

Indicators of Safe and Effective Care

A Proposed Approach for Health and Social Care Northern Ireland

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Context

1. *Safety First: A Framework for Sustainable Improvement in the HPSS*, March 2006 described the Department of Health, Social Services and Public Safety (DHSSPS) policy to improve the quality of health and social care in Northern Ireland. It set out the key components of the safety policy and included an action plan for sustainable improvement based on five themes

- Implementing evidence-based practice and learning from adverse events
- Agreeing common systems for collection, analysis and management of adverse events
- Sharing the learning
- Building public confidence
- Promoting education, training and support for health and social care staff.

2. Under the theme of Building Public Confidence, DHSSPS was tasked with developing, in collaboration with the Health and Personal Social Services (HPSS),

“A composite set of safety/quality performance indicators encompassing clinical and non-clinical care, and social care.”

3. In response, DHSSPS led a Project Team that included representatives from primary, community, secondary care, and commissioning (membership in Appendix A). The aim of the project team was, by 31 July 2007

To develop and define indicators of safe and effective care that would be implemented by all of Health and Social Care Northern Ireland (HSCNI) from April 2008.

In fulfilling that aim, the Team were also required to meet the following objectives

- Learn from and build on existing national and international patient safety and quality initiatives
- Secure engagement and support from relevant stakeholders, particularly health and social care professionals
- Using an inclusive process, determine and define the indicators to be used in HSCNI
- Identify the potential for using web-based and other information technology to support data collection, and reporting and dissemination of performance rates
- Establish a mechanism that allows new indicators to be proposed, evaluated and, if appropriate, added to the core indicator set.

4. This document outlines the Project Team's recommendations for its four key products

1. A list of indicators for use by all of HSCNI from 1 April 2008
2. The technical definition of the proposed indicators, or a clear process to develop the definitions
3. A process that allows other indicators to be proposed, evaluated and, if appropriate, included beyond April 2008
4. Recommendations on using information technology, including web-based approaches to facilitate data collection and reporting.

Product 1 Indicators of Safe and Effective Care

5. The term 'safety and quality' encompasses many aspects of health and social care. To define the scope of its work, and to understand where 'safety and quality' fits with other existing work on performance indicators, the Project Team adopted four dimensions of quality (Appendix B)

1. Access – mainly about waiting times
2. Efficiency and productivity – making best use of existing resources
3. Patient experience – self-reported experience and experience during care
4. Safe and effective care – are patients receiving recommended evidence-based treatments?

6. Indicators are available or are being developed for the first three dimensions. The Project Team therefore focused its efforts on the fourth dimension – safe and effective care – as there is no Northern Ireland-wide systematic approach to measuring that aspect of quality and it fits most closely with the overall direction of the Safety First Framework.

Purpose of the indicators of safe and effective care

7. It is proposed that the indicators would be used from 1 April 2008

- To assist providers in improving quality by providing up-to-date performance information
- To demonstrate to patients, clients, carers and the public the quality of clinical and social care services provided and improvements in quality over time

- To inform providers, commissioners and policy makers of the priority areas for improvement
- To assist providers and commissioners in demonstrating to the Regulation and Quality Improvement Authority and other interested parties, their efforts to continuously improve the quality of patient and client care
- To inform and support commissioners in commissioning safe and effective clinical and social care. For example, the indicators could be included, where appropriate, in contracts with HSCNI and other providers as part of the quality specification of the contract.

8. The main purpose of the indicators is therefore improvement in care rather than data collection and reporting for its own sake. However, indicators alone will not secure improvement. Only change in the design of care systems and practice will achieve improvements in care. As the Institute for Healthcare Improvement (IHI) puts it

“While all changes do not lead to improvement, all improvement requires change.” (www.ihl.org)

The Institute goes on to say

“Measurement is a critical part of testing and implementing changes; measures tell a team whether the changes they are making actually lead to improvement.” (www.ihl.org)

9. The indicators for HSCNI will therefore tell us all whether or not the changes made by service improvement teams in Trusts and other providers, are having the desired effect. Reporting performance on the indicators is therefore not an end in itself. Instead, the focus should be on the changes needed to improve care, with service improvement teams using the indicators to guide the changes they make.

