NOCA National Office of Clinical Audit

NOCA RESEARCH PROSPECTUS

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Purpose of the NOCA Research Prospectus

The NOCA Research Prospectus provides a catalogue of the data available for secondary use including research, service evaluation, quality improvement and policy development.

The prospectus is intended for a wide audience including clinicians, researchers, academic institutions, healthcare planners, regulators, policy stakeholders, patient and public representatives.

About NOCA

NOCA was established in 2012 and is funded by the Heath Service Executive (HSE), through the office of the Chief Clinical Officer (CCO) Dr Colm Henry, and is managed by HSE Quality and Patient Safety via the HSE National Centre of Clinical Audit (NCCA). Audits are commission by the NCCA via the CCO. NOCA is based in and operationally supported by the Royal College of Surgeons in Ireland (RCSI), and is independently governed by a voluntary Board.

At a glance

12 AUDITS & REGISTRIES

13 YEARS OF DATA & REPORTING

85+ PUBLICATIONS USING NOCA DATA

NATIONAL COVERAGE & HIGH DATA QUALITY

Why use NOCA data?

NOCA has the largest national audit portfolio across the Irish health system

We can provide high-quality national audit data.

AVAILABLE DATA

- Patient demographics, clinical characteristics & comorbidities
- Processes measures (timings, transfers, interventions)
- Outcomes: Mortality, complications, functional recovery, PROMs
- Hospital-level data on resources, region and performance

Research potential

NOCA data supports:

Research in:

- Epidemiology & Outcomes: Benchmarking, health equity analysis, complication rates, regional variation
- Health Economics & Policy: Cost of illness, cost-effectiveness, forecasting models, resource utilisation
- Quality & Safety Research: Developing best practice guidelines and national performance indicators

Grant Funding using audit data

Collaborate with us

Our data enables collaborative research that informs clinical practice, service planning, and health policy. Collaborative research opportunities are availabe to the following groups:

- Postgraduate researchers
- Healthcare staff
- Health economists & data scientists
- Policy & Public health teams

Research support

NOCA can support:

- Mapping your research question to NOCA datasets
- Advice & Insights about audit specific data
- Results of analysis & Manuscript review

Accessing the data

To access NOCA data, submit a Data Access Request via the NOCA website:

DATA ACCESS REQUEST

Stakeholder-specific value map

Stakeholder	If you need	What NOCA research can offer
Clinical Leads	Better benchmarking and publishable outputs	Audit-to-manuscript support, methods support, clinical interpretation
Audit Managers	Practical QI insights	Research outputs aligned with audit priorities
HSE / Policymakers	System intelligence	National trends, variation, pathway bottlenecks, equity gaps
Hospitals	Local improvement priorities	Benchmarking, site-level learning, QI collaboratives
Patients/Public	Safer and fairer care	PPI-informed research questions and accessible outputs
Academic Partners & Researchers	High-quality national datasets	Co-authorship, methods collaboration
Funders	Impact and scalability	Defined outputs, timelines, KPIs, implementation pathways

PPI role in NOCA data

Audit Stage	PPI Contribution
Topic prioritisation	What outcomes matter most?
Protocol design	Are the questions meaningful and acceptable?
Interpretation	Do findings match lived experience?
Dissemination	Can public-facing outputs be understood?
Patients/public	Safer and fairer care
Implementation	What changes would patients notice?

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NOCA National Office of Clinical Audit

Audit portfolio

NOCA National Office of Clinical Audit

Current Portfolio

- Irish Fracture Liaison Service Database (IFLSD)
- Irish Heart Attack Audit (IHAA)
- Irish Hip Fracture Database (IHFD)
- ICU Bed Information System (ICU-BIS)
- Irish National Audit of Stroke (INAS)
- Irish National ICU Audit (INICUA)
- Irish National Orthopaedic Register (INOR)
- Irish Paediatric Critical Care Audit (IPCCA)
- Irish Potential Organ Donor Audit (IPODA)
- Major Trauma Audit (MTA)
- National Audit of Hospital Mortality (NAHM)
- National Paediatric Mortality Register (NPMR)

