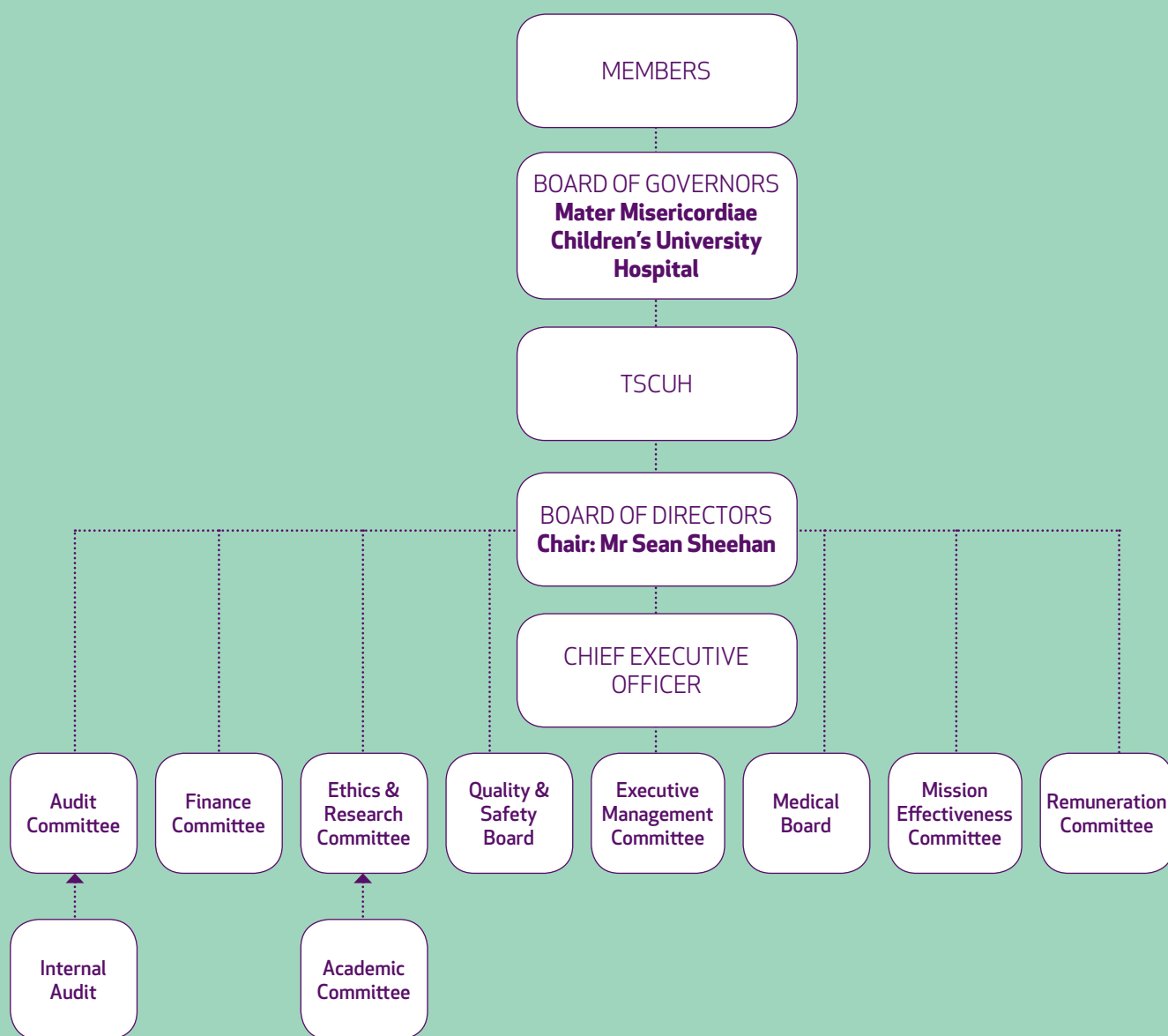
Appendix 10: Outline of the end of project survey with project team members

Appendix 11: Winning Project Poster Presentation to National Patient Safety Conference

Appendix 12: Guide to Preparing Quality Dashboard - flow of information

Appendix 13: Board on Board KPI's Metadata

Appendix 14: Quality & Safety Board Terms of Reference



Organisational structure is subject to change on an ongoing basis to reflect changing nature of healthcare delivery in TSCUH

Appendix 2: List of Board Members

Temple Street Children's University Hospital (TSCUH) is incorporated as a private limited company. The sole shareholder is the Mater Misericordiae University Hospital (MMUH) and Children's University Hospital Ltd (MMCUEH) which is a company limited by guarantee. Management responsibility is delegated to subsidiary company (TSCUH) and the Board of Directors who are accountable to the MMCUEH Board of Governors.

The member directors of the Board of Directors are appointed by MMCUEH and represent a range of business and professional backgrounds.



In attendance: Prof. Adrienne Foran (Clinical Director)

Appendix 3: Project Team Members

NAME	TITLE	
Ms Mona Baker, CEO	Chair	
Ms Aveen Murray	Board Member	
Dr Michael Drumm	Board Member	
Dr David Vaughan	Children's Hospital Group, Director of Quality and Patient Safety	
Ms Eilis Murphy	Project Coordinator	
Ms Emer Quigley	Administration support	
Ms Caroline O'Connor	Nurse Quality, Practice & Research Coordinator	
Ms Paula Day	Risk and Legal Services Manager	
Ms Jennifer Carey	Head of Operations	
Dr Robert Cunney	Consultant Microbiologist	
Mr Michael Rourke	Business Intelligence Unit	Until August 2016
Ms Nicola Newcombe	Business Intelligence Unit	Until December 2016
Mr Shane McCabe	Business Intelligence Unit	Joined January 2017
Ms Marie Conlon	CNM 3 – Human Resources, Our Lady's Children's Hospital Crumlin	
Ms Suzanne Dunne	Quality, Standards and Licensing CNM3 Our Lady's Children's Hospital Crumlin	
Ms Maureen Flynn	HSE - Quality Improvement Division Lead Governance for Quality	
Dr Jennifer Martin	HSE – Quality Improvement Division Lead Measurement for Improvement	
Ms Gráinne Cosgrove	Senior Statistician, HSE Quality Improvement Division	
Dr Bláithín Gallagher	Board and Project Liaison Researcher/Case Study Lead Author	

Appendix 4: Project Charter

Temple Street Children's University Hospital Board	
Project Charter	
Project Name:	Recreating a balance between reporting Quality of Clinical Care Indicators (QCCI) and Finance/ HR on Board Balanced Score card
Eilis Murphy/Mona Baker	
WHAT ARE WE TRYING TO ACCOMPLISH?	
Aim statement	
- The Board of Directors identify and approve eight quality of clinical care measurements (specific group of metrics) that will form part of the monthly board report for assurance. - The Board uses a structured communication tool (adapted ISBAR) to discuss, make assessments and recommendations in response to the quality of clinical care indicator information by October 2017.	
Problem to be addressed	
The current Board of Directors balanced score card reports on Access, Efficiency, Human Resources and Finance indicators monthly while a small number of quality of clinical care indicators are reported quarterly. Furthermore there is an opportunity to address the imbalance in focus and improve the narrative around the score card quadrants for example to consider Quality of Clinical Care Indicators/Access performance indicators in context of resources (human and financial).	
Reason for the effort	
The Board have identified Patient Safety/Person Centred Care as a priority and there is a strong focus on Risk Management and Quality Improvement. By undertaking a Board on Board quality improvement project the Board leads by example and embeds a culture and commitment to Quality Improvement. Every member of the Board needs sufficient information at a high level to be confident that hospital services are run well, but not so much information that it becomes difficult to understand or tell what is important (Rowell <i>et al.</i> 2006). There is international evidence to show that there is scope for improvement in capacity and capability in quality improvement at every level of care (Tsai <i>et al</i> 2015; Mannion <i>et al</i>, 2016). The HSE Quality Improvement Division (QID) collaborated with the Board of Directors of the Mater Misericordiae Hospital for a Board on Board Quality Improvement Project. The learning and toolkit arising from this project was shared in a case study report. Temple Street University Hospital Board is building on this by undertaking their own Board on Board Quality Improvement Project, with support and facilitation from QID team members. This project provides an opportunity for Quality of Clinical Care and Quality Improvement to have a high priority. It is timely to further develop the board scorecard to enable an integrated discussion of quality, access/ efficiency in the context of finance and to use this for the Board of Directors to individually and collectively act to hold the Executive to account on the quality of clinical care delivered.	
Expected outcomes/benefits	
- The Board members will have identified, agreed and understand a core suite of Quality of Clinical Care Indicators (across the 4 domains of quality as defined by the Standards for Safer Better, Healthcare – safety, effectiveness, person centred, supporting better health and wellbeing). - These will have priority, be discussed and where appropriate, acted on at every Board meeting.	
What's outside the scope of the project?	
This Quality Improvement project does not include:	
- Quality of Clinical Care Indicators not available within the current hospital systems (this may form part of on-going work). - Development of non-clinical indicators e.g. health and safety indicators. - A comprehensive CEO/executive score card .	

HOW DO WE KNOW THAT A CHANGE IS AN IMPROVEMENT?

Measures that will be used to monitor the impact of this improvement effort

- Board members self-assessed confidence in understanding Quality of Clinical Care Indicators (increased by minimum of one level on a ten point Likert scale).
- A communication tool provides the narrative to facilitate discussion of Quality of Clinical Care Indicators at Board meetings.
- Percentage of Board Time allocated to quality and safety issues as recorded in the minutes.
- Number of recommendations for actions made by the Board of Directors, recorded in the minutes and reported on, at subsequent meeting.