Developing the list of indicators

10. In developing indicators of safe and effective care, the Project Team felt that it was important to build on existing experience and initiatives in patient and client safety. Specifically, three of the five new Trusts have been, or are involved in the Safer Patients Initiative which is supported by the Health Foundation and draws from the Institute for Healthcare Improvement *100,000 Lives* and *5 million Lives* campaigns.

11. Appendix C shows the range of patient safety and quality improvement initiatives nationally and internationally. Drawing from these, the Project Team developed a long-list of possible indicators of safe and effective care. That list was then refined using agreed criteria which are described further under Product 3 - the process to add further indicators.

12. Appendix D lists the indicators that the Project Team recommends for use in HSCNI from 1 April 2008. Appendix E shows the indicators that were not selected at this stage and the reasons why they were not selected. Appendices D and E are available separately at

<http://www.dhsspsni.gov.uk/index/phealth/sqs/sqsd-safety-and-quality-updates.htm>

13. The Project Team recognises that most of the proposed indicators in this first phase relate to acute secondary care, with relatively few in social, primary and community care. This anomaly stems from the fact that most of the national and international patient safety and quality initiatives to date, have concentrated on acute secondary care. In particular, in developing its Campaigns, the Institute for Healthcare Improvement focused on interventions which offered the greatest opportunity to save lives.

14. Given the strong desire to build on existing work, this first phase of indicators therefore reflects that background. The Team, however, would propose that further work is required to develop more indicators from social, primary and community care sectors, including care of older people and adults with disabilities. The Team would expect therefore that future phases would restore a balance between health and social care indicators across all programmes of care.

Product 2 Technical definition of the proposed indicators

15. To ensure a standard approach to measurement, each indicator has to be defined as clearly and objectively as possible. The Institute for Healthcare Improvement developed a Measure Information Form for each of the indicators it uses in its patient safety Campaigns. Each Measure Information Form describes in extensive technical detail, how the indicator should be calculated. Each Form typically lists the inclusion and exclusion criteria and

the numerator and denominator for an indicator. Most also include a recommended sampling strategy and a suggested data collection method. A sample Measure Information Form is given in Appendix F.

16. While not all of the language in each Measure Information Form is relevant to HSCNI, the Project Team proposes that HSCNI should adopt the Institute's Measure Information Forms for the HSCNI indicators that match those used by the Institute. That approach would reduce the work required to develop technical definitions for each indicator, and would also allow HSCNI to ultimately compare its performance to participants in the Institute's Campaigns.

17. A small number of the proposed indicators for use by HSCNI do not have an equivalent Measure Information Form. For those indicators, the Project Team proposes that DHSSPS would commission Task groups of relevant professionals to develop the detailed technical definitions for those indicators. The following groups have been identified to date to lead that work in collaboration with all relevant service colleagues

- Mental health – Mental health delegate teams and the Clinical and Social Care Governance Support Team
- Healthcare acquired infection – Communicable Disease Surveillance Centre (Northern Ireland)
- Consultant appraisal – Dr M Ledwith, Project Team
- Social care indicators – Fionnuala McAndrew and Pat Newe, Project Team

- Timeliness of Serious Adverse Incident reports – Dr M Ledwith, Project Team.

The technical definitions for each proposed indicator are available separately as *Technical Manual Volumes 1-4* at <http://www.dhsspsni.gov.uk/index/phealth/sqs/sqsd-safety-and-quality-updates.htm>

Product 3 A Process to include other indicators in the future

The process of developing future indicators

18. Based on its own experience in developing this first phase of indicators of safe and effective care, the Project Team proposes a relatively straightforward process to add further indicators for use beyond April 2008 (Appendix G).

19. In summary, individuals and organisations would be able to propose indicators which would then be considered by a DHSSPS-sponsored group against the following criteria

1. There is a clear evidence base for the indicator
2. There is professional consensus on the evidence base and acceptability of the indicator
3. A standard for care is available from recognised organisations (e.g. Royal Colleges, National Institute for Health and Clinical Excellence, Social Care Institute for Excellence)
4. The indicators reflect common and important conditions and/or there is potential for significant health gain
5. The outcome is largely under the direct control of the provider rather than being subject to multiple factors, some of which may be outside the provider's control

6. The indicator can be defined clearly and quantitatively to ensure valid, reliable and standardised data collection
7. A performance benchmark must be set, against which providers can assess their performance.