New audits/registries underway

- Irish Audit of Paediatric Diabetes (IAPD)
- Irish Breast Implant Registry (IBIR)
- Irish Dementia Registry (IDR)
- Emergency Medicine Airway Registry Ireland (EMARI)
- Palliative Care Outcomes Collaboration Ireland (PCOCI)

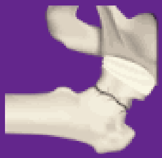
Feasibility Studies

- National Rehabilitation Audit Feasibility Study
- National Clinical Audit of Sepsis

IHAA Irish Heart Attack Audit

Active since (year)	2012 - Data available in NOCA since 2017
Approx. annual number of admissions recorded	1600
Approx. number of participating hospitals	10
Background & Rationale	• IHAA is a clinically led national audit collecting high-quality data to support healthcare quality improvement in ACS/STEMI care in Ireland's PPCI system. • Its rationale is closely tied to time-critical STEMI care, where timely diagnosis and reperfusion are strongly linked to morbidity and mortality outcomes; the report explicitly emphasises national targets and benchmarking across hospitals.
Aim	To collect and use high-quality data on ACS/STEMI patients treated in Ireland's PCI centres to enable benchmarking and quality improvement in heart attack care.
Objectives	1. Provide detailed national and hospital-level information on care processes and outcomes for STEMI patients treated in PCI centres, enabling benchmarking across Ireland against National (HSE ACS Model of Care and European guidelines (ESC Guidelines 2023) 2. Monitor and report internationally validated quality indicators for STEMI care (pre-hospital, in-hospital, and discharge elements) 3. Support local and national quality improvement, including use of the IHAA dashboard and targeted QI projects (e.g., improving timelines of primary PCI, improving follow-up mortality status capture, CR referral/uptake, smoking cessation interventions)
Standards / KPIs / KQIs	• % eligible STEMI patients who received reperfusion • % STEMI patients brought directly to a PCI centre who had timely primary PCI • % STEMI patients transferred from a non-PCI-capable hospital who had timely primary PCI • % STEMI patients with radial access for primary PCI • % STEMI patients discharged with appropriate secondary prevention medication discharge bundle • % STEMI patients who smoke offered smoking cessation advice • % Eligible STEMI patients referred for cardiac rehabilitation phase 3 • % Completeness of 30-day survival status recorded • % Patients with a CR phase 3 date recorded
Methodology — Design	National, clinician-led web-based clinical audit of STEMI care, using routinely captured hospital episode identification and retrospective abstraction/entry from medical records into the Heartbeat portal within the Hospital In-Patient Enquiry (HIPE) system.
Main source of data	(HIPE)
Key Variables	• Demographics • Risk factors • Reperfusion strategy • Patient pathways to reperfusion • Timeliness of reperfusion therapy: First Medical Contact (FMC) to Door; Door to ECG, Door In Door Out, Door to Balloon; FMC to Balloon. • Secondary prevention • Outcomes: mortality, Left Ventricular Function
Any factors of PROGRESS-PLUS considered?	• Age (⩾17 inclusion) • Sex • Place / care-access pathway (pre-hospital vs ED first ECG location; direct-to-PCI vs inter-hospital transfer; cross-border pathway) • "Plus" health status/risk factors (smoking captured; cardiovascular risk-factor profiling chapter)
Mature enough for research purposes	Mature audit for STEMI care within PCI centres, particularly strong for time-critical pathway analysis, service configuration evaluation, and benchmarking of reperfusion performance.
Typical research uses	Health services research, pathway optimisation studies, and implementation research (e.g. transfer delays)
Key measurement/data collection gaps	• Follow-up completeness constraints particularly from 2017 - 2023: follow-up outcomes are captured "where possible" and otherwise recorded as unknown, which can reduce outcome ascertainment and bias comparisons if follow-up capture differs by site. • Denominator gap (non-transfer STEMIs): STEMI patients who are not transferred to a PCI centre (e.g., comorbidities/contraindications) are not captured, so the audit does not represent the full STEMI denominator across all hospitals.

