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What is Quality Improvement Methodology

What is Quality and Quality improvement?

Quality is described by the US Institute of Medicine (IOM)¹ as:

The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge

The IOM also identified six dimensions through which quality is expressed: safe, effective, patient centred, timely, efficient and equitable.

- **Safe:** avoiding injury from care that is intended to help, e.g. medication, surgery, medical equipment. This includes healthcare associated infection (HCAI) as well as other harm resulting from healthcare.
- **Effective:** avoiding over or under use of services e.g. unnecessary tests, adherence to guidelines.
- **Patient [service user] centred:** providing respectful, responsive, individualised care, e.g. partnering with patients [service users] to design care pathways.
- **Timely:** reducing waits and harmful delays in care, including safe transition into and out of the hospital system.
- **Efficient:** providing care that makes best use of resources for optimal benefit and focuses on eliminating waste such as unnecessary movement of hospital patients or staff.
- **Equitable:** providing equal care regardless of characteristics e.g. gender, ethnicity, geographical location and socio-economic status.

Quality Improvement is a systematic approach using specific methods to improve quality; achieving *successful and sustained improvement*.

*Ovretveit*² describes improvement as better patient experiences and outcomes achieved through changing provider behaviour and organisation through using a systematic change method and strategies.

The emphasis being on *Change* which brings about *Improvement* combined with an *Approach* (specific methods or tools) which attain a *Superior Outcome*.

Quality Improvement Methodology

Quality improvement is an approach or process that seeks to address one or more of the categories of 'quality'. Successful 'industrial' approaches which have addressed both systems and processes in order to improve outcome have increasingly been applied in healthcare settings and it is these approaches that have influenced the development of this new generation of monitoring tools produced by the IPS.

Systems Thinking

Systems thinking views every care organisation and care process as a system and the outcomes that system produces, e.g. 200 new MRSA cases a year in a hospital, can only be altered by alterations to the system. This is the opposite of outcomes (adverse ones in particular) being considered to result from the failings of individuals who can be trained or exhorted to do better.

Systems-thinking asks you to consider the environment in which care is practised and whether it is designed to reduce error and promote patient safety and best practice. The environment includes the physical environment but also the systems and processes (the ways of doing things) that happen within it.

The Process Improvement Tools can assist in highlighting problems within the environment and clinical practice which may require change to improve patient outcomes.

Reliability

A system or process that produces high quality outcomes must be reliable.

This means that whatever is meant to happen; happens the right way every time. For example, if after use, a commode should be cleaned and disinfected, this happens *reliably* i.e. 100% of the time.

The Rapid Improvement Tools used regularly can demonstrate whether reliable practice is being achieved with key aspects of Infection prevention and Control.

Testing Change – Using Plan Do Study Act (PDSA) Cycles for small tests of Change

All improvement will require change, but not all change will result in improvement”Langley et al³.

Any change to a system or process should be tested and refined within the setting in which it is to be implemented.

PDSA (plan, do, study, act) cycle approach of small scale, rapid tests of change is a recognised approach to achieving this. Using this approach changes can be tested, refined and re-tested a number of times until the change is *reliable*, quickly and with minimal resource use.

The PDSA Model for Improvement provides a framework for developing, testing and implementing changes that lead to improvement. You must resist the temptation to rush into organisational or departmental changes to systems without testing the change first to check that it actually brings about improvement. For example if unreliable commode cleaning is identified through use of the IPS QITs, then a solution to the problem should be tested with one staff member and one commode, and if successful increased to two staff and so on. If unsuccessful an alternative approach can be tested.

Measurement

If you cannot measure it, you cannot improve it: Lord Kelvin (1824 -1907).

Measurement is vital for quality improvement.

There are three sets of ‘measures’ required for quality improvement:

Outcome measures; these are the results of care processes and measure the results of quality improvement work. In infection prevention and control the outcome measure can be rates of specific infections e.g. surgical site infection, or new cases of MRSA bacteraemia. Outcome measures are important as motivators to improve and ways of celebrating success.

Structure and Process measures; measuring what actually happens in care is central to improving quality.

The IPS Quality Improvement Tools are designed to facilitate the measurement of structure and process in infection prevention and control.

Balancing measures; it is sometimes necessary when making changes to care systems to look for and examine any potential ‘side effects’ of the change, i.e. an unintended and adverse effect. An example is when making changes to reduce the length of hospital stay; is the readmission rate increased?

For quality improvement the main purpose of measurement is to learn about the processes that we are seeking to improve. The characteristics of measurement for learning and improvement are;

- Measure just what you need to measure and no more (make the measurement quick and easy to do as far as possible)
 - Measure frequently and regularly and use simple and easy to understand ways of feeding back measurement to care workers engaged in improvement work (e.g. using simple annotated run charts). Presentation of the results of QIT use will achieve this.
 - Mainly measure processes to see if we are doing what we should be doing, and doing it *reliably* using the PITs then the RITs on a regular basis
 - Use measurement to learn not blame,

Quality improvement methods and tools, based as they are on industrial approaches, give us the opportunity to make real breakthroughs in healthcare quality and in particular safety, including reductions in HCAI.

The focus within quality improvement on systems thinking, reliability, testing changes and measurement has prompted IPS to move away from traditional ‘audit tools’ and develop this suite of Quality Improvement Tools, and to endorse this approach to reducing the risk of infection and making safety the norm in care settings. These tools will assist all care workers to measure and improve their systems of infection prevention and control.

References

1. Institute of Medicine (1990). Crossing the quality chasm:a new healthcare system for the 21st Century. DC: National Academy Press p244
2. Ovretveit J. (2009) Does improving quality save money? A review of the evidence of which improvements to quality reduce costs to healthcare service providers. London; Health Fountaion p8
3. Langley GJ., Nolan KM., Norman CL., Provost LP. & Nolan TW. (1996).*The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*, San Francisco: Jossey-Bass Publishers

Further Resources

The Institute for Healthcare Improvement (IHI) www.ihl.org (An extensive resource on healthcare quality improvement)

World Health Organisation: Clean Care is Safer Care www.who.int/gpsc (An extensive resource that outlines the multimodal patient safety approach to improving hand hygiene practices)

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