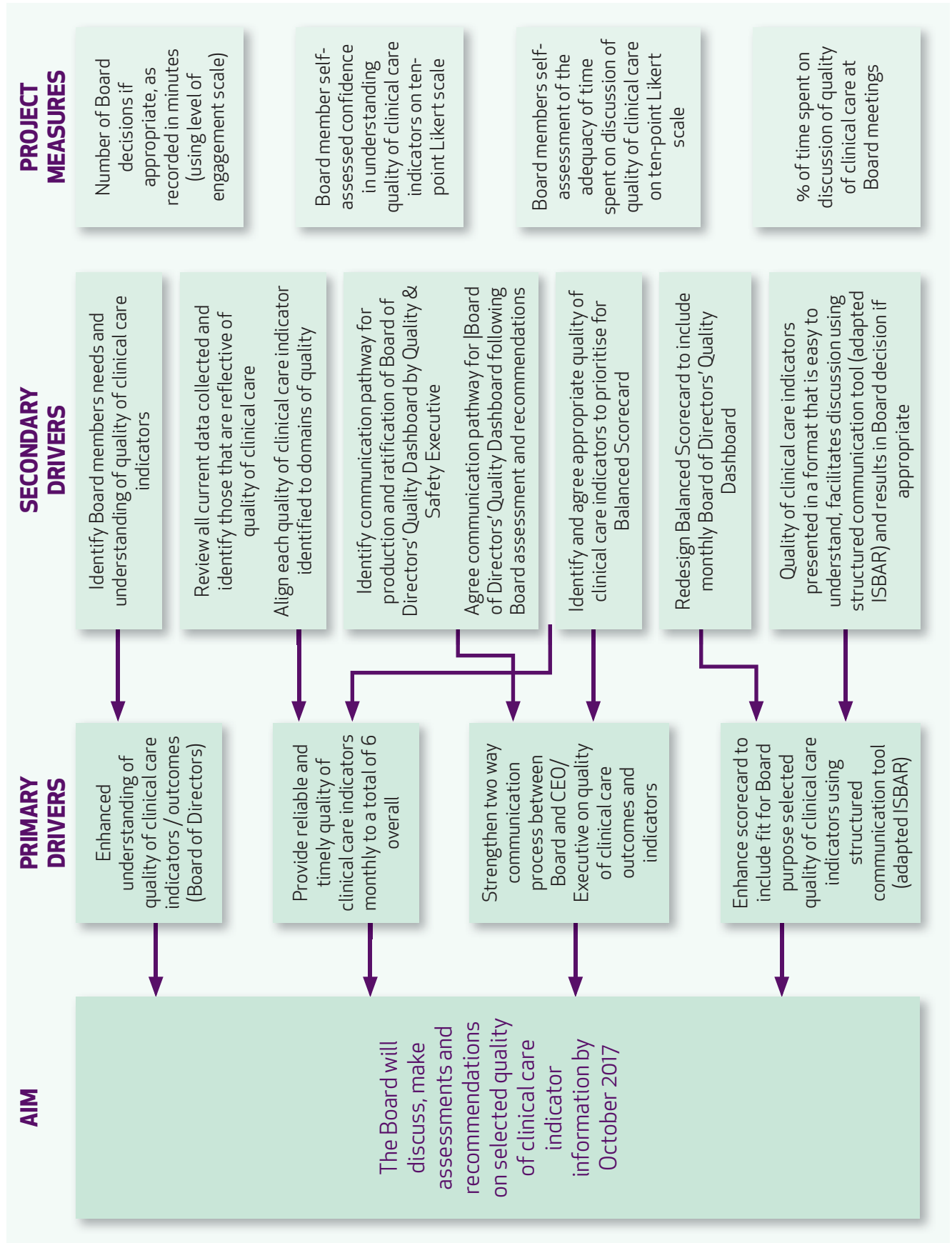
What changes can we make that will lead to improvement?

- Short Life project (over 6- 8 months).
- The Board Quality Improvement project will be sponsored by Chair of the Board and CEO and the HSE's National Director Quality Improvement.
- A project lead will be identified and a project team will be established.
- The project will use the Model for Improvement (IHI) using small tests of change/ Plan Do Study Act Cycles.
- A minimum of 8 quality of clinical care measurements (specific group of metrics) will be identified, tested for validity and agreed with board and introduced to the score card on phased basis. QCCI will be focused on outcome measures where available.
- These quality measures will focus on the four domains of quality defined by the National Standards for Safer Better Healthcare (NSSBHC).
- The board report will include a narrative for the quality quadrant of the score card structured using ISBAR (adapted)
- The monthly discussion of the board score card, assessment and recommendations will be structured using the ISBAR communication tool.
- Tests of change will be undertaken at each board meeting (monthly PDSA cycles).
- Feedback from board members will be gathered via monthly survey.

PROPOSED PROJECT TEAM

Role	Name
Sponsors	See appendix 2
Board member(s)	
Chair of the Board Quality and Safety Committee	
Children's Hospital Group (CHG)	
Project Coordinator	
Data analyst	
Author of the Board Report	
Nursing Lead Quality	
Quality Improvement Facilitation, Governance for Quality HSE Quality Improvement Division	
Quality Improvement Facilitation - Measurement for Improvement HSE Quality Improvement Division	
Quality Lead	
Risk & Legal Services Manager	
External Stakeholder (Our Lady's Children's Hospital Crumlin)	
Administrative support	

Appendix 5: Driver Diagram



Appendix 6: Project Measurement Plan

Board on Board: Quality Improvement Project 2016/2017 Project Measurement Plan

Definition: Quality of Clinical Care (QCC) 'clinical care that is person centred, effective, safe and results in better health and wellbeing'					
NO.	MEASURE DESCRIPTION	DATA SOURCE	METHOD	MEASUREMENT FORM	BASELINE
1.	Confidence in understanding information	Paper Survey	Board Member Self-Assessment	Likert Scale 1-10	Yes
2.	Usefulness of Information	Paper Survey	Board Member Self-Assessment	Likert Scale 1-10	Yes
3.	Adequacy of time given to Quality of Clinical Care	Paper Survey	Board Member Self-Assessment	Likert Scale 1-10	Yes
4.	% of meeting spent discussing Quality of Clinical Care	Meeting	<i>Numerator:</i> Observation <i>Denominator:</i> Total meeting time as recorded by board and project liaison researcher	<i>Numerator:</i> time of Board discussion on Quality of Clinical Care Section at meeting <i>Denominator:</i> Total time of meeting	No
5.	% time spent on Quality overall	Meeting	<i>Numerator:</i> Observation <i>Denominator:</i> Total meeting time as Recorded by board and project liaison researcher	<i>Numerator:</i> Time of total quality discussion at meeting <i>Denominator:</i> Total time of meeting	No
6.	No. of recommendations Recorded	Meeting	Observation at meeting	Count	No
7.	No. of recommendations noted in minutes	Minutes	Review	Count	No

Appendix 7: Sample Board of Directors' Monthly Survey Form

Board on Board Quality Improvement Project 2016/2017

Date: 27/10/2017

/ Time:

/ Venue:

Definition: Quality of Clinical Care (QCC)

'clinical care that is person centred, effective, safe and results in better health and wellbeing'

Today you received the October 2017 Board of Directors Quality Dashboard.

Please complete the final survey below by ticking relevant box (questions 1-5)

1. The Board of Directors' Quality Dashboard : (please tick relevant)

1a) is clearly presented	Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
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1b) is useful in understanding how TSCUH is performing on Quality Indicators	Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
--	-------------------	---	---	---	---	---	---	---	---	---	----	----------------

1c) is useful in understanding how TSCUH is performing if applicable over time in Quality Indicators.	Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
--	-------------------	---	---	---	---	---	---	---	---	---	----	----------------

1d) The written report (ISBAR) provides me with enough information to allow me understand what the indicator is measuring?	Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
---	-------------------	---	---	---	---	---	---	---	---	---	----	----------------

2. I am confident in my **understanding** of the indicator information provided

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
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3. The **time given** to discuss, assess and make recommendations on Quality Indicators was adequate:

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
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Please give any suggestions/recommendations which would enhance the quality of the data received and associated report

(please use back of page for further comments)

4. What is your **role** on the Board of Directors? ☐ Non-Executive Director ☐ Executive Director5. Do you have a **healthcare** background? ☐ Yes ☐ No

Thank you for your feedback



Appendix 8: Outline of the project initiation focus group with Board members

AGENDA

TSCUH Board of Directors Focus Group

Date: Wednesday July 20th 2016/Time: 4.30-6.30pm/Venue: Harry Clarke House

Desired Outcomes for Focus Group: To gather board members and executive feedback

- on information provided in papers at board meetings on the quality of clinical care provided by TSCUH
- suggestions on how the quality clinical care information is presented and discussed
- educational needs on quality of clinical care and the identification of areas for improvement

1. Welcome and Introductions (CEO) (5 mins)
2. Introduction to the Project and Driver Diagram – what project is about (CEO) (10 mins)
3. Survey feedback: What you told us (Quality Manager) (5 mins)
4. **Breakout Session 1** 1-2-(4) All (Quality Manager) (15 mins)
Question: What in relation to the hospital keeps you awake at night?
5. **Breakout Session 2** (Group Quality and Safety Director) (50 mins)
 - 5a. *Score Card Metrics* (20 mins)
Questions:
 - Of the measures we currently have which ones are important?
 - How do you link each item on the scorecard to quality?
 - Do the measures tell you what you want to know to assure you?
 - 5b. *Score Card Report* (20 mins)
Questions: In terms of both the written and verbal reports presented
 - What 3 recommendations would you make to improve this?
 - What would the ideal report look like?
6. **Presentation:** Possible Measurement for Improvement Charts (BIU Manager) (10 mins)
7. **Evaluation/Close out and future needs** (5 mins)

Appendix 9: Outline of the semi structured interview with Board Members

Questions to guide 1:1 interviews for Board of Directors with Dr Bláithín Gallagher, Board and Project Liaison Researcher

1. In your own words can you tell me what you thought the introduction of the Quality Dashboard intended to achieve for the board
2. Can you remember what triggered its introduction?
3. How has the inclusion of the Quality Dashboard and ISBAR impacted on you as a board member?
4. How do you think the inclusion of the Quality Dashboard and ISBAR has impacted on board meetings?
5. Tell me about your journey in coming to understand the SPC charts and the ISBAR.
6. What needs of the Board do you think the Quality Dashboard is addressing? In your opinion has it done this? Expand please
7. Thinking back over the year, can you tell me of any needs of the board in relation to the Quality Dashboard that were not anticipated?
8. Have these needs been addressed? If not, what would you like to see done?
9. Have there been any additional unintended benefits?
10. Have there been any additional unintended negative consequences?
11. What has been the biggest challenge to you in adopting the Quality Dashboard as a barometer of patient safety?
12. Looking back now, what would have improved your experience on the journey of getting used to the Quality Dashboard?
13. Can you tell me about your use of the hospital-balanced scorecard since the Quality Dashboard has been introduced? Do you think there is a way of linking the Quality Dashboard into scorecard?
14. What do you suggest the board and/project team could do to make this quality tool sustainable for Temple Street Children's University Hospital?
15. Do you think this SPC approach to measurement should be used on other measures?
16. How did you find working with HSE Quality Improvement Division on the project?
17. On a scale of 1-10 would you recommend other boards undertake a 'board on board Quality Dashboard' project? 1= not recommend at all, 10= highly recommend.
18. What do you suggest the board and/project team could do to make this quality tool sustainable and work for other board and spread to other boards?
19. Were the journal articles you received helpful to your understanding of the project?
20. Any other comments or anything else to add?

Appendix 10: Outline of the end of project survey with project team members

1. In your own words can you tell me what you thought the introduction of the Board of Directors' Quality Dashboard intended to achieve for the Board?
2. How did you come to understand the SPC (statistical process control) charts and the ISBAR/structured communication tool?
3. What needs of the Board do you think the Board of Directors' Quality Dashboard is addressing?
3.1. In your opinion has it done this? Expand please
4. Thinking back over the year, can you tell me of any needs of the Board in relation to the Board of Directors' Quality Dashboard that were not anticipated?
5. Have there been any additional unintended benefits of this project to you in your role?
6. What has been the biggest challenge to you in producing Board of Directors' Quality Dashboard?
7. Looking back now, what would have improved your experience of this project?
8. What do you suggest the project team could do to make this quality tool sustainable for Temple Street Children's University Hospital?
9. Do you think this SPC (statistical process control) approach to measurement should be used on other measures?
10. What recommendations would you suggest are included in the case study report?
11. How did you find working with HSE Quality Improvement Division on the project?
12. Any other comments or anything else to add?