Irish Hip Fracture Database IHFD

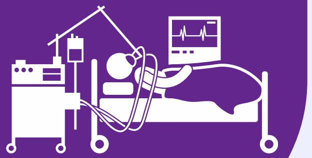


Active since (year)	2012
Approx. annual number of admissions recorded	~4,000
Approx. number of participating hospitals	16
Background & Rationale	Hip fractures are a serious injury in older adults and require a complex, multidisciplinary pathway; the IHFD uses audit and feedback against explicit standards to support improvement in quality and outcomes. Cost and system burden are substantial (e.g., Irish hospitalisation costs have been quantified using IHFD-linked analyses). International evidence supports that national clinician-led hip fracture audit initiatives can be associated with measurable improvements in care processes and survival.
Aim	To use data to improve care provided to older adults who sustain a hip fracture.
Objectives	1. Support/promote the use of IHFD data for improvement of care at local and national level 2. Benchmark hip fracture care and outcomes nationally and internationally 3. Support high-quality data provision for research 4. To collect longer-term outcome data
Standards / KPIs / KQIs	• IHFS 1: Time to orthopaedic ward (or theatre from ED) <4 hours • IHFS 2: Surgery within 48 hours of admission/first presentation • IHFS 3: Pressure ulcer development after admission (lower is better) • IHFS 4: Review by geriatrician or advanced nurse practitioner • IHFS 5: Bone health assessment • IHFS 6: Specialist falls assessment • IHFS 7: Mobilised by a physiotherapist on the day of surgery or the day after
Methodology — Design	National, clinician-led web-based clinical audit of hip fracture care, using routinely captured hospital episode identification and retrospective abstraction/entry from medical records into the IHFD portal.
Main source of data	Hospital In-Patient Enquiry (HIPE)
Key Variables	• Demographics • Baseline health indicators (ASA score, pre-fracture New Mobility Score, Clinical Frailty Scale) • Surgical variables: fracture, operation and anaesthesia type. • Multidisciplinary involvement • Risk screening: Delirium (4AT score) and Nutrition • Follow-up outcomes since 2022 at 2 time points (30 to 120 days, 1 year): survival, residential status, reoperation, hip-related readmission, bone protection status, mobility (New Mobility Score)
Any factors of PROGRESS-PLUS considered?	• Age focus (older adults; reference population ⩾60) • Gender/Sex distribution reporting (case-mix section includes sex/age breakdown) • Place/setting proxies: place of injury and residential status (e.g., home vs nursing home; follow-up residence)
Mature enough for research purposes	Highly mature, internationally benchmarked audit with over a decade of continuous national data.
Typical research uses	Outcomes research (mortality, complications, LOS), process-of-care evaluation (time to surgery, orthogeriatric input), health services research, quality improvement evaluation, and equity analyses by age, sex, residence and care pathway.
Key measurement/data collection gaps	Follow-up outcome data not yet universal: 10/16 hospitals collected longer-term recovery information in 2024 and completeness varies by time-point and variable.

