

Policy Brief

Informing healthcare team performance: Integrating data to improve quality and safety



Co-Lead

EXECUTIVE SUMMARY

A worldwide rising demand for healthcare means increasing resource investment in health systems, with the concomitant requirement for greater accountability. Greater accountability requires the generation of more and more data and information. Healthcare is frequently described as fragmented or siloed and this is reflected in how data is captured, managed and shared throughout the system. Data relating to business performance, quality and patient safety is extracted from different systems, and its primary use is to inform senior decision makers. Meanwhile, healthcare teams when asked if they are performing well in relation to quality and safety are often unable to answer this question. This policy brief summarises the results of a study undertaken as part of the Collective Leadership for Safety Culture research programme to co-design a suite of Quality and Safety Performance Indicators to assist acute hospital healthcare teams to monitor and improve their quality and safety performance.

INTRODUCTION

It is estimated that up to 30% of the total health budget may be spent on handling information - collecting it, looking for it, storing it [1]. Data relating to business performance, quality and patient safety is extracted from electronic patient data systems, audit findings, incident reporting systems, etc. and analysed at the organisational or national level. Data is frequently gathered and analysed in a piecemeal manner (i.e. with a narrow focus on a specific indicator or measure of interest) without taking account of how different types of data relate to each other.

Different recommendations have been made to improve this situation. For example, the US Agency for Healthcare Research and Quality developed a series of evidence-based Patient Safety Indicators for use with hospital administrative data [2] and the Irish Health Service Executive is currently developing a suite of evidence-based Quality Care-Metrics (QC-M) for nursing and midwifery clinical care processes. However healthcare teams when asked if they are performing well in relation to quality and safety are often unable to answer this question.

AIM: This study undertaken as part of the Collective Leadership for Safety Culture (Co-Lead) research programme aims to co-design a suite of Quality and Safety Performance Indicators (QPIs and SPIs) that are relevant and meaningful to acute hospital healthcare teams in monitoring and improving their quality and safety performance [3].

STUDY METHODS

Background data gathering consisted of:

- **Observations:** Of team meetings, management meetings, multi-disciplinary team (MDT) ward level meetings, quarterly reporting meetings of identified 'effective teams'.
- **Documentation Analysis:** Data and information flow from the team to the hospital, hospital group, national clinical care programmes and back through the levels.
- **Qualitative Interviews:** Hospital healthcare team members, Quality and Safety Managers, Risk Manager across three hospital (n=26).

Summary of Research Findings

- Significant amounts of data are gathered at a large cost to healthcare organisations in relation to Quality and Safety (Q&S). However a lot of this data is extracted from systems and people, and fed upwards through the healthcare system but not fed back to healthcare teams to help them understand and improve their performance in relation to Q&S.
- Healthcare team members felt they did not know how they were performing in general or what they were being measured against, and would not be able to say if their work area was safe.
- The majority of safety data focuses on lagging (data from when things go wrong or the 'absence of safety') rather than leading (proactive approaches to improve safety, e.g. safety pauses, huddles, walk-arounds, safety culture assessments) indicators/measures.
- A suite of Q&S Indicators (QPIs and SPIs) was co-designed by healthcare team members, national Q&S experts, patient representatives and health systems researchers including 'past, present and future' measures at the **Patient, Environment, Care and Team** levels.

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- Visited two wards of national hospital identified as a 'leader' in the field of data display at the team / local level.

Co-design process consisted of:

- Bringing together representatives from five healthcare teams, two Q&S experts, two patient representatives, team of health systems researchers (n=20) over a series of 6 half-day workshops.
- Using interactive methods to facilitate exploration of current team processes and understanding of and measurement of Q&S.
- Researchers feeding international developments and evidence into the process.
- Together developing a suite of QPIs and SPIs that are relevant to acute hospital teams.

RESULTS

Quality and Safety data

Detailed findings from the interviews and background data gathering will be presented in a separate policy brief. The aim of this brief is to outline how we worked with healthcare staff to develop a solution to the main problem identified as discussed below. Results highlight that large amounts of routine and non-routine data are gathered in relation to performance efficiency (e.g. length of times to be seen, average length of stays, number of patients seen, admission/discharges by time of day); quality of care (e.g. number of complaints received, hand hygiene audit results) and safety (e.g. number of falls, number of infections, stroke 30 day mortality rates, number of incidents).

Safety data tends to be analysed in isolation (e.g. number of falls per ward/area), and not examined alongside routine performance data (e.g. ALOS or carer-to-patient ratios for that ward) to identify or flag in advance safety concerns. Safety data is also not triangulated from different sources.