Appendix 11: Prize Winning Poster presented at 2nd National Patient Safety Conference

From bedside to boardroom: introducing a co-designed Board of Directors quality dashboard in Temple Street Children's University Hospital .

Eilis Murphy, Caroline O' Connor, Mona Baker, Aveen Murray, Emer Quigley, Maureen Flynn,
Grainne Cosgrove, Jennifer Martin, Bláithín Gallagher

Temple Street Children's University Hospital (TSCUH) in collaboration with Quality Improvement Division Health Service Executive

Background

Since 2011 TSCUH Board of Directors have received a monthly balanced scorecard report on access, efficiency, finance and human resource indicators, using a red, amber, green speedometer with associated run chart. Four Quality indicators were presented quarterly.

TSCUH board and project team undertook this co-designed project in collaboration with Quality Improvement Division HSE.



Aim of the project:

The Board of Directors will discuss, make assessments and recommendations on quality of clinical care indicator information by October 2017.



Key Activities included:

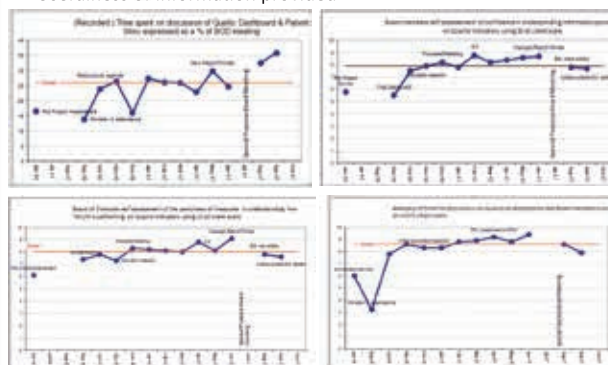
- Developing a Driver Diagram specifying SMART aim and theory of change



- Change Package submitted for board approval
- Education session with Board of Directors on measurement for improvement and variation
- Quality Improvement methodology applied using Plan Do Study Act (PDSA) small cycles of change
- Measurement Plan developed identifying project success measures to ascertain if change is an improvement
- Patient story included alongside the dashboard

Measurement for Improvement

- Time spent on quality dashboard and patient story expressed as % of total board time (>25%)
- Board of Directors self-assessed confidence in understanding information provided on quality indicators
- Adequacy of time for discussion on quality
- Usefulness of information provided



Challenges :

- Accessing validated data for meaningful and relevant paediatric Quality of Clinical Care outcome measures
- Requisite internal knowledge and skills for measurement for improvement
- Original structured communication tool (ISBAR) was not a success

Benefits & Outcomes

- Eleven PDSA cycles completed - the Board of Directors Quality Dashboard contains six approved Quality of Clinical Care indicators using a variety of Statistical Process Control Charts (including p charts, t charts, u charts and c charts) to visually present data
- A structured communication tool is provided alongside the chart to provide background to facilitate and support board assessment and recommendation (BAR) e.g. samples below.



- Board confidence in understanding measures increased over 2 points on a 10 point Likert scale
- Quality is first item on Board agenda and over 25% of meeting time is allocated to Quality and the patient story enriches the discussion

Acknowledgement: Board on Board Project Team and Board of Directors TSCUH and Quality Improvement Division and Measurement for Improvement Team HSE for all their work and Support

Appendix 12: Monthly guide to preparing Quality Dashboard - flow of information

The Board of Directors' Quality Dashboard is a monthly report submitted to the Board to facilitate them in monitoring and oversight of quality of clinical care. It is important that the dashboard is received and reviewed at each Board of Directors' monthly meeting. If reviewed less frequently, this could result in a missed opportunity for the Board to provide leadership and direction on improvement. The following is the process for monthly preparation of the Board of Directors' Quality Dashboard:

- Quality measures are selected and deselected by the Quality and Safety Board and proposed to the Board of Directors.
- Metadata sheets are developed for the approved quality measures with the appropriate measurement definition.
- Data sources are submitted to the Business Intelligence Unit who process the data into charts in line with the agreed definitions.
- The report is written by subject specialists to accompany the quality measures using BAR (background, assessment, recommendation) style.
- Board of Directors' Quality Dashboard is collated and completed by the Quality Department.
- Board of Directors' Quality Dashboard is forwarded to the Quality and Safety Executive for amendment/correction and approval.
- Final Quality Dashboard is included in the board meeting pack and is accompanied by an explanatory letter.
- Board of Directors provide feedback to the Quality and Safety Executive through the CEO and Clinical Director.
- Timeline for preparing the monthly Board of Directors' Quality Dashboard:
 - **week one** data forwarded to Business Intelligence Unit (BIU) and charts prepared.
 - **week two** Background, Assessment, Recommendation (BAR) narrative is prepared by subject specialists and the months Board of Directors Quality Dashboard finalised by Quality Department (see Resource 5 Guide for writing BAR report).
 - **week three** Board of Directors Quality Dashboard approved by Quality and Safety Executive (QSE) and issued to CEO secretary for inclusion within board pack.
 - **week four** Board of Directors meeting includes assessment of the Board of Directors Quality Dashboard and board recommendations communicated back to Quality & Safety Executive and Quality Department by CEO.

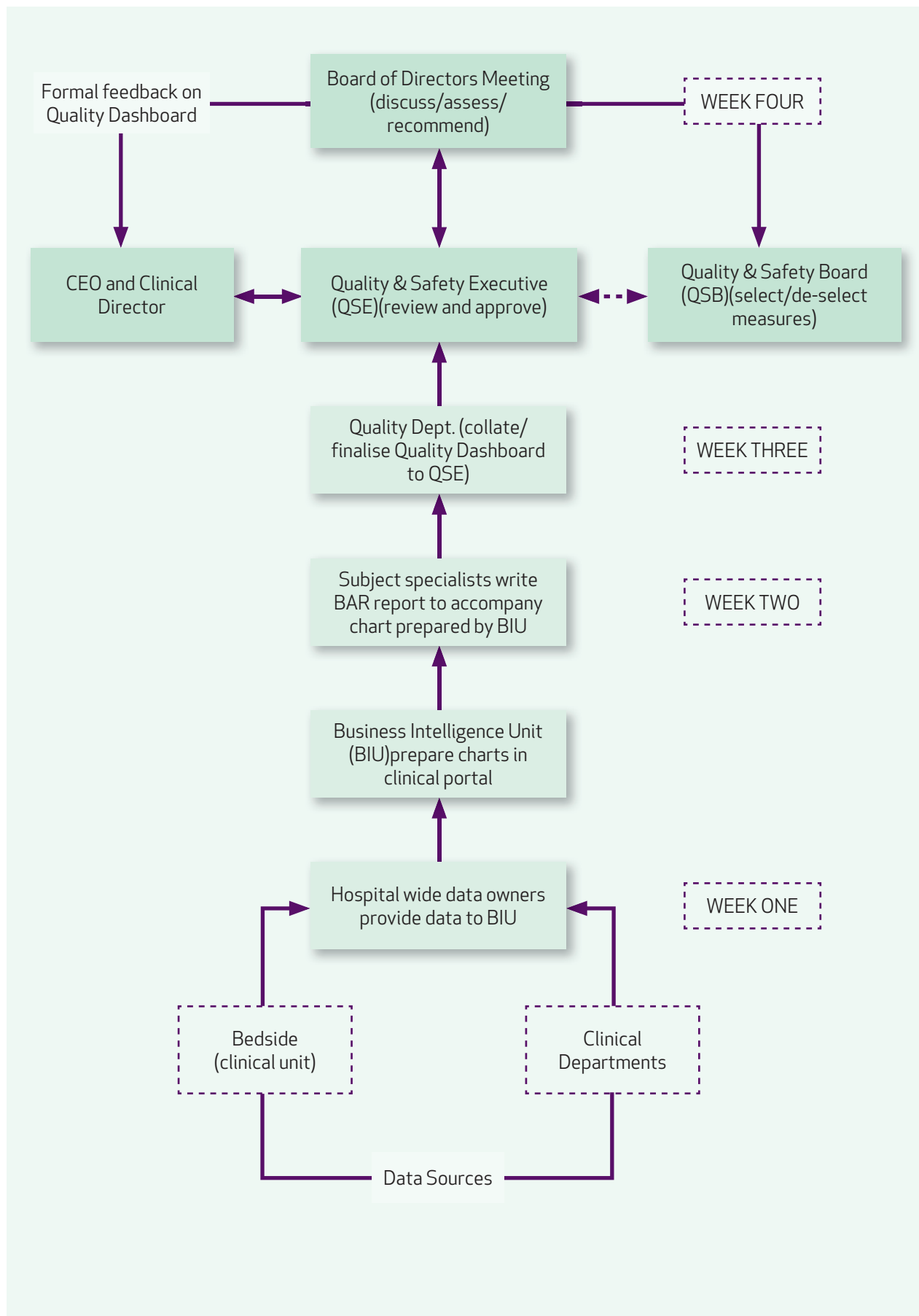


Figure 11: Monthly guide to preparing Quality Dashboard - flow of information

Appendix 13: Board of Directors' Quality Dashboard Metadata Sheets for Quality of Clinical Care Measures

Indicator	Rate of children who code outside of ICU (based on Cincinnati definitions)
Definition	The total number of children who coded outside of the Paediatric Intensive Care Unit reported as a rate per 1,000 bed days. A code refers to a respiratory or cardiac arrest and is a life threatening situation, in which emergency clinical interventions are required to prevent further patient deterioration and sustain life.
Time period	Quarterly data from Q1 2012
Methodology	This indicator is calculated as the number of children who coded outside of the Paediatric Intensive Care Unit requiring bag valve ventilation or chest compressions or both, divided by the number of inpatient bed days (excluding ICU bed days), multiplied by 1,000. Exclusions: Children who code in ED Data Presentation: Statistical Process Control U Chart
Notes	This indicator was previously reported as the number of children who coded outside of ICU. In line with the indicator specifications developed by Cincinnati Children's hospital it is now reported as a rate per 1,000 bed days.
Data Source	Inpatient Bed days IPMs
Target/Desired direction	The desired direction for this indicator is downward.

Indicator	Number of days between Device Related Infections
Definition	The occurrence of bloodstream infections that are related to invasive medical devices and the number of days between occurrences.
Time period	Data shows dates of infections from February 2015
Methodology	Device related infections are relatively rare events, and so this indicator is reported as the number of days between occurrences. For example, a device related infection occurring on 1st July 2017 following the last occurrence on 1st March 2017 results in an interval of 122 days. Data Presentation: Statistical Process Control T Chart
Notes	Each data point plotted on the chart represents an episode of bloodstream infection linked to an invasive medical device
Data Source	Data on device related infections are captured monthly by Surveillance Scientist Csv File sent in to BIU from Surveillance Scientist
Target/Desired Direction	The desired direction for this indicator is up, i.e. an increase in the number of days between device related bloodstream infections.