The following sub-criterion may then be applied, if appropriate, though the Project Team would not wish to see an important indicator eliminated simply because of the cost of data collection

- a) Data to calculate the indicator can be obtained cost-effectively and where possible, from existing data sources.

Options for taking the process forward

20. The Project Team which developed these proposals was set up as a short-term task group to develop the first phase of indicators that would be implemented by all of HSCNI from April 2008. The intention, however, is that further indicators will be added for inclusion beyond April 2008 and a longer term group must therefore be identified to take ownership of the process.

21. The Project Team identified two possible options – a) the Safety Forum and b) the new group, currently called the NI Regional Audit and Guidelines Group, and formed from the amalgamation of CREST, the Regional Multiprofessional Audit Group, and the NI Regional Audit Committee. However, other options may be available and the Project Team would welcome your suggestions and your views on the appropriate vehicle to take the process forward.

22. The Safety Forum was established recently by DHSSPS to encourage and facilitate learning and a collaborative approach to

improving the quality and safety of services. It has representatives from providers, commissioners and patient/client groups and is chaired by a Trust Chief Executive.

23. The NI Regional Audit and Guidelines Group is expected to be established by July 2007, and fully operational by Spring 2008. The Chair and membership of the Group is currently being developed.

24. The main criteria that any option should meet are firstly, that the group should be DHSSPS-sponsored to ensure alignment with Ministerial priorities and secondly, that it should include very significant provider representation so that providers have ownership of the resulting indicators.

Product 4 Data collection, submission and reporting

Data collection

25. Few of the proposed indicators can be calculated using existing information systems as most reflect direct care given to individual patients or clients. Some electronic pharmacy records may assist in indicators relating to medicines management. However, direct care information, particularly contraindications to treatment, is primarily only available through a manual review of a patient or client's record. The task of data collection is therefore not insignificant. However, it can be mitigated in a number of ways.

26. Firstly, existing information sources should be used to identify eligible patient and client groups so that small scale samples can be used to frequently measure progress. The Institute for

Healthcare Improvement and the Safer Patients Initiative both emphasise repeated small scale tests of change and measurement, rather than the more traditional larger scale measurement with one re-measurement after a system-wide intervention. The small scale tests of change also reinforce the service improvement teams as the real drivers for improvement, as those teams will need up-to-date information to know whether or not their changes are making a positive difference.

27. Secondly, existing resources for audit and governance, and protected professional time for these activities, should be used to support staff in taking forward service improvement projects in the areas covered by these indicators. A number of Trusts already participate in the Safer Patients Initiative and these indicators build on those existing efforts. This first phase of indicators is therefore a way to harness existing resources to focus on regionally agreed topics that offer the greatest opportunity for improved patient, client and family outcomes.

28. Thirdly, the Project Team proposes that DHSSPS should provide some central resource to support Trusts in Northern Ireland to take forward improvement projects in the areas covered by the proposed indicators. The central support could include facilitated peer support, workshops to allow providers to learn from each other, an email group to allow providers to discuss projects with other colleagues, and on-site visits to other providers to see how they solved particular issues.

29. The Clinical and Social Care Governance Support Team already provides some of that central support function. There may therefore be scope for the Support Team to become more involved in supporting Trusts to implement the changes required to improve care, and to co-ordinate the data submission and reporting function.

30. Fourthly, the Project Team also proposes that DHSSPS explores the option of more formal links with national and/or international patient/client safety and quality organisations to bring their expertise to HSCNI and specifically, to assist with development and implementation of Northern Ireland-wide programmes.

31. Lastly, electronic patient and client records would greatly enhance the ability of HSCNI to improve performance on safety and quality as automatic reminders and checks can be built into systems to remind staff to provide recommended care. The successful implementation of the Quality and Outcomes Framework in primary care in Northern Ireland was due, in part, to the information technology systems that make it easier to give recommended care than not to give it. Electronic patient and client records in secondary care are notoriously difficult to introduce given the scale and complexity of the task. Nevertheless, it should remain a goal of HSCNI, given its potential contribution to safety and quality.

Data submission

32. The Project Team proposes a web-based data submission and reporting tool. Individual providers would be able to submit their data through a secure website.