ICU

Irish National ICU Audit

Active since (year)	2016
Approx. annual number of admissions recorded	17,307
Approx. number of participating hospitals	29 adult ICU units within 25 hospitals nationwide
Background & Rationale	The INICUA systematically collects data on all adult ICU admissions across the Republic of Ireland to support benchmarking, quality improvement, and system planning. ICU care is high-resource and high-risk; national audit enables identification of variation in care processes/outcomes, supports evidence-based improvement, and aligns Irish ICUs with international standards.
Aim	To audit critical care across the acute hospitals in Ireland. This is done by benchmarking quality of care and outcomes in all adult intensive care units (ICUs) in Ireland to drive improvements in quality of care.
Objectives	1. Measure the quality of care in ICU by benchmarking outcomes 2. Use the Audit to drive improvements in the quality of care 3. Measure activity to inform the configuration of critical care 4. Provide data to support the Hospital In-Patient Enquiry (HIPE) system and activity-based funding (ABF) 5. Audit healthcare-associated infection (HCAI) 6. Audit potential organ donors and organ donation 7. Develop and Implement ICU Bed Information System 8. Develop National Data Base for ICU audit 9. Provide National Coverage.
Standards / KPIs / KQIs	• Potential mis-triage to the ward • High-risk admissions from the ward • High-risk sepsis admissions from the ward • Delayed admission • Unit-acquired infections in blood • Out-of-hours discharges to the ward (not delayed) • Bed-days of care post 4-hour delay • Discharges direct to home • Non-clinical transfers to another unit • Unplanned readmissions within 48 hours • Risk-adjusted acute hospital mortality
Methodology — Design	An audit of patient outcomes from adult Critical Care Units that fall into one of three categories: ICUs, combined ICUs/HDUs, and standalone HDUs across all adult ICUs in Ireland .
Main source of data	INICUA is a partner of ICNARC in the UK, for data validation and the benchmarking of quality indicators as measures of care.
Key Variables	• Demographics (age, sex). • Admission source (ED, ward, theatre, interhospital ICU transfer). • Primary ICU diagnosis and organs supported • Severity of illness scoreing (e.g., APACHE/ICNARC score, SOFA scoring). • Status at discharge from ICU and Acute hospital stay and discharge destination. • Length of stay (ICU and hospital).
Any factors of PROGRESS-PLUS considered?	• Age, sex and ethnicity routinely recorded and reported. • Address & Geographic region and unit case-mix are available. • Frailty Score & Chronic conditions
Mature enough for research purposes	Well-established national audit with comprehensive adult ICU coverage and validated risk-adjusted outcome measures, but with aggregated data.
Typical research uses	Outcomes research, critical care epidemiology, benchmarking studies, service capacity and surge analysis, and policy-relevant health systems research.
Key measurement/data collection gaps	• Variation in coding completeness across units may affect risk scoring • Case-mix heterogeneity (medical versus surgical profiles) can affect benchmarking sensitivity



MTA Major Trauma Audit

Active since (year)	2013
Approx. annual number of admissions recorded	~6,000
Approx. number of participating hospitals	26 eligible trauma receiving hospitals
Background & Rationale	Major trauma collects data on patients who have life threatening or life changing injuries due to a trauma.
Aim	To drive system-wide quality improvement in trauma care through collection, benchmarking, and reporting of high-quality national data on severely injured patients.
Objectives	1. Support collection of high-quality, standardised major trauma data for local, national, and international use 2. Promote use of data for reflective clinical practice, peer review, and quality improvement 3. Enable research and evidence generation 4. Work toward capturing health-related quality-of-life and functional outcomes 5. Capture and disseminate patient experience/voice
Standards / KPIs / KQIs	• Length of stay (median) • Crude in-hospital mortality rate • % of patients with head injury with GCS<13, receiving CT scan within 1 hour • % of patients transferred out of admitting hospital • % of patients with an ISS >15 who were brought in by either ambulance and/or helicopter • % of patients received by a trauma team • % of those received by a trauma team, what percentage were led by a consultant within 30 mins • % Patients discharged home.
Methodology — Design	National clinical audit using trauma registry methodology based on the TARN platform (now the National Major Trauma Registry post-2024 migration)
Main source of data	Historically, UK Trauma Audit and Research Network (TARN) transitioning to NOCA MTA portal
Key Variables	• Demographics: age, sex • Mechanism & context of injury: fall height, road trauma, other • Trauma team activation / pre-alert status • Time to diagnostics (e.g., CT scans) • Injury severity score (ISS) or equivalent composite severity measure • Transfers between hospitals • In-hospital outcomes: discharge destination, mortality • Length of stay
Any factors of PROGRESS-PLUS considered?	• Age and sex routinely collected. • Mechanism & setting (contextual proxies for place/environment).
Mature enough for research purposes	Developing to moderately mature audit with strong potential for trauma system evaluation and injury epidemiology, but with known data completeness limitations in earlier years.
Typical research uses	Descriptive trauma epidemiology, service delivery analysis (pre-alerting, trauma team response, imaging timeliness), and system design research.
Key measurement/data collection gaps	N/A