Indicator	Emergency Readmissions (Surgical & Medical)
Definition	The number of Emergency Readmissions within 30 days of discharge
Time period	Monthly from 2016
Methodology	Denominator: Discharges in the last 30 days of Month Numerator: Based on discharges in the month (30 day period as per denominator) Data Presentation: Statistical Process Control P Chart
Notes	Data is based on 30 days prior to current month e.g. to get data for May 2016 the dataset will contain all discharges 30 days (inclusive) prior to 01.05.2016. All HIPE discharges that are flagged as discharge code = 6 or 7 (Death) are excluded as per HSE guidelines. All Emergency readmits within 30 days of said discharge are gathered. An emergency readmit is classified as a HIPE admission with an admission type of 4 or 5.
Data Source	HIPE Database
Target/Desired Direction:	The desired direction of this indicator is to remain stable. This measure provides information in relation to how often children are readmitted and in addition those that who have had more than one emergency readmission within 30 days. It furthermore provides a trigger to identify reasons why as well as potential opportunities for improvement.

Indicator	Number of Medication Incidents Received
Definition	The number of medication incidents received (inclusive of errors and good catches).
Time period	Monthly Data from Oct 2016
Methodology	This indicator is reported as the total number of medication incidents recorded inclusive of both errors and good catches, per month. A "good catch" is defined under the HSE Incident Management Framework 2018 as "an incident that was prevented from occurring due to timely intervention or chance and which there are reasonable grounds for believing could have resulted if it had not been so prevented, in unintended or unanticipated injury or harm to a service user during the provision of a health service to that service user" (National Standards for the Conduct of Reviews of Patient Safety Incidents). Data Presentation: Statistical Process Control C Chart
Data Source	Incidents reported on Respond Risk Management System
Target/Desired Direction	The desired direction for this indicator is upwards as the goal is to have full reporting of incidents.

Indicator	Number of Medication Incidents/Good Catches
Definition	The comparison between medication incidents and good catches. A “good catch” is defined under the HSE Incident Management Framework 2018 as “an incident that was prevented from occurring due to timely intervention or chance and which there are reasonable grounds for believing could have resulted if it had not been so prevented, in unintended or unanticipated injury or harm to a service user during the provision of a health service to that service user” (National Standards for the Conduct of Reviews of Patient Safety Incidents).
Time period	Monthly Data since October 2016
Methodology	This indicator is reported as the total number of medication good catches, per month in relation to total number of medication incidents received.
Notes	The Line Chart is a count of Medication Incidents and Good Catch's over a 12 month period.
Data Source	Respond Server
Target/Desired Direction:	The desired direction for this indicator is upwards as the goal is to have full reporting of medication incidents and good catches.

Indicator	Number of Complaints Received
Definition	The number of Complaints received within TSCUH per month
Time period	Monthly Data since Oct 2016
Methodology	This indicator is reported as the number of complaints received per month. Data Presentation: Statistical Process Control C Chart
Notes	This chart shows the number of Complaints Received per month that are related to clinical and non- clinical issues such as, Environment & Facilities, Access to Services and Outstanding charges and Treatment Delay.
Data Source	Complaints received through, emails, letters, phone calls which are recorded on Respond Risk Management System
Target/Desired Direction:	The desired direction is to remain stable.

Appendix 14: Quality & Safety Board Terms of Reference

ORGANISATION: Temple Street Children's University Hospital	REF NO: TOR-027
COMMITTEE NAME: Quality & Safety Board	REVISION NO: 1
LEAD AUTHOR: Chairperson Quality & Safety Board	EFFECTIVE FROM: 26/06/2018
APPROVED BY: Board of Directors	REVIEW DATE: 26/06/2019
Page 1 of 3	SUPERSEDES: TOR-027/0

The Board of Directors (hereafter referred to as the 'Board') has agreed to establish a committee of the Board to be known as the Quality and Safety Board.

1. PURPOSE:

In accordance with the requirements of Temple Street Children's University Hospital (TSCUH) the Quality & Safety Board has been established in line with Board policy and informed by the HSE Guidance for Quality & Safety Committees (2016).

The purpose is to provide the Board with assurance that high standards of care are provided in TSCUH and in particular, that adequate and appropriate governance structures, processes and controls are in place throughout the hospital to ensure the safety of children and guardians attending the hospital and staff providing the services.

The Quality and Safety Board is authorised by the Board. All members of staff are directed to co-operate with any request made by the Quality and Safety Board.

The Quality and Safety Board is authorised to obtain such internal information as is necessary to the fulfil its functions.

2. COMPOSITION OF COMMITTEE

The Committee will consist of the following members:

- Two Non-Executive Directors (one of whom will be the Chair)
- Director of Quality & Patient Safety, Children's Hospital Group
- Chief Executive
- Clinical Director for Quality and Patient Safety
- Director of Nursing
- Three parent/guardian representatives
- One General Practitioner
- A senior health & social care professional.

3. ROLE OF COMMITTEE

- 3.1. Ensure reporting and two-way communication processes are in place between the Quality and Safety Executive (formerly known as the Clinical Governance Committee) and the Quality and Safety Board (formerly known as the Governance & Patient Safety Committee);
- 3.2. Oversee the development of a quality and safety programme for the delivery of clinical and non-clinical services at TSCUH;
- 3.3. Recommend to the Board a quality and safety programme, an executive management team structure and policies and processes that clearly articulate responsibility, authority and accountability for quality, safety and risk management across the services;
- 3.4. Secure assurance from the executive management team on the implementation of the quality and safety programme and the application of appropriate

ORGANISATION: Temple Street Children's University Hospital	REF NO: TOR-027
COMMITTEE NAME: Quality & Safety Board	REVISION NO: 1
LEAD AUTHOR: Chairperson Quality & Safety Board	EFFECTIVE FROM: 26/06/2018
APPROVED BY: Board of Directors	REVIEW DATE: 26/06/2019
Page 2 of 3	SUPERSEDES: TOR-027/0

- governance structure and processes (e.g. risk escalation) including monitored outcomes through quality indicators and outcome measures;
- 3.5. To approve the Hospitals Annual Quality Report following review by the Executive Management Committee and before submission to the Board;
 - 3.6. Oversee the implementation of the annual Clinical Audit Plan which would include the ability to input, ensuring that it is consistent with the clinical audit needs of TSCUH;
 - 3.7. Secure assurance from the executive management team that the hospital service is conforming with all regulatory and legal requirements to assure quality, safety and risk management;
 - 3.8. Act as advocates for quality and safety issues which cannot be resolved by the executive management team, by discussing the issues with the Chairman of the Board of Directors and agreeing an action plan.
 - 3.9. Secure assurance from the executive management team that the hospital is appropriately indemnified and that all required incidents/events are notified to the relevant indemnifiers
 - 3.10. Review all external agency reports with regard to Quality and Safety (e.g. HIQA/INAB) and satisfy the Board of Directors that adequate action plans have been initiated and completed with regard to such reports.

4. MEETINGS

- 4.1 The Quality & Safety Board will meet bi-monthly with additional meetings as required.
- 4.2 A quorum of 50% of the current appointed members is required.
- 4.3 The meeting will normally be chaired by a non-executive director.
- 4.4 The agenda will be structured to include standing items and additional items as required.
- 4.5 The position of secretary will be provided by the Quality Officer who will record the minutes and provide the following;
 - Prepare agendas and issue notices for meetings, ensuring all necessary documentation is provided and book suitable meeting space
 - Distribute the agenda one week prior to meetings
 - Distribute the draft minutes to all committee members within two weeks of the meeting after they have been reviewed by the chairperson

5. ACCOUNTABILITY PROCEDURES:

- 5.1. The Quality & Safety Board shall be directly accountable to the Board of Directors.
- 5.2. The Chair will report to the Board of Directors after each meeting and draw to their attention any issue that requires further discussion and a recommendation.
- 5.3. The minutes of the Quality & Safety Board shall be formally submitted to the Board of Directors. The Quality & Safety Board will report annually to the Board of Directors on its achievements in meeting its terms of reference.

ORGANISATION: Temple Street Children's University Hospital	REF NO: TOR-027
COMMITTEE NAME: Quality & Safety Board	REVISION NO: 1
LEAD AUTHOR: Chairperson Quality & Safety Board	EFFECTIVE FROM: 26/06/2018
APPROVED BY: Board of Directors	REVIEW DATE: 26/06/2019
Page 3 of 3	SUPERSEDES: TOR-027/0

APPROVAL AND REVIEW:

The above Terms of Reference for the Quality & Safety Board of Temple Street Children's University Hospital were formally approved and adopted by teleconference with members of the Committee on June 26th, 2018.

The Terms of Reference will be reviewed on an annual basis from the date of approval. They may be altered to meet the current requirements of the Committee, by agreement of the majority of committee members.

Signed _____

Date: _____

Chair of Quality & Safety Board

Glossary of Terms

GLOSSARY	
Assessment	The interpretation of the information to make an educated conclusion about the quality of clinical care
BAR	Background, Assessment and Recommendation
BSC	Balanced Score Card
BSI	Blood Stream Infections
CEO	Chief Executive Officer
Driver diagram	A tool to lay out the various processes that can lead to improved board action in relation to quality of care. The broad categories of these processes are referred to as Primary and Secondary Drivers
Executive Director	A member of the company's Board of Directors who is part of the executive team and is an employee and has specified decision making role as a director of an organisation
HIQA	Health Information and Quality Authority
HSE	Health Service Executive
ISBAR	Identify, Situation, Background, Assessment and Recommendation
MMCUH	Mater Misericordiae and Children's University Hospital
MMUH	Mater Misericordiae University Hospital
Non-Executive Director	A non-executive director, abbreviated to Non-Exec, (NED) or external director is a member of the Board of Directors of a company who does not form part of the executive management team. They are not employees of the company or affiliated with it in any other way. Non- executive directors are the custodians of the governance process, they are not involved in the day to day running of the business but monitor the executive activity and contribute to the development of strategy.
NSSBHC	National Standards for Safer Better Healthcare
PDSA	Plan Do Study Act
QID	Quality Improvement Division
Recommendation	The Board recommends follow up action by the Executive
SPC	Statistical Process Control
TSCUH	Temple Street Children's University Hospital
Usefulness	Functionality and practicality of indicator in assessing the quality of clinical care.

Toolkit Resources

Resource 1: Top 10 Tips for Data



Quality Improvement for NHS Board Members, Second National Masterclass, 21 February 2017

Top 10 Tips for Data

1. What is the purpose of the data? Accountability, Improvement or Research?
2. Be mindful of the unintended consequences especially Arbitrary Numerical Targets, they can drive the wrong behaviour
3. Plot your dots (charts showing data over time versus tables of numbers)
4. Consider using only the 4 data tools
 - Pareto chart
 - Distribution or Histogram
 - Run Chart
 - Control Chart
5. Apply a 1 minute test. Are the conclusions obvious to everyone within a minute?
6. Identify Common or special cause variation
7. Are there signals in the data?
 - is it stable,
 - is it predictable
 - does our data tell us we are capable of new performance?
8. Do you understand the context of data?
9. Remember to try and avoid confirmation bias
10. Can we identify and link relationships between metrics?

