National Quality Assurance Improvement System (NQAIS) Clinical

‘Informing the System’

Eilish Croke - Programme Manager
NQAIS Clinical implementation and deployment
What is NQAIS Clinical?

- A web-enabled feedback tool based on HIPE Data
- Clinically focused – A complex story, simply told
- Easily learnt & understood (user friendly)
- Focus on in-pt. AvLOS and same day/day case discharge rates
- Identifies important signals visible at a glance
- Extends the concepts developed in NQAIS Surgery and Medicine
- The data is refreshed monthly (2 months in arrears)
NQAIS Clinical Objectives

• To provide clinical leadership with comparative performance metrics for the objective management of inpatient AvLOS and same day / day case discharge rates, (every bed day saved is valuable).

• To support data driven decision making.

• To use predictive metrics on AvLOS in terms of ‘on target’, ‘near target’ and ‘off target’ in the context of ‘best practice’.

• To identify areas of practice most likely to require review and potential learning / action.

NQAIS Clinical is a process measure, and does not focus on patient outcomes (except readmission rates)
Views on the system for NQAIS Clinical users

- View the national picture, hospital group and individual hospital discharge activity by diagnosis group, procedure group or specialty group.

- Users can control the data viewed using dynamic filters and drill down into the detail for procedures, diagnosis, teams or specialties.

- The visual indicators and tabular metrics are available to identify how the selected performance compares with the top quartile, second quartile and third/fourth quartile consultants for the same mix of patients.

“What get measured, gets managed”
— Peter Drucker
Schopenhauer’s Truths

“All truth passes through 3 stages:

First, it is ridiculed.

Second, it is violently opposed.

Third, it is accepted as self-evident”

Arthur Schopenhauer (1788-1860)
NQAIS Clinical – Data Flow

Patient admitted, treated and discharged

HIPE Coding of episode of care

HIPE records uploaded to HPO

HPO process data
DRG’s assigned

HIU process
HIPE data

Hospital management,
Clinical director,
Consultant
review NQAIS

NQAIS national steering group
NQAIS design & development
feedback

NQAIS tool training
Train the Trainer

NQAIS Governance

HSE
HIPE Process
Hospital Governance

YES
NO

Take Action

Investigate outliers

Root cause analysis

Actions Implemented

YES
NO
Converting HIPE data into meaningful information

– Over 1.6 million records per year

2 coding tables

– ICD 10 > 19,000 diagnosis codes -> 263 CCS
– ACHI > 6,000 procedure codes -> 19 Surg Specialties
– 105 HIPE clinical specialties

Co-morbidities: (Dx2-30) → Charlson Index Score

Team: Admission, discharge, principal consultant details are encrypted

Readmission: Emergency to same hospital within 30 days are recorded

Note: OPD & ED data not collected - DRGs (cost related groups) not used
<table>
<thead>
<tr>
<th>Charlson Index (Dx 2-30)</th>
<th>Score</th>
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<tbody>
<tr>
<td>Acute myocardial infarction</td>
<td>5</td>
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<tr>
<td>Cancer</td>
<td>8</td>
</tr>
<tr>
<td>Cancer metastatic</td>
<td>14</td>
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<tr>
<td>Cerebral vascular accident</td>
<td>11</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>13</td>
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<tr>
<td>Connective tissue disorder</td>
<td>4</td>
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<tr>
<td>Dementia</td>
<td>14</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3</td>
</tr>
<tr>
<td>Diabetes complications</td>
<td>-1</td>
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<tr>
<td>HIV</td>
<td>2</td>
</tr>
<tr>
<td>Liver disease</td>
<td>8</td>
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<tr>
<td>Liver disease - severe</td>
<td>18</td>
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<tr>
<td>Paraplegia</td>
<td>1</td>
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<tr>
<td>Peptic ulcer</td>
<td>9</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>6</td>
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<tr>
<td>Pulmonary disease</td>
<td>4</td>
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<tr>
<td>Renal disease</td>
<td>10</td>
</tr>
</tbody>
</table>
About Data

**How Nielsen Works**

You put the data in

Where's it going wrong?

You pull the data out

Are you putting in the right data?

Are you pulling out all the right data?
Data

• Clinicians, Clinical Directors and other managers are using data - poor data quality is misleading
• HIPE coders can only code what they find in the chart, clinicians can make it easy or obscure.
• HIPE data has greatly improved
• HIPE coders are well trained in Ireland
  - FETAC accredited certificate – Kevin Street
• HIPE data is used to drive Activity Based Funding (ABF)
• HPO carry out audits in hospitals regularly with a view to improving coding
NQAIS Clinical – Access & Navigation

- Secure access will remain the same as NQAIS for Elective Surgery and NQAIS Medicine - User id & Password

- 3 types of user

- National User
- Hospital Group User
- Individual Hospital User
NQAIS Clinical screens – Plot views
Reading the NQAIS Clinical Plots view (continued)

AvLOS diamond

National picture is identified by the grey diamond in the background (Selected hospital(s) diamond to front)

- **White diamond:** AvLOS ‘on target’ or less than target (Top quartile)

- **Yellow diamond:** AvLOS ‘close to target’ (2\textsuperscript{nd} quartile)

- **Red diamond:** AvLOS ‘off target’ (3\textsuperscript{rd}/4\textsuperscript{th} quartile)
Variance: NQAIS Clinical will support process improvement – e.g. hospital Lap Chole