INAS

Irish National Audit of Stroke

Active since (year)	2014
Approx. annual number of admissions recorded	~6,500
Approx. number of participating hospitals	24
Background & Rationale	Stroke is one of Ireland's leading causes of death and the most common cause of acquired adult neurological disability. National audit enables systematic measurement of care processes and outcomes against evidence-based clinical standards and policy targets, supporting quality improvement and system planning
Aim	To systematically measure and report the quality and organisation of acute stroke care in Irish hospitals against evidence-based clinical guidelines and national strategies, to drive improvements in stroke outcomes
Objectives	• Measure quality of stroke care (acute processes and outcomes) across participating hospitals. • Assess organisational stroke service structures and resources (e.g., stroke unit beds, diagnostic and therapy services). • Benchmark performance nationally and inform quality improvement projects. • Support implementation of stroke strategy and guideline-aligned care pathways.
Standards / KPIs / KQIs	• 1. Admission to a stroke unit 2: Length of stay in a stroke unit • 3:.Thrombolysis rate • 4: Time to brain imaging • 5: Time to thrombolysis6: Swallow screening rates • 7. Time to swallow screening • 8. Provision of Early Supported Discharge (ESD).
Methodology — Design	National, clinician-led web-based clinical audit of stroke care, using routinely captured hospital episode identification and retrospective abstraction/entry from medical records into the Stroke portal within the Hospital In-Patient Enquiry (HIPE) system.
Main source of data	(HIPE)
Key Variables	• Demographics: age, sex. • Presentation variables: Onset of stroke, hospital arrival times;. • Care processes: door-to-imaging time, thrombolysis timeliness, swallow screening, access to rehabilitation, thrombectomy access. • Stroke unit access: • Organisational variables: stroke unit bed availability, specialist staffing, radiology availability, ESD service availability. • Secondary prevention • Outcomes: in-hospital mortality, discharge destination, disability scores.
Any factors of PROGRESS-PLUS considered?	• Age and sex - routinely captured in clinical variables. • Geographic distribution of services - hospital-level organisational data. • Disability and functional status
Mature enough for research purposes	Highly mature national audit combining clinical process data with organisational audit elements.
Typical research uses	Outcomes research, service configuration evaluation, implementation science (thrombolysis/thrombectomy access), and health policy research
Key measurement/data collection gaps	• Variation in definitions: differing stroke diagnostic definitions used across hospitals can affect comparability. • Limited uniform outcome follow-up beyond acute discharge in published summaries.

IPCCA

Irish Paediatric Critical Care Audit

Active since (year)	2010
Approx. annual number of admissions recorded	~1,700
Approx. number of participating hospitals	2 PICUs in the Republic of Ireland: • Children's Health Ireland (CHI) at Crumlin • CHI at Temple Street
Background & Rationale	IPCCA "collects high-quality data to measure the quality of care and outcomes" for critically ill children in Irish PCCUs, and benchmarks these data against pre-determined standards, comparing performance to other units across the UK, to support targeted quality improvement actions.
Aim	To measure and improve the quality of paediatric critical care and outcomes in Ireland using benchmarked audit data and standards-based feedback.
Objectives	1. Capture standardised case-mix, care and outcome data for children admitted to Irish PCCUs 2. Benchmark performance against defined standards and peer units (including UK comparisons) 3. Identify variation and support quality improvement actions (e.g., workforce/flow, safety events, retrieval performance)
Standards / KPIs / KQIs	Patient safety / outcomes: • IPCCA 1: Mortality in PCCU • IPCCA 2: Emergency readmissions within 48 hours • IPCCA 3: Unplanned extubation rate per 1,000 intubated days Workforce / capacity / flow: • IPCCA 4: Qualified nurses per critical care bed • IPCCA 5: PCCU bed occupancy • IPCCA 6: Out-of-hours discharges (between 8pm–7:59am) IPCCA Data quality: • IPCCA 7: Audit data submission within 3 months of discharge IPCCA Retrieval / transport performance: • IPCCA 8: Irish Paediatric Acute Transport Service (IPATS) retrieval mobilisation time within 1 hour • IPCCA 9: Transport team time to bedside within 3 hours
Methodology — Design	IPCCA is part of the Paediatric Intensive Care Audit Network (PICANet) which was established to develop and maintain a secure and confidential high quality clinical database of paediatric critical care activity in order to: Identify best clinical practice, monitor supply and demand, monitor and review outcomes of treatment episodes , facilitate healthcare planning and quantify resource requirements, study the epidemiology of critical illness in children.
Main source of data	UK Paediatric Intensive Care Audit Network (PICANet)
Key Variables	• Admission data: demographic details, date of birth, ethnic group; county of residence, source of admission, clinical diagnoses, physiological parameters including blood gases, blood pressure, medical history and ventilation status. • Outcome and discharge details including 30-day follow up • Medical interventions received on each day by each child • Planned vs unplanned admissions and transfer patterns. • Unit strain: occupancy (including seasonal peak) and out-of-hours discharge. • Safety/outcomes: mortality, emergency readmission within 48 hours, unplanned extubation rate. • Transport data for all children transported to a PICU from their original admitting hospital: child details, presenting physiology, composition of the transport team, journey times, interventions and critical incidents. Retrieval: mobilisation time and time-to-bedside targets (IPATS). • Equity-relevant profiling
Any factors of PROGRESS-PLUS considered?	1. Place/service access proxies: transfers from other hospitals; regional patterns for paediatric admissions to adult ICUs are referenced. County of residence. 2. Ethnicity: admission rates per 10,000 under-16 population reported by ethnic group (Asian/Black/Other vs White). 3. Age: detailed paediatric age spectrum (including neonates and under-1 year dominance in respiratory admissions). 4. Sex
Mature enough for research purposes	Mature, high-quality audit covering all paediatric critical care capacity nationally, with strong benchmarking against UK standards.
Typical research uses	Safety research, unit strain and capacity analysis, retrieval and transport performance, paediatric critical care outcomes research, epidemiology of critical illness in children.
Key measurement/data collection gaps	System-level constraint signal: persistently very high occupancy and staffing below recommended nursing standards can affect both care the feasibility of consistent data capture under strain.