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Resource 2: Checklist Prioritising Measures of Quality of Care

Checklist:

Prioritising Measures of Quality of Care

The Framework for Improving Quality (HSE Quality Improvement Division, 2016) comprises six drivers for improving quality in our health and social care services. Together, these six drivers create the environment and acceleration for improvement.

As one of the six drivers, 'Measurement for Quality' is a key aspect of any effort to improve the quality of care. Quality of care is improved by the routine use of the right information, being measured in the right way, to make better decisions.

Given the importance of measurement in quality improvement, this checklist has been developed as a tool to assist healthcare professionals at every level when they are developing or choosing measures (single measures or families of measures) to understand the quality of care they provide as professionals and as healthcare organisations. By considering carefully **why** we measure, **what** we measure and **how we use** the measure, we can maximise the learning from our data and use it to improve quality of care.

It is important to remember that as you go through this checklist, a specific measure may not meet all twelve criteria listed. The aim of the checklist is to help understand any possible limitations of individual measures under consideration, and therefore make an informed decision as to which measures are best suited for the task at hand. Furthermore, it is recommended that subject matter experts (those who work directly in, or use the services where the measures are being applied as well as those who collect and analyse the data) be included in the process of developing new measures of quality. These experts can help to answer important questions prompted by the checklist and ensure that the measures produced are both relevant for all staff and service users and a robust reflection of the aspect of care being measured.

This checklist begins by making sure that your measure is answering a question on an aspect of care important enough to warrant undertaking the effort of measuring it and that it is, in practice, measurable. Items 3-5 relate to the motivation, the '**why** we measure'. Items 6-8 on the checklist are based on ensuring good data quality ('**what** we measure') and items 9-12 are based on '**how we use** the measure'. These final four items on the checklist are included to ensure that, once you have identified measures that describe quality of care, you consider how best to present and use these measures to improve the quality of care.



Last updated:
September 2016

Checklist:**Prioritising Measures of Quality of Care****Initial Screening**

- 1** ☐ The measure reflects an important aspect of quality of care.

The most important aspect of health and social care is that the service user has a good and safe experience with an effective outcome, which leads to better health and wellbeing. Consider how the measure relates to how service users respond when asked "what matters to you?"
 - 2** ☐ It is measurable.

Data are already available, or it is feasible to collect data. It is not always possible to collect data that lead to meaningful information on a specific aspect of quality of care.
- In order to proceed with the checklist, the answer to these first two items should be 'Yes'. If the answer to either of these first two questions is 'No', consider a different measure.**
- 3** ☐ There is evidence that the measure focuses on an area where there is a need for improvement.

Evidence may include an incident report, feedback from service users, or an issue raised during a management walk-around etc. While having baseline data on the specific measure is ideal, it is not always necessary.
 - 4** ☐ The measure is aligned to the mission or goals of the organisation.

Aligning to an organisation's mission or goals helps ensure that action will occur in response to any issues identified. Where this does not exist refer to 1.
 - 5** ☐ It is possible to act on the measurement findings.

Measurement should lead to action. However, sometimes a measure may reflect an aspect of care that is difficult to influence or change. Where this is an issue, the measurement findings can be used as an advocacy tool to get buy-in when planning improvements.
 - 6** ☐ The measure is based on data that are good enough to allow us to learn.

It is not necessary to collect complex or perfect datasets in all instances. However, the data need to be of good enough quality in order to be reliable in identifying if a change has resulted in an improvement.

Continued overleaf

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- 7** ☐ The measure is collected at a frequency that is suitable for driving and evaluating improvements and is as close to real time as possible.
- It is recommended that the frequency of data collection be appropriate for the measure and as frequent as possible. Not only does this allow for more effective use of Statistical Process Control charts, it also facilitates more timely action where appropriate.
- 8** ☐ Effort in developing and collecting the measure is minimised.
- There are two aspects to this point:
 (a) If data already exist that are good enough to answer your question, use them, e.g. data collected for national KPIs or local projects.
 (b) If a new measure is needed, the collection system should not place an excessive burden on the organisation, e.g. a tick on a form that is already in use, rather than an additional form.

Using the measure

Once you have completed points 1-8 on the checklist, you will have identified a number of measures that you are confident give you valuable information on the quality of care. The next step is to bring information together to ensure that they are used to improve the quality of care.

- 9** ☐ The intended recipient(s) of the information is ready to receive it.
- It is essential that the recipient understands the measure, can interpret it and is in a position to take action. There is also a requirement that the type of measure being reported is appropriate, e.g. at Board level, there should be a focus on outcome data whereas for the executive, measures of the process and structure underpinning the outcome measures may also be appropriate.
- 10** ☐ There is information available that supports the understanding of the measure, e.g. service user stories, staff feedback.
- Qualitative information can enhance the understanding of quantitative information. It is recommended that information from stories and feedback from service users and staff be included when interpreting measurements of quality.
- 11** ☐ Measures are prioritised that together, give a balanced, comprehensive view of the quality of care.
- It is not possible to measure everything. In choosing measures for prioritisation, aim for balance across the four domains of quality (HIQA: Person-Centred Care, Safe Care, Effective Care, Better Health and Wellbeing) and across the breadth of your service. Avoid having a lot of information in one domain at the expense of other domains.
- 12** ☐ The suite of measures are current and relevant.
- Over time, the priorities of a service can change. It is recommended that the composition of the suite of measures be reviewed periodically in order to ensure they remain current and relevant.



Version 1.1 September 2016

Further information available on www.qualityimprovement.ie



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Resource 3: Example of Board of Directors Monthly Letter and Quality Dashboard



November 16th 2017

Re: Temple Street Quality Dashboard: Papers for consideration at Board meeting on November 24th 2017

Dear Board Member

Please find attached the Board of Directors' Quality Dashboard for November 2017 for your consideration. The test phase of the Board Quality Dashboard project was completed in October 2017. Measurement of outcomes allows us to understand how we are performing relative to our goals, identify the gaps and more importantly use the knowledge to improve. The dashboard comprises a selection of predominantly outcome measures, creating a picture of quality of clinical care as a barometer of patient safety in the hospital. This allows the Board to hold the executive to account for quality and safety. The Quality and Safety Board will continue in the interim to advise the Board on selection and de-selection of appropriate measures.

The measures presented for November are:

- 1) Rate of Children Who Coded Outside Of The ICU (quarterly report)
- 2) Number of complaints reported
- 3) Number of medication incidents reported
- 4) Number of "good catches" reported
- 5) % emergency readmissions (surgical and medical) within 30 days of discharge
- 6) Number of days between 'clinically significant blood stream infections'

We would like to thank Board members who completed the October survey and we would appreciate if any outstanding surveys for October dashboard could be completed and returned to office of CEO or Ms Aveen Murray at the next board meeting. Copies of the survey will also be available for circulation at the board meeting. The final survey is required for to complete final analysis of the project measurements and to ensure no gaps in data.

Case Study and Tool Kit:

In order to support the sustainability of the project and share the learning, Dr Bláithín Gallagher and the Project Team are currently writing up a formal case study and tool kit including core recommendations.

The subgroup collating the substantive information for the case study and tool kit propose circulating a draft document to Board members for December meeting for review and approval. If you wish any written suggestions, amendments, revisions may be given to the office of the CEO.

Finally, we would like to take this opportunity to thank you all for your constructive feedback support and enthusiasm in embracing this project, which demonstrates the Boards' commitment to quality improvement at all levels of the organisation.

An A4 copy of the prize winning poster at National Patient Safety Office Conference in Dublin Castle is attached for information.

Yours sincerely

Ms Mona Baker (CEO, Board on Board Project Sponsor)
Ms Eilis Murphy (Board on Board Project Co-ordinator)



Temple Street Children's University Hospital

Board of Directors Quality Dashboard

BAR Report November 2017

Definition: Quality of Clinical Care (QCC)

'clinical care that is person centred, effective, safe and results in better health and wellbeing'

Prepared by:

Paula Day, Risk Manager

Jenny Carey, Head of Operations

Grace O' Mahoney Surveillance Scientist / Dr Rob Cunney Consultant Microbiologist

Shane McCabe, BIU

Caroline O'Connor - Nursing

Eilis Murphy, Quality Manager / Emer Quigley, Quality Officer

Board of Directors Quality Dashboard November 2017

Quality Indicator 1: Rate of Children who coded outside of ICU

Indicator Description: Quality Domain Effective Care and Support

What: This chart shows the rate per 1000 bed days of children who coded outside the Paediatric Intensive Care unit (PICU) from January 2012- September 2017 inclusive.

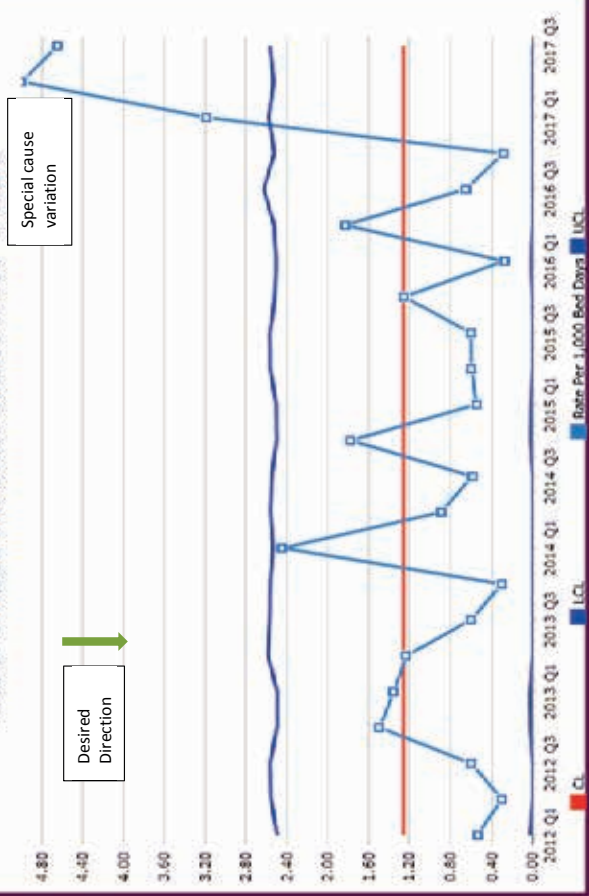
The desired direction for this indicator is downward.

Why: It is important to know which children may be at risk for a code so that the medical team can intervene to make them better or transfer them to an intensive care area if needed.

So What: Until 2017, normal (common cause) variation was noted. Since 2017, special cause variation has been identified, signifying the complexity and acuity of patients at ward level which can impact on staff, families and other patients.

Effective Care and Support

Rate Of Children who Coded Outside Of ICU -U-Chart



Background:

A code refers to a respiratory or cardiac arrest and is a life threatening situation, in which emergency clinical interventions are required to prevent further patient deterioration and sustain life.