33. In line with the approach used by the Safer Patients Initiative and the Institute for Healthcare Improvement, data for most of the indicators would be submitted monthly, in keeping with the concept of small scale tests of change. Data would be validated by each Trust and signed-off by a designated Trust officer prior to submission. The central support resource would co-ordinate and oversee data submission and reporting.

Data reporting

34. Providers would be able to download from the website, their performance trends and could compare themselves to other providers. They would also be able to identify high-performing providers and could contact them to learn from their experiences.

35. Data would be available table and graph formats to assist providers in sharing their improvements with professional and management teams, with their Board and with patients, clients, carers and their local population, as appropriate.

36. Provider-level data would also be available to commissioners, DHSSPS and the public through the same website once data has been validated and with appropriate safeguards regarding patient and client confidentiality, particularly if patient/client numbers are small.

Next steps

37. These draft proposals have been sent to patient, provider and commissioner organisations for comment **by 19 June 2007**.

38. Following receipt of comments, the proposals will be refined and a final version submitted through the Chief Medical Officer to DHSSPS by 31 July 2007. If approved by DHSSPS, the following projects/tasks will then be taken forward

- DHSSPS, with provider input, will develop the web-based data submission and reporting tool and related technical issues about data frequency, validation, sign-off etc
- DHSSPS will develop the central support resource as proposed
- By 30 September 2007, the indicator definition Task groups will finalise the detailed technical definitions for the indicators that have not been defined already
- Providers will complete the preparatory work required to ensure that from 1 April 2008, they are able to take forward the improvement projects that relate to these indicators
- Commissioners will agree what they need to do to incorporate, where appropriate, the final indicators into contracts with providers for 2008/09
- Work will begin to develop further indicators of safe and effective care.

Your Comments

39. All of the papers relating to the Project Team proposals are available at <http://www.dhsspsni.gov.uk/index/phealth/sqs/sqsd-safety-and-quality-updates.htm>

40. The Project Team seeks your comments on any aspect of their proposals, but specifically the

- First phase indicators (Appendix D)
- Process for adding further indicators (Appendix G)
- Criteria for adding further indicators
- Options for the group that should take forward the role of evaluating and adding further indicators
- Technical definitions of the proposed indicators (available separately in *Technical Manuals Volumes 1-4*)
- Web-based approach to data submission and reporting
- Central support for providers to take forward service improvement projects
- Formal links with national and/or international patient/client safety and quality organisations.

41. Comments should be sent by email, fax or mail no later than **5pm on Tuesday 19th June 2007 to**

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Project Team Members

Appendix A

Chair: Dr Carolyn Harper, Senior Medical Officer, DHSSPS

Trusts

John Compton, Chief Executive, South Eastern Trust

Dr Peter Flanagan, Medical Director, Northern Trust (Dr Mike Ledwith, deputy)

Dr Tony Stevens, Medical Director, Belfast Trust

Alan Finn, Nursing, Western Trust

Mike Scott, Pharmacy, Northern Trust

Francis Rice, Mental Health Services, Southern Trust

Debbie Schofield, Audit Coordinator, South Eastern Trust (until May 2007)

Boards

Dr Janet Little, Public Health, Eastern H&SS Board

Dr Diane Corrigan, Public Health, Southern H&SS Board

Fionnuala McAndrew, Social Services, Southern H&SS Board
(Kevin Keenan, Northern H&SS Board, deputy)

General Practice

Dr Jeni McAughey, Royal College of General Practitioners

Dr Tom Black, GP, Abbey Medical Centre, Derry

DHSSPS

Margaret O'Hagan, Nursing Officer for Acute Services

Tracy Power, Information Services

Gerard Collins, Safety, Quality and Standards Directorate

DRAFT 15 May 2007

Michael Bloomfield, Performance Management

Alex Hanna, Information Technology

Keith Walker, Information Technology

Pat Newe, Office of Social Services

Nuala McArdle, Allied Health Professionals

Mark Timoney, Pharmacy

The Health & Social Services Councils were unfortunately unable to nominate a representative due to other commitments

Scorecard for Health and Social Care – 4 Dimensions of Quality

Appendix B

Scorecard for Health and Social Care Northern Ireland

Access e.g.

Waiting times for all programmes

- Community care
- Elective journeys
- Emergency admissions/discharge
- Children and family services
- Primary care

Efficiency & Productivity e.g.