NPMR National Paediatric Mortality Register

Active since (year)	2020
Approx. annual number of admissions recorded	~380 deaths of 0-18 year olds
Approx. number of participating hospitals	National surveillance register
Background & Rationale	The NPMR exists to establish a centralised, high-quality, national database of all child and young person deaths to support evidence-based policy, prevention strategies, and quality improvement in health care and public health. Historically, child mortality data in Ireland were fragmented; the NPMR fills this gap by integrating multiple sources (death certificates, hospital records) to provide timely, comprehensive mortality information.
Aim	To provide continuous national surveillance of all deaths in children and young people aged 0–18 years in Ireland - irrespective of cause - to inform policy, prevention, and quality improvement.
Objectives	1. Provide a national mortality surveillance system for CYP aged 0–18 years, capturing deaths occurring in hospital and the community 2. Collect complete and standardised data on the magnitude, characteristics, and causes of child deaths 3. Analyse trends and causes of child mortality to identify priority areas for prevention and intervention 4. Support policy and quality improvement by translating data into actionable recommendations
Standards / KPIs / KQIs	• NPMR 1: Annual child mortality counts and rates by age group • NPMR 2: Cause-specific mortality patterns (e.g., trauma, SIDS, congenital conditions, suicide/suspected self-harm) • NPMR 3: Trends over time in overall and cause-specific deaths • NPMR 4: Place of death (hospital, home, other) • NPMR 5: Provisional infant mortality rates and comparisons with EU averages
Methodology — Design	National mortality register using linked statutory death registration and clinical data sources
Main source of data	Direct from the Under-19 Death Notification System will be implemented nationally starting from 2026
Key Variables	• Age at death (neonatal, post-neonatal, child, adolescent) • Cause of death category (SIDS, congenital conditions, trauma, suicide/suspected self-harm, cancer, other) • Place of death (hospital ward/resuscitation area, home, other) • Death year and date of death • Demographic variables: sex, age group
Any factors of PROGRESS-PLUS considered?	• Age groups (neonatal, infant, child, adolescent) - central to rate calculations • Sex (gender) distribution of deaths is reported • Cause of death categories aggregate key external vs medical vs congenital causes • Ethnicity will be captured on the Under 19 death notication form
Mature enough for research purposes	Population-level surveillance register with high public health and policy relevance rather than traditional clinical audit maturity.
Typical research uses	Descriptive epidemiology, trend analysis, injury and preventable death research, and informing national prevention strategies.
Key measurement/data collection gaps	• Delayed and provisional registration • Incomplete information on risk factors