Cardiac arrests are defined as a patient requiring cardiac compressions and or defibrillation. A respiratory arrest is defined as a patient requiring bag mask ventilation. A **code blue** is a message over a hospital's public address system indicating that a cardiac arrest requiring CPR is in progress

Patients should be transferred to PICU where possible *before* they have an arrest which would indicate the importance of early identification of deterioration prior to an event occurring.

This chart presents the rate of emergency codes requiring assisted ventilation +/- chest compressions that occur outside the Paediatric Intensive Care Unit (TSCUH) per 1000 inpatient bed days. 5 years data is now presented.

Assessment:

Special cause variation is noted for each quarter to-date this year (Q1-Q3 2017) due to multiple codes on one or more patients which requires special consideration in terms of impact on family staff and other patients. In 2017, one patient accounted for 12 codes in Q1 and 39 codes in Q2. A downward trend was expected in Q3 due to an alteration in the patient's resuscitation status. However, in Q3, two further patients have accounted for 9 and 10 calls respectively. This is an indication of the complexity and acuity of patients at ward level.

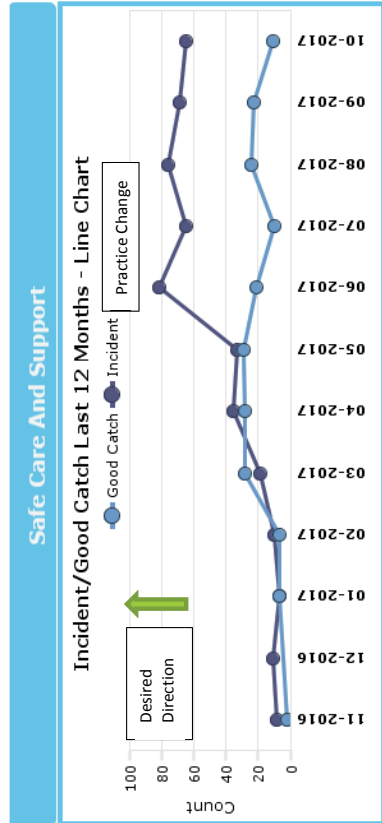
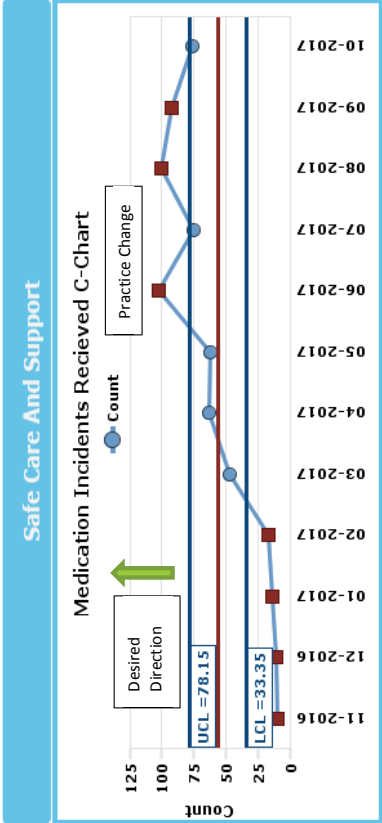
The Resuscitation officers evaluate all code events shortly after they occur. This near real time review is used to identify opportunities for improvement and shared learning that can be used to improve care. A report is presented to the hospital Resuscitation committee at regular intervals.

Recommendations (for Board consideration):

The Board welcomes this complex indicator and note that it will be reported quarterly in line with international comparator.

Quality Indicator 2/3: Medication Incidents Received including 'Good Catches'

Indicator Description: Quality Domain Safe Care and Support
What: This SPC c-chart shows the total number of medication incidents received (inclusive of errors and 'good catches') over 12 months to September 2017.
The desired direction is upwards.
Why: Medication errors are an on-going problem resulting in varying degrees of avoidable harm. Under-reporting of medication errors is a significant problem nationally and internationally.
So what: The goal is to have full reporting of incidents as improvements in Patient safety can be facilitated through incident reporting and collection of standardised data about medication incidents and good catches. A practice change in June 2017 facilitated increased reporting.



Background:
Total number of Prescribing Incidents and "Good Catches": 89

Top 3 Prescribing Errors and "Good Catches": 67 (75.3%)

- 22 (24.7%) related to Incorrect route/incorrect anatomical site
- 15 (16.9%) related to unclear/incomplete prescription
- 11 (12.4%) related to incorrect dose (over/under/extra): 11 (12.4%)

Top 3 Administration of Medications Errors: 20 (22.5%)

- 5 (5.6%) related to non-Compliance with hospital policy
- 4 (4.5%) related to drug Omission: 4 (4.5%)
- 3 (3.4%) related to Incorrect dose and unclear/incomplete documentation

Reporting by discipline of 'Actual Incidents' and 'Good Catches'
87 incidents reported by nursing staff and 2 reported by Pharmacy. The exemplars were St. Gabriels (49), Surgical Flat (8), St. Michael's C (7) and PICU (7).

NCC MERP Index for Categorizing Medication Errors:
There were 5 category D incidents reported with no harm to the patient. There was 1 Category E reported which resulted in temporary harm to a patient and required intervention.

Assessment:

The statistics continue to show that nursing staff the exemplars at reporting incidents and "good catches". The Medication Error report is circulated to Medication Safety Working Group and Clinical Nurse Managers on a weekly basis. The NCHD representative on the "Medication Safety Working Group" provides feedback to the NCHDs on a monthly basis on the prescribing errors and continues to encourage NCHDs to report incidents and "good catches". The statistics and trends will be discussed at the Drugs & Therapeutics Committee on 20th November and at the Joint D&T Committee with OLCHC on 21st November with a view to discussing a joint quality improvement initiative. The Board's recommendation from September has been implemented and all medication errors category C and above are reported on NIMs to demonstrate the hospital's safety culture.

Recommendations (for Board Consideration):

1. Development of a joint formulary with OLCHC
2. Recommendation being made to the Drugs & Therapeutics Committee to develop a "Nil by Mouth" hospital policy.

Quality Indicator 4: Number of Complaints Received

Indicator Description: Quality Domain Patient Centred Care What: This SPC c- chart shows the number of Complaints received within TSCUH over 12 months to September 2017. Monthly variation is within the expected range or "common cause" variation. The desired direction is to remain stable. Why: Children/ young people and parents/ guardians have the right to make a complaint if they believe that standards of care, treatment or practice fall short of what is acceptable So What: In TSCUH we continuously review opportunities to improve the patient experience by monitoring and reviewing complaints, comments or compliment through a number of methods.	Background: The total number of complaints received in October was 25 which raised 27 issues. Top 5 Complaints Received by Category: • Clinical Issues: 8 (29.6%). Of the clinical issues received, 4 (18.5%) related to dissatisfaction with treatment in the Emergency Department, 1 (3.7%) related to the orthopaedic service, 1 (3.7%) related to dissatisfaction of treatment during recent admission, 1 (3.7%) related to the pain service and 1 (3.7%) related to Radiology. • Access to Services: 5 (18.5%). Of these 1 (3.7%) related to psychiatry, 1 (3.7%) related to cancellation of admission and 3 (11.1%) related to cancellation of appointment • Administration: 5 (18.5%). Of these complaints, 3 (11.1%) related to refusal to pay ED government levy and in-patient charge due to dissatisfaction with the service provided; 1 (3.7%) to appointment sent to incorrect patient and 1 (3.7%) related to patient attending appointment on incorrect day. • Communication: 2 (7.4%) related to a parent who became irate when they were contacted by the hospital and a parent who could not get through to the hospital for a blood result and 1 (2.9%) related to perceived staff rudeness in the Private Clinic. • Delay: 3 (11.1%) related to treatment delay 2(7.4%) related to Emergency Department and 1 (3.7%) was an in-patient.
	Assessment: A review of the trend analysis of complaints received in October shows that there continues to be complaints each month in relation to access to services and awaiting times. Two complaints in October related to delay being seen in the Phlebotomy Department. A review of the phlebotomy services is currently being undertaken by the Ambulatory Care Manager and Divisional Nurse Manager in OPD with a view to making recommendations to improve patient flow. Two complaints related to access to services for Ophthalmology. One complaint was logged on NIMS as it related to a parent's dissatisfaction with the treatment received and an appointment has been made for the parent to meet with the treating consultant in OPD. There were no requests for internal review and no reviews initiated during October. In Q3 the hospital was 98.9% compliant with the HSE target to close out 75% of complaints within 30 working days.
	Recommendations (for Board consideration): Implementation of recommendations of Phlebotomy review once completed.

Quality Indicator 5: Device Related Blood Stream Infections

Indicator Description: Quality Domain Safe Care and Support

What: This indicator is displayed as an SPC T chart ("time between"). Note that the horizontal axis shows the date in the month on which a BSI occurred. Thus, the time between points on the axis varies. Each data point represents an episode of bloodstream infection linked to an invasive medical device (mainly central venous catheters).

The desired direction is to increase the number of days between bloodstream infections, i.e. in this chart an upward direction is positive.

An initial miles stone is set at 100 days (International Benchmark)

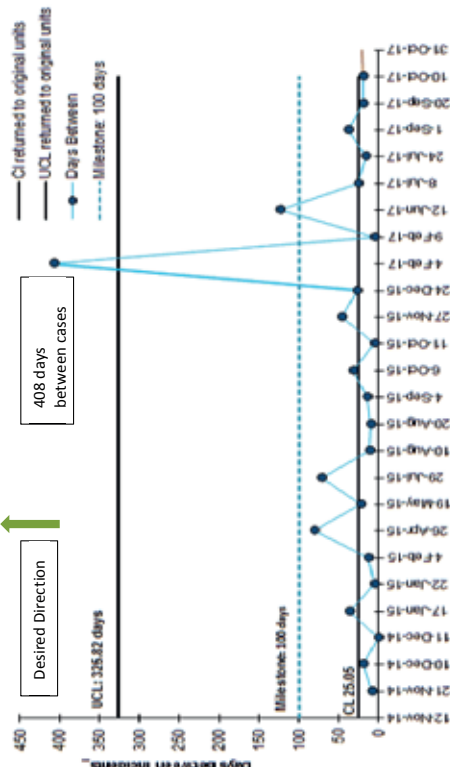
Why: Invasive medical devices are an important source of preventable bloodstream infection (BSI). This is important measure of safety to prevent unintended harm to the patient resulting in extended length of stay.

So What: We have surpassed our 100 day milestone twice since November 2014:

- December 2015 to February 2017 (408 days without a device-associated BSI).
- February to June 2017 (123 days)

Safe Care And Support

TSCUH Device related Infections -Days since Last Infection-T Chart



Background:

Invasive medical devices are an important source of preventable bloodstream infection (BSI)

- Central venous catheters (CVCs; "central lines") are the device most frequently associated with BSI.
- Most, and possibly all, CVC-related BSI are preventable, through strict adherence to care bundles during insertion and daily management.