Much of the safety data gathered is in relation to what are termed 'lagging' safety performance indicators (data from when things go wrong or the 'absence of safety'). Little data, if any, is gathered or reported on in relation to 'leading' safety performance indicators (proactive approaches to improve safety, e.g. safety pauses, huddles, walk-arounds, safety culture assessments).

Team members are familiar with KPIs for their profession and the national KPIs for their clinical programme (e.g. surgical, emergency medicine etc). KPIs, QPIs and SPIs did not seem to exist at the interdisciplinary team level.

In two of the hospitals customised versions of nursing care metrics were being used, and nurses felt they did receive feedback on their performance but noted there should be a similar system for medical staff. These systems are a step in the right direction, but do not take cognisance of the interdisciplinary nature of care delivery and the importance of team performance.

Team members overwhelmingly noted that they would like more feedback from patients on their experience of the care that they received.

Implications and Recommendations

Healthcare team members need to be involved in understanding and co-designing QPI and SPI measures that are meaningful for them in terms of their performance.

Safety needs to be effectively managed in hospitals and part of this management is the measuring and monitoring of lagging and leading SPIs in relation to the PAST, PRESENT and FUTURE that make sense to healthcare teams.

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Co-designing a QPI and SPI framework for acute hospital healthcare teams

As part of a 5-year programme - Co-Lead (the aim of which is to develop Collective Leadership interventions for healthcare teams to improve safety culture) - a co-design team was established. This team led the development of the Co-Lead intervention including an intervention component called 'Understanding Safety Performance at the Team Level'. A suite of QPIs and SPIs was developed as part of this including measures at the Patient, Environment, Care and Team levels. The acronym PECT reflects these levels. The Measuring and Monitoring of Safety [4] framework was used to look at the PECT measures in relation to PAST harm, PRESENT awareness and FUTURE harm prevention, thus ensuring both lagging and leading indicators are used.

In relation to 'Environment' for example, at the PAST level the measures selected were: healthcare associated infection surveillance data for MRSA, C.diff, VRE; PRESENT: results of daily checks on safety critical equipment/materials, audits of everyday care processes showing reliable application (e.g. hand hygiene), medication safety audits; FUTURE: results of Safety Cases being made for new equipment/materials or changes to current SOPs. Table 1 shows the full suite.

DISCUSSION AND CONCLUSIONS

Key performance indicators are widely recognised as essential in managing and improving performance. Hospital healthcare is mediated for the most part through MDTs working in particular areas. However, team members do not have an 'overview' picture of how they are performing in relation to Q&S. This is a major risk to the management of safety as teams cannot be expected to improve when they do not understand or cannot benchmark their current performance.

Q&S data needs to be translated into information that drives improvement, and then it needs to become a source of knowledge for healthcare teams. It is when data becomes meaningful knowledge, i.e. sheds light on current performance against best practice, that staff can use this knowledge to change and improve.

Acknowledgements

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References

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Table 1: PECT Suite of QPIs and SPIs

| Patient | Environment | Care | Team |
|--|--|--|--|
| <p>PAST:</p> <p>Safety Cross – days since last incident</p> <p>Incident reports from this ward in the last 30 days, with follow up on corrective actions implemented</p> <p>Patient Experience Survey results</p> | <p>PAST:</p> <p>Monthly HCAI Surveillance Data</p> <p>MRSA</p> <p>C.Diff</p> <p>VRE</p> | <p>PAST:</p> <p>Care Bundles</p> <p>Days since last infection:</p> <p>Urinary Catheter</p> <p>CVC Lines</p> <p>PICC Lines</p> <p>Pressure Ulcers</p> | <p>PAST:</p> <p>Days since last Senior Management Quality and Safety Walkrounds, action items arising and status</p> <p>Photographs of team members; Quality and Patient Safety Staff Members</p> |
| <p>PRESENT:</p> <p>Number of Compliments and Complaints received in last month, actions arising and current status</p> | <p>PRESENT:</p> <p>Results of daily checks on safety critical equipment/ materials</p> <p>Audits of everyday care processes showing reliable application (e.g. hand hygiene) Medication Safety audits</p> | <p>PRESENT:</p> <p>Shift handover policy followed</p> <p>National Clinical Care Programme: Desired targets, actual performance</p> <p>Safety briefings/pauses (situation awareness)</p> | <p>PRESENT:</p> <p>QI and Patient Safety Newsletter/announcements</p> |
| <p>FUTURE:</p> <p>Hazard/risk identification and mitigation actions needed</p> | <p>FUTURE:</p> <p>Results of Safety Cases being made for new equipment/ materials or changes to current SOPs</p> | <p>FUTURE:</p> <p>Ward Huddles taking place each 6-12 hours – looking ahead to potential hazards/ risks for next 6-12 hours</p> | <p>FUTURE:</p> <p>QI and Patient Safety projects happening in the area/by this team and improvements arising</p> |