INOR Irish National Orthopaedic Register

Active since (year)	2016
Approx. annual number of admissions recorded	~6,500
Approx. number of participating hospitals	17
Background & Rationale	INOR was established by NOCA to create Ireland's first national clinical register for elective hip and knee joint replacements, enabling systematic monitoring of surgical quality, implant performance, and patient outcomes. By centralising detailed procedural and PROMs (patient-reported outcome measures), INOR supports safety surveillance, benchmarking, and clinical improvement.
Aim	To monitor the quality and safety of elective orthopaedic arthroplasty surgery (hip and knee replacements) across the Irish health system, support improvements in clinical practice, and provide a reliable basis for early action in implant recalls or emerging safety issues.
Objectives	1. Monitor quality and safety of arthroplasty procedures in real time 2. Track and evaluate implant performance to identify potential issues early 3. Provide clinically meaningful outcome data (clinical and PROMs) to hospitals and clinicians 4. Support timely hospital action in the event of implant recalls 5. Describe the epidemiology of hip and knee replacements in Ireland
Standards / KPIs / KQIs	**In development:** • Surgical site infection within 90 days • Early revision within 1 year • Dislocation of the hip within 90 days • Compliance with VTE prophylaxis • Mortality within 30 days
Methodology — Design	National clinical registry and audit of elective hip and knee arthroplasty surgery using a secure web-based real-time data entry system
Main source of data	NOCA Audit platform
Key Variables	• Patient demographics: Age, sex, BMI, comorbid status • Surgery details: Procedure type (hip/knee, primary/revision), surgical approach, component details • Outcomes: Early revision, complications (infection, thromboembolism), readmissions • PROMs: Quality of life before and after surgery at prespecified time points • Implant identifiers: scanned barcodes for component traceability
Any factors of PROGRESS-PLUS considered?	• Age and sex - routinely documented. • Diagnosis and comorbidity profiles - collected for risk stratification
Mature enough for research purposes	Early-to-moderate maturity registry with strong methodological design and high future research potential.
Typical research uses	Implant surveillance, revision risk analysis, patient-reported outcome research, and comparative effectiveness studies as coverage expands.
Key measurement/data collection gaps	• Variable completeness: Some variables (e.g., longer-term outcomes) require time to mature as the registry expands • Private sector integration: Full inclusion of private hospitals is anticipated but was incomplete during the first report period

NAHM

National Audit of Hospital Mortality

Active since (year)	2016 for national reporting; trend data from 2014–2023.
Approx. annual number of admissions recorded	400,000–450,000 inpatient discharges/year
Approx. number of participating hospitals	44 acute publicly funded hospitals
Background & Rationale	National hospital mortality surveillance using routine HIPE data to support quality improvement, identify variation/outliers in in-hospital mortality, and strengthen learning around high-burden conditions.
Aim	To monitor, benchmark and support improvement in in-hospital mortality outcomes across Irish acute public hospitals, using risk-adjusted mortality analysis and review of outlier signals.
Objectives	1. Analyse national in-hospital mortality trends. 2. Report crude mortality for six high-burden conditions. 3. Produce SMR funnel plots for hospitals. 4. Identify statistically unusual mortality patterns/outliers. 5. Support hospital-level review and data-quality improvement. 6. Explore available equity stratifiers and gaps for inequalities analysis.
Standards / KPIs / KQIs	Not audited against a fixed clinical standard.
Methodology — Design	Retrospective, national, routinely collected administrative-data audit.
Main source of data	HIPE - Hospital In-Patient Enquiry data
Key Variables	Principal diagnosis; death/discharge status; age; sex; Charlson Comorbidity Index; in-hospital palliative care treatment; source of admission; type of admission; previous emergency admissions to same hospital in previous 12 months; medical-card status; hospital; year; selected public/private and civil-status variables in inequality analysis.
Any factors of PROGRESS-PLUS considered?	Yes, partially. - Considered: place of residence only weakly/insufficiently; sex/gender; age; civil status/social capital; medical-card status as a limited deprivation proxy; public/private status.
Mature enough for research purposes	Yes, with caveats - Mature for national surveillance, service evaluation, hospital benchmarking, mortality-trend analysis and data-quality research.
Typical research uses	Trends in in-hospital mortality; hospital-level variation; SMR/outlier analysis; mortality by diagnosis; sex/age differences; COVID-era mortality patterns; administrative-data quality; palliative-care documentation; coding accuracy; exploratory health-inequality analysis.
Key measurement/data collection gaps	Missing/limited equity stratifiers: Eircode, ethnicity, education, occupation, granular deprivation, disability, religion, sexual orientation. Medical card is an imperfect deprivation proxy. ED deaths are excluded.