Between November 2014 and October 2017 a case of device related bloodstream infection occurred on average every 43 days in Temple Street. Between December 2015 and February 2017 there were 408 days without a device related blood stream infection

Of note, the ICU (which in the past would have accounted for the majority of device-related BSI cases) had no case for two years (September 2015 to September 2017), following the implementation of care bundles for vascular devices.

Quality Improvement initiatives have been supported in Theatre and Renal services to date.

Assessment:

- The frequency of device-related BSI at TSCUH is good, compared to most hospitals in Ireland, but international experience suggests we should be aiming for an average of at least 100 days between cases.
- Updated insertion and maintenance care bundles for vascular catheters have been developed, and are being implemented as part of a wider improvement programme around vascular access devices.
- Improved prospective surveillance of device-related infections (not just BSI) is required, that includes measurement of overall device use.
- Future Quality improvement opportunity identified in Neonatal High Dependency Unit /Neonatal Ward

Recommendations (for Board consideration):

- Acknowledge ICU staff in achieving two years without a device-related BSI
- Support for implementing a quality improvement programme in Neonatal HDU/Neonatal Ward

Quality Indicator 6: % of Emergency Re-Admission (medical & surgical) within 30 days of discharge

Background:

- In October 2017 the percentage of medical and surgical re- admissions to Temple Street was 3.59% compared to 2.06% in September 2017.
- This equated to 46 episodes of re-admission within the month out of 1281 episodes of admissions.
- 3 patients had more than 1 episode of readmission during the month.

Assessment:

- There is minimal variation on the % of medical and surgical re-admissions to Temple Street each month i.e. readmission rates are stable
- It is essential that data for patients who are identified with more than 1 episode of readmission is reviewed. 1 patient in October may be miscategorised as having 2 emergency readmissions. Further review required for the remaining 3 patients.

Recommendations (for Board consideration):

- To continue to monitor this indicator for 6- 12 months.
- Random sample audits of the patients who have been re-admitted should be considered to identify trends, areas of concern or mis-categorisation of the admission episode.

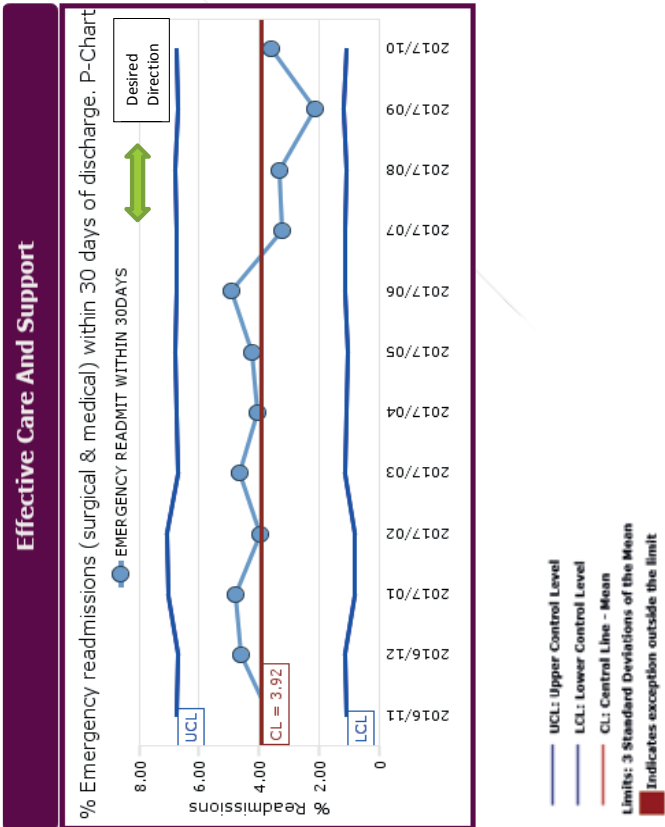
Indicator Description: Quality Domain Effective Care and Support

What: This SPC P- chart shows the percentage of emergency readmission within the 30 days of discharge for patients with both medical and surgical admissions.

The desired direction is to remain stable

Why: While there will always be a portion of patients readmitted to hospital following discharge for reasons that are not to do the quality of clinical care a high proportion of readmits or upward trend could be an indicator of some weaknesses within care system.

So What: This measure provides information in relation to how often children are readmitted and in addition those that who have had more than one emergency readmission within 30 days. It furthermore provides a trigger to identify reasons why as well as potential opportunities for improvement



Glossary of Terms:

BAR: Background, Assessment, Recommendation (replaced ISBAR June 2017)

BSI: Blood stream infection

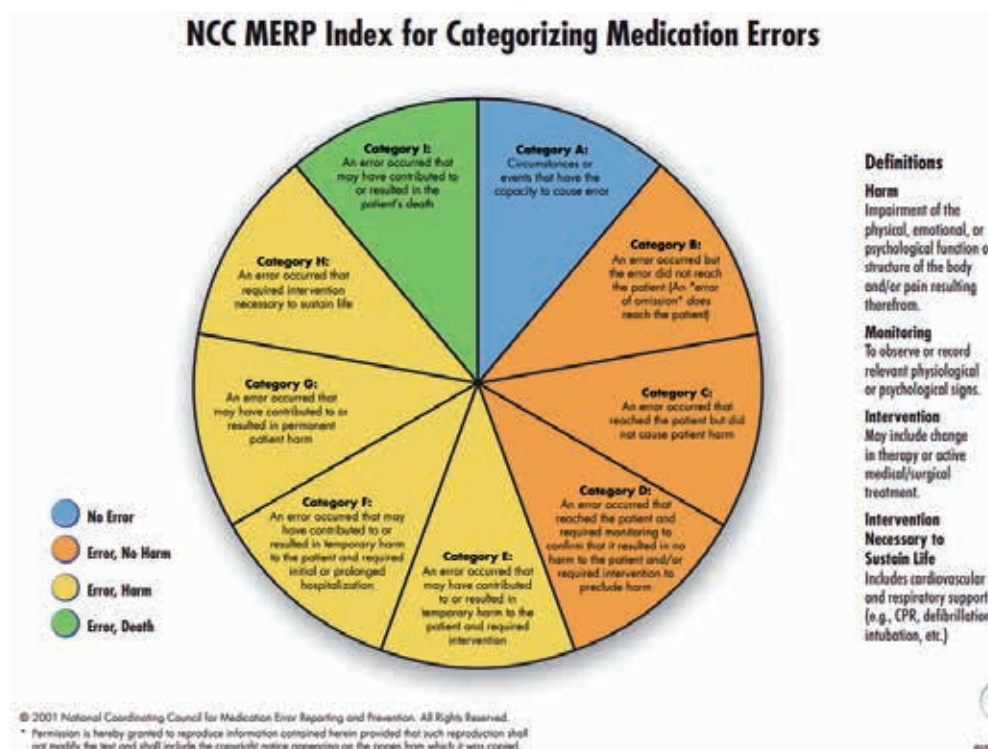
D&T Drugs and Therapeutics

HIPE: Hospital Inpatient Enquiry System

NIMS: National Incident Management System

NCC MERP: National Coordinating Council for Medication Error Reporting and Prevention:

Category A-D:	No harm occurred and/or reached the patient
Category E:	Temporary harm to the patient that required intervention
Category F:	Temporary harm to the patient that required initial or prolonged Hospitalisation
Category G:	Permanent patient harm
Category H:	Intervention required sustaining life
Category I:	Patient death



OSPIP: Out Patient Services Performance Improvement Programme (HSE National Programme)

PICU: Paediatric Intensive Care Unit

Resource 4: BAR Communication Prompt Sheet

Board of Directors Quality Dashboard and BAR Communication Prompt Sheet (to guide board meeting discussion)

From September 2016 the Board of Directors received and monitored a *Board of Directors' Quality Dashboard* comprising quality of clinical care indicators incrementally introduced over the months September 2016 to October 2017. For this project the Board of Directors' use *Background, Assessment Recommendation* (BAR) as a useful way to structure the board discussion around the *Quality Dashboard*.

Quality Dashboard and BAR report:

Board receives documents prepared by Quality and Safety Executive within board papers
(one week in advance of board meeting)

At the board meeting the steps below are used by the board to discuss the Quality Dashboard and BAR report

Background:

Executive: describes the context – what has happened in the previous months that may impact on the indicators?

- Are there internal or external factors impacting the indicator?

Assessment:

Board: discusses and makes assessment of the quality of clinical care based on the indicators (informed by the executive assessment contained in the BAR written report)? Do we have enough information to assess our performance?

More information needed to make an assessment

Performance attainment

- Normal variation (within an acceptable range)
- Special cause providing signal of improvement

Improvement opportunity

- Normal variation (outside the acceptable range)
- Special cause (unusual event) indicating dis-improvement

Recommendation:

Board: considers executives proposed recommendations and makes board recommendations (requested actions) to the executive

Request further information and analysis from executives

- Board congratulations to executives and staff
- What can we learn?
- Opportunities for further improvement?

- Request further analysis
- Request improvement plan
- Request other

Board requested actions recorded in Board minute action log

Resource 5: Guide for Writing BAR Report

Guide for writing **BAR** report for Board Quality Dashboard

This algorithm outlines the approach to be taken in writing a background, assessment, recommendation (BAR) report for relevant quality of care indicators presented on the Board of Directors Quality Dashboard. The Board of Directors comprises of those with clinical and non-clinical backgrounds. This report should be written in language that those with non-clinical background can understand. All information on the indicator should fit on a single page.

Indicator Description Box (above the chart on the left of page):

- **What:** Name the indicator, the domain of quality and type of chart. State the desired direction and the expected practice, goal or target for this indicator (where applicable)
- **Why:** Briefly state why the measure is important
- **So what:** Include statement on the performance over time based on the data in the chart.
If a new indicator is introduced to the dashboard arrange for a subject matter specialist to attend the board meeting to explain how the indicator matters.



Background (top right box)

Include what is the context – what is impacting on the indicator results you are presenting in the quality dashboard?

Where applicable, consider including some of the prompts below;

- Is our performance (i) stable; (ii) improving; or (iii) disapproving?
- State how the target has been chosen (if relevant) e.g. is it related to any regulation, clinical care programme, national KPI, National QA Programme or policy. Are there internal or external factors impacting the indicator, e.g. developing a new service, opening beds, closing beds, national developments, community developments?
- Are there identified improvement plans/projects in progress in the hospital e.g. service improvement plans, business cases, lean projects?
- Have the improvement actions identified relating to this indicator been fully implemented, if not why? Would they have impacted this indicator result?
- Outline any other information that influences the indicator.



Assessment (centre box on the right of chart):

Describe what is this indicator result telling the Board about the quality of care provided for children and their families?