### Best improver Hospital Nov’15-Oct’16

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Day Case rate</th>
<th>Learning Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>86%</td>
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<tr>
<td>2</td>
<td>66.7%</td>
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<tr>
<td>3</td>
<td>78.9%</td>
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<tr>
<td>4</td>
<td>0.0%</td>
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</tbody>
</table>

**Hospital Lap Chole**

Day Case rate 66% in 12 month
There's no use trying to change human nature. It's been the same for a very long time. Instead, go after the tools. New tools make new practices. Better tools make better practices.
NQAIS Explorer View

Hospital: All  Period: 12/2015 - 11/2016  Diagnosis group CCS: Injury & poisoning  Diagnosis CCS: All
Specialty groups: Surgery  Procedure groups: Trauma Orthopaedic Lower Limb
Procedures: Hemiarthroplasty of femur, IF fracture trochanteric/subcapit femur  Team: All  Admission: All
Minimum #: 5  Band: All  Age groups: 16-64, 65-84, 85+  Comparator: National

Profile of cases
Enter LOS range required  2,900 records selected out of 2,900  Reset all  Click any plot to select/deselect

Length of stay (days)

Age

Gender

Admission type

Charlson Index

Admission day

Discharge day

Admission time

Discharge time
Summary plot of beds per day on target (white), near target (yellow) and off target (red)

<table>
<thead>
<tr>
<th>Diagnostic or procedure view</th>
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<tbody>
<tr>
<td>Cancer</td>
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<tr>
<td>Cardiovascular</td>
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<tr>
<td>Congenital anomalies</td>
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<tr>
<td>Dermatology</td>
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<td>Endocrinology</td>
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<td>Gastrointestinal</td>
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<td>Genitourinary</td>
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<td>Haematology</td>
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<td>Infection</td>
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<td>Injury &amp; poisoning</td>
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<td>Mental &amp; behavioural</td>
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<td>Neurology</td>
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<td>Respiratory</td>
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<td>Rheumatology</td>
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<td>Other</td>
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</table>

Volume (indicative values for an average day)

Summary page will be Clinical Programme specific e.g. Surgery, Medicine, Paediatrics, Maternity.

User can modify the selection of interest as required.
Focuses discussion on diagnoses or procedures with greater variance and larger patient numbers.
Governance & Roles behind NQAIS Clinical

- NQAIS Steering Committee
- NQAIS Working Group
- NQAIS Joint Application Design Group
  - JAD
- Acute Hospitals directorate
- Hospital Group/Hospital Manager(s)
- Hospital Group/Hospital Controller(s)
- Hospital Group/Hospital Users(s)

- Health Intelligence Unit
- OpenApp
  - Software development
Testing will try to ensure that the solution is working as we intended and is as trustworthy as possible – getting rid of any bugs in the system.
Requirements management behind projects

‘Focus on what the customer wants’

Requirements management means saying, hearing and doing the same thing:

- As the customer described it
- As the Requirements were documented
- As the Project Manager scoped it
- As it was built
- As it was adapted to make it work
- What the customer really wanted !!!

The work of the JAD is very important to confirm we are delivering what you need.
Added value of NQAIS Clinical

Scope covers all admission types

Potential to build capacity

Clearer separation by age

Covers all hospitals in the hospital groups

Consistent near-contemporaneous information

Identifies ‘red’ performance to target improvements

Provides high level summary reports

Common Surgical and Medical approach
NQAIS Clinical

Next Steps
<table>
<thead>
<tr>
<th>PHASES</th>
<th>Feb '17</th>
<th>Mar '17</th>
<th>Apr '17</th>
<th>May '17</th>
<th>Jun '17</th>
<th>Jul '17</th>
<th>Aug '17</th>
<th>Sept '17</th>
<th>Oct '17</th>
<th>Nov '17</th>
<th>Dec '17</th>
<th>Jan '18</th>
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<tbody>
<tr>
<td>Continue with training on NQAIS Surgery and Medicine</td>
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<td>Joint Application Design Group (design, develop, test, review)</td>
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<td>Agree - NQAIS Working Group and Steering Group</td>
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<td>Construction - Plan, design, develop, test and review</td>
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<td>Optimisation - Final dev., funct. test., prep. for implementation</td>
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<td>Develop NQAIS Clinical Reference data, technical and user guides</td>
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<td>Policy documents, Governance of usage documentation</td>
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<td>Test by development team, HIU and End Users</td>
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<td>Deploy to Pilot site</td>
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<td>End User deployment and usage training (top up)</td>
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<td>Support hospitals to make change, liaise with QI Groups</td>
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<td>Sunset NQAIS Surgery and Medicine</td>
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NQAIS Clinical Implementation

Hospital leadership – strategic

- Take ownership of NQAIS Clinical
- Become familiarised with the tool
- Identify priorities
- Use the data to drive decision making (DMAIC/ PDSA)

“The value of an idea lies in the using of it”  
– Thomas Edison
NQAIS Clinical Programme Manager – Implementation & Deployment

Collaborate with Hospital Groups / Hospital Link person(s)

Provide support and training

Help interpret metrics

Support change management

Facilitate inter-hospital learning and knowledge sharing
NQAIS Clinical - Take Home Message

‘Make Every (Bed) Day Count’

Thank you

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