ICU Bed Information System (ICU BIS)

Active since (year)	March 2020
Approx. annual number of admissions recorded	Daily bed numbers for all Critical Care units, beds occupied, available, discharges ready and reserved.
Approx. number of participating hospitals	The ICU-BIS has 100% national critical care coverage, with 77 critical care units across 33 hospitals. This includes Adult, Paediatric and Private hospitals.
Background & Rationale	The Intensive Care Unit Bed Information System (ICU-BIS) was one of the overall objectives of the Irish National ICU Audit (INICUA). A bed information system is a vital information platform for hospitals not only in the management of surges but also in major incident/terror attack preparedness planning. It was fast tracked into operation to support with the Covid Pandemic. It allows hospitals identify capacity issues and identify beds available to support a patient transfer.
Aim	The ICU BIS project arose out the Irish National Intensive Care Unit Audit (INICUA) - NOCA objective No 7 the facilitation of an ICU bed bureau. The ICU BIS is a web-based system, supporting optimal bed utilisation in ICUs across the country and providing comprehensive data on activity nationally.
Objectives	1. Provide real-time data on ICU bed availability 2. Facilitate ICU Bed Management Locally 3. Streamlined Communications (Up-to-Date Contact Details) 4. Pathway for Electronic Referrals 5. Information to Support Surge/ Major Disaster Situations (e.g., COVID-19, RSV, Influenza) 6. Provide information on ICU patients managed outside ICU (in ED, Theatre, etc.) 7. Report on ICU Bed Availability and Utilisation
Standards / KPIs / KQIs	• % Occupancy • Bed availability • Acuity • Utilisation
Methodology — Design	National, Clinically led, Web-based data collection, ICU-BIS uses a bespoke IT system.
Main source of data	Direct data entry from Critical Care Units under the governance of ICU.
Key Variables	• Total Beds – total potential physical bed spaces available. • Occupied Beds • Invasively ventilated patients • Dialysis • Cleared for Discharge • Reserved/ Assigned Beds • Staffed Beds • Closed Beds • Available Beds • Viral Respiratory Specific Fields
Any factors of PROGRESS-PLUS considered?	Viral Respiratory Patients have targeted data – Age, Sex, Source of Admission, Core morbidities.
Mature enough for research purposes	Well established daily data collection of all national ICUs in Ireland with validated data and full completeness in regard to Bed Availability and Utilisation.
Typical research uses	Service Planning, Service Capacity and Surge Planning, Bed utilisation, Acuity, Discharge Planning and Safe Staffing levels.
Key measurement/data collection gaps	We have no gaps in our data since the collection began (daily data since March 2020). Oversight of all Critical Care Beds under the Governance of ICU teams.

NOCA National Office of Clinical Audit

WHAT IS THE NATIONAL OFFICE OF CLINICAL AUDIT (NOCA)?

NOCA was set up in 2012 to support national clinical audits of healthcare in Ireland. National clinical audits regularly look at different areas of care to see how well services are working and where improvements can be made. National clinical audits look at:

- how healthcare services are organised
- how care is provided
- the outcomes experienced by patients.

NOCA works with healthcare providers to help them understand and use this information so they can learn from it and improve patient care over time.

HOW CAN I ACCESS INFORMATION FROM NOCA?

NOCA's data access and information governance policy can be accessed on the NOCA website.

CLICK TO VIEW PUBLICATIONS USING NOCA DATA

You can contact the National Office of Clinical Audit at:

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