More information needed to make an assessment

- Outline what further information is required and if this information is accessible

Performance attainment

- Normal variation (within an acceptable range)
- Special cause providing signal of improvement

Improvement opportunity

- Normal variation (outside the acceptable range)
- Special cause (unusual event) indicating dis-improvement



Recommendation (bottom right of the chart):

Propose recommendations (requested actions) that the board may wish to consider arising from review of the indicator

- Suggest some actions that the board might request of the executive in order to improve or sustain this indicator.
- Screen each proposed recommendation to check that it is Specific, Measurable, Attainable, Relevant and Timely (SMART)



Submit collated Quality Dashboard and BAR report to Executive for sign off prior to inclusion in the board papers

Resource 6: Guidance Notes on Statistical Process Control Charts

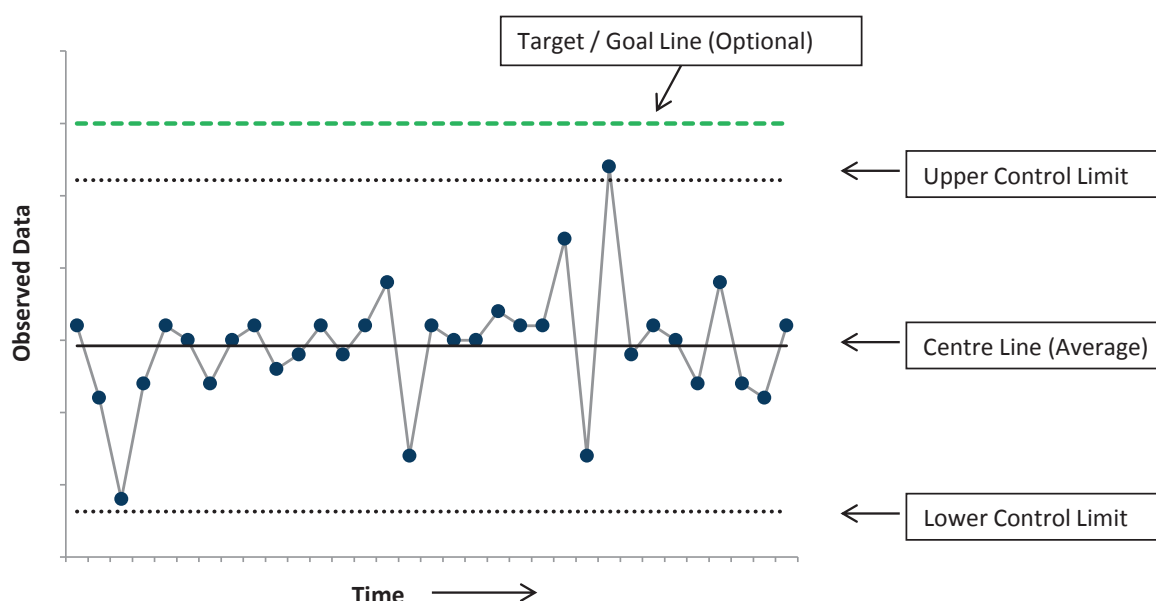
Measurement for Improvement Guidance Note

Anatomy of a Statistical Process Control Chart

A **Statistical Process Control** (SPC) Chart consists of data plotted in order, usually over time (weeks, months etc). It includes a centre line based on the average of the data. It also includes upper and lower control limits based on statistical calculations (3 sigma deviations from the average).

The control limits are based on the variation in the observed data. The control limits reflect the expected range of variation within the data, and do not reflect the desired range of variation in terms of quality of care. The probability of any data point falling outside of the control limits by chance alone is very small.

The target / goal line is interpreted differently to the other lines in the chart. It is not determined by the data and so is not normally part of an SPC chart, but it can be useful to display it to help focus improvement efforts.



Note: In addition to a data point outside of the control limits, there are four other rules that indicate non-random (special cause) variation.

References

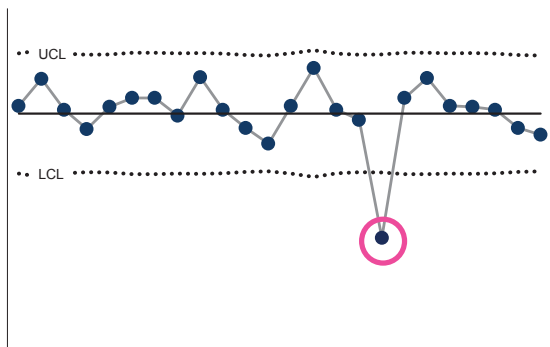
Provost L, Murray S. The Healthcare Data Guide: Learning from Data for Improvement. San Francisco: Jossey-Bass, Publication, 2011

Further information available on www.qualityimprovement.ie

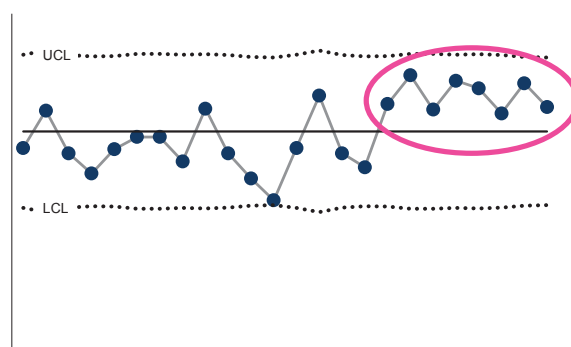
Measurement for Improvement Guidance Note

Rules for detecting special cause variation using statistical process control charts

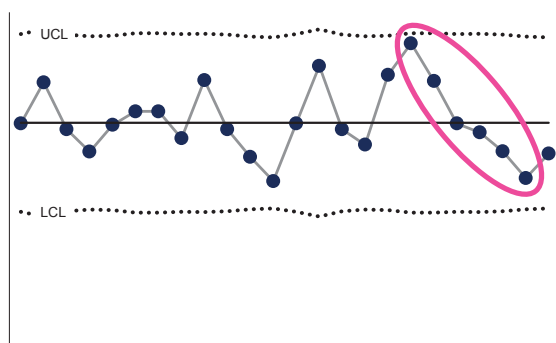
1. A single point outside the control limits (this doesn't include points exactly on the limit)



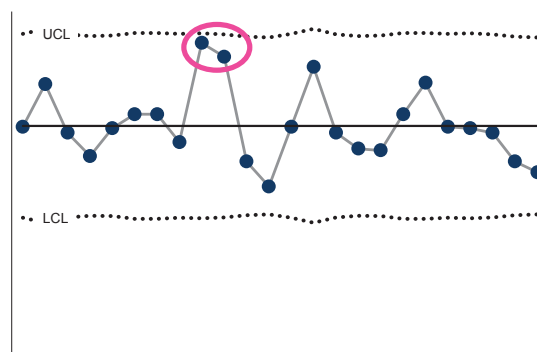
2. A run of 8 or more consecutive points above or below the centre line



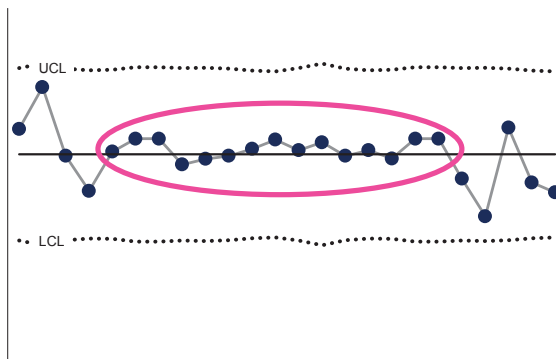
3. A trend of at least 6 consecutive points all going up or down



4. Two out of three consecutive points near a control limit (in the outer one-third)



5. A series of 15 consecutive points close to the centre line (in the inner one-third)



Further information available on www.qualityimprovement.ie

Measurement for Improvement Guidance Note

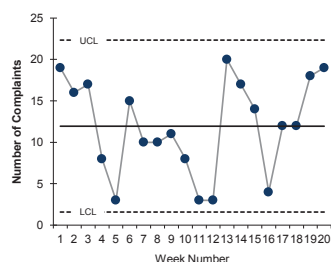
Guide to Statistical Process Control charts frequently used in health care

A **Statistical Process Control (SPC)** chart consists of data plotted in order, usually over time (weeks, months etc). It includes a centre line based on the average of the data. It also includes upper and lower control limits based on statistical calculations (3 sigma deviations from the average).

There are a number of different types of SPC charts that are frequently used in health care. The type of chart used depends on the type of data being analysed, and it is important to select the appropriate type of chart for your data. There isn't a one-size-fits-all chart. While there are various algorithms available for selecting the appropriate chart, this guidance note describes the most commonly used SPC charts in health care and some examples of when to use them. The control limits are calculated differently for each of the different types of SPC charts, but the interpretation of the charts remains the same.

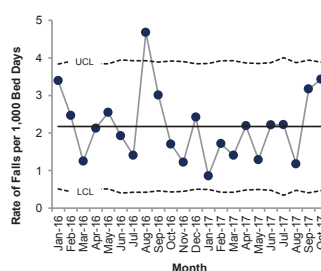
Note that there are a small number of assumptions and requirements for developing effective charts; it is important to consult these in addition to selecting the appropriate chart.

C Chart



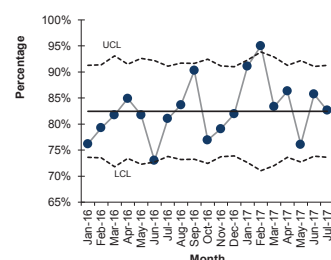
A **C chart** is used for **counts** of undesirable or unexpected events, e.g. number of errors, number of falls, number of complaints, number of pressure ulcers, number of infections.

U Chart



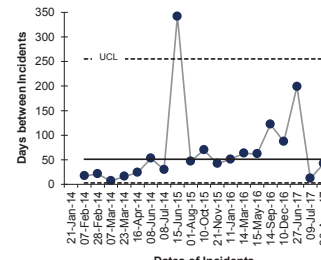
A **U chart** is used for **rates** of undesirable or unexpected events, e.g. Number of children who code outside of ICU per rate of falls per 1,000 bed days, rate of pressure ulcers per 1,000 patients.

P Chart



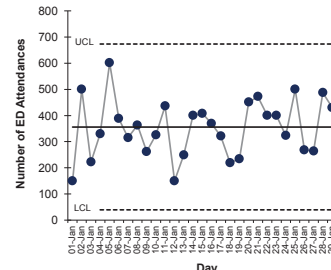
A **P chart** is used for **percentage** or proportion data e.g. percentage of patients in ED for less than 24 hours, percentage of emergency readmissions within 30 days of discharge.

T Chart



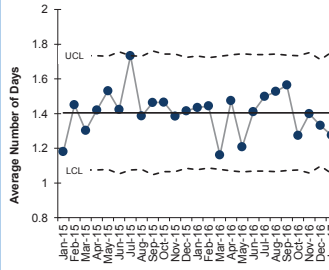
A **T chart** is used for the **time between** rare events e.g. number of days between device related bloodstream infections, number of days between retained foreign objects.

I Chart



An **I chart** (also known as an **Individuals or Xmr chart**) is used for activity data or counts of expected events, e.g. number of inpatients admissions, number of ED attendances.

X Bar Chart



An **X Bar chart** (often paired with an **S chart** showing the standard deviation) is used for averages, e.g. average length of stay, average turn-around time for a specific test.

References

Provost L, Murray S. The Healthcare Data Guide: Learning from Data for Improvement. San Francisco: Jossey-Bass, Publication, 2011

Further information available on www.qualityimprovement.ie

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