- Procedure-specific day case rates
- Risk adjusted length of stay
- Bed days for chronic conditions
- New:review ratios in outpatients
- Care packages delivered
- Staff sickness & locum rates
(from NHS Institute Innovation & Improvement)

Patient/Client Experience e.g.

- Patient-reported experience
- Rate of inappropriate care settings
- Average inpatient occupancy
- Hospital re-admission within 28 days
- Unplanned admission rate

Safe & Effective Care e.g.

- Procedure-specific day case rates
- % Patients receiving recommended care
- Complication/infection rates
- % Children/families receiving support
- Staff appraisal

Existing National and International Patient Safety and Quality Improvement Initiatives

Appendix C

Topic	IHI	CMS	JC	HQA	SPI	High 5	HC	QIS	Wales
Acute myocardial infarction	✓	✓	✓	✓			✓		
Heart failure	✓	✓	✓	✓				✓	
Community acquired pneumonia		✓	✓	✓					
Surgical care/peri-operative care	✓	✓	✓	✓	✓				✓
Critical care/ rapid response teams	✓				✓				
Adverse drug events/medicines management	✓				✓	✓	✓		
Central line infection	✓								
Ventilator acquired pneumonia	✓								
High alert medications	✓								
Pressure ulcers	✓								
Healthcare acquired infection/infection control	✓				✓	✓	✓		✓
Governance & leadership	✓								
Acute inpatient mortality	✓								
Pregnancy & related conditions			✓						
Care on general wards					✓				
Patient care handovers						✓			
Wrong site/wrong side surgery						✓			

Topic	IHI	CMS	JC	HQA	SPI	High 5	HC	QIS	Wales
Chronic obstructive pulmonary disease								✓	
Alcohol problems								✓	
Multiple emergency admissions of older people								✓	
Colorectal cancer								✓	
Prostate cancer								✓	
Hospital readmission rates									✓
Hospital standardised mortality ratio									✓
Acute cardio-respiratory hospital mortality rate									✓
Survival rates for selected cancers									✓
Patient satisfaction									✓
Risk adjusted length of stay									✓
Patient days in hospital during last 60 days of life									✓
Staff absence due to illness									✓
Waiting times							✓		✓
Breast and cervical screening rates									✓
Appropriateness of care							✓		
Efficient use of medical & surgical beds & funded sessions							✓		

Sample Measure Information Form

Appendix F

Aspirin at Arrival

Intervention(s): Improved Care for Acute Myocardial Infarction

Definition: Percentage of acute myocardial infarction (AMI) patients who received aspirin within 24 hours before or after hospital arrival

Goal: 100%

Matches Existing Measures:

- JCAHO Core Measure AMI-1
- CMS 7th Scope of Work
- National Quality Forum

CALCULATION DETAILS:

Numerator Definition: AMI patients who received aspirin within 24 hours before or after hospital arrival

Numerator Exclusions: Same as denominator exclusions

Denominator Definition: AMI patients (ICD-9-CM Principal Diagnosis Code: 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91)

Denominator Exclusions:

- Patients less than 18 years of age
- Patients transferred to another acute care hospital or federal hospital on day of arrival
- Patients received in transfer from another acute care hospital, including another emergency department
- Patients discharged on day of arrival
- Patients who expired on day of arrival

- Patients who left against medical advice on day of arrival
- Patients with one or more of the following aspirin contraindications/reasons for not prescribing aspirin documented in the medical record:

- o Active bleeding on arrival or within 24 hours after arrival
- o Aspirin allergy
- o Coumadin/warfarin as pre-arrival medication
- o Other reasons documented by a physician, nurse practitioner, or physician assistant for not giving aspirin within 24 hours before or after hospital arrival

Measurement Period Length: Monthly or quarterly; monthly is ideal, but some hospitals might find it easier to measure quarterly if their vendor sends data back at that interval.

Definition of Terms:

- Hospital Arrival: The earliest documented date the patient arrived at the hospital; this may differ from the admission time
- AMI Patients: Discharges with an ICD-9-CM Principal Diagnosis Code: 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91

Calculate as: (numerator / denominator); as a percentage of AMI patients who received aspirin within 24 hours before or after hospital arrival.

Comments: None

Proposed Process for Evaluating/Adding Further Indicators

Appendix G

