

ICNARC developments

Kathy Rowan

Kerrie Gemmill

icnarc | intensive care
national audit &
research centre



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Scope

- Dataset
- IT platform
- Activities

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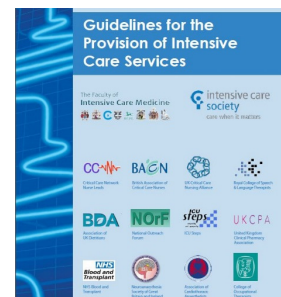
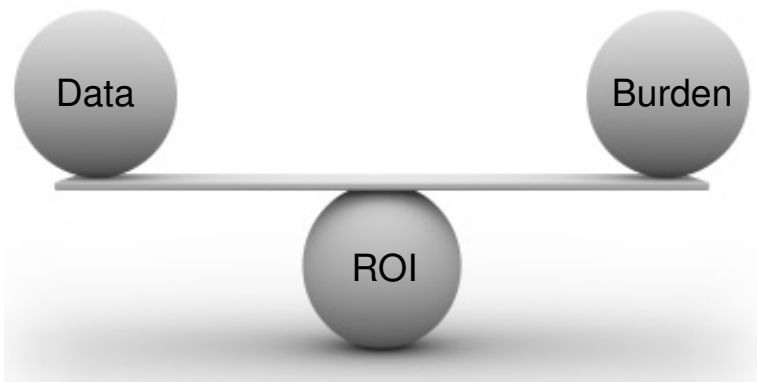


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Scope

- Dataset

More a revelation than revolution...



Identifiers

- Move to NHS number as key identifier
 - with more sophisticated validation
- Replace Date of birth with age (years)

Hospital admission

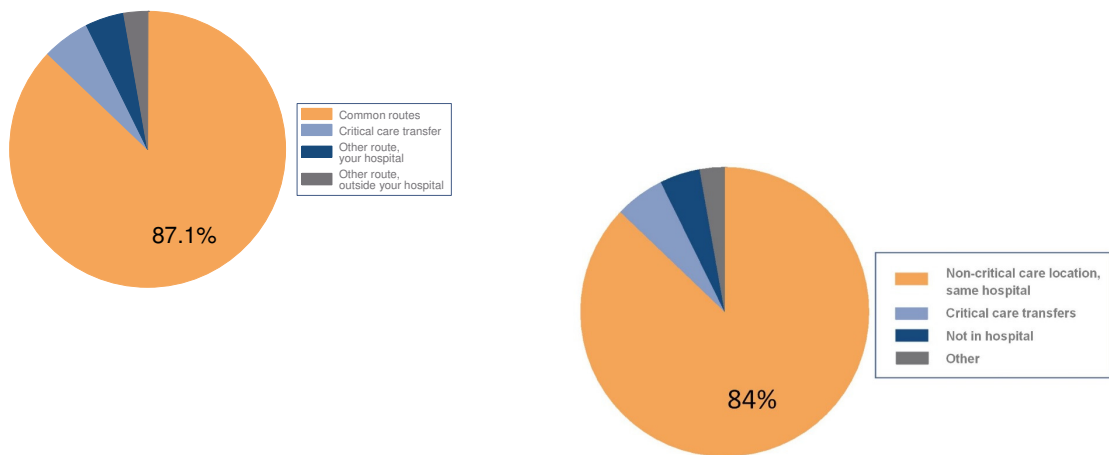
- Date/Time (hour of presentation/admission) to your hospital
- Date/Time presentation (if ED your hospital)

Decision to admit to/discharge from critical care unit



7

Source of admission/Location following discharge



8

Source of admission

- Emergency Department, your hospital
- Theatre, your hospital (previously ED/Not in hospital)
- Theatre, your hospital (previously on Ward)
- Ward, your hospital

Trajectory

Physiological parameter	Score						
	3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO ₂ Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO ₂ Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Treatment goals at admission

- Active care
- Pre-surgical preparation
- Stabilisation and monitoring
 - active care not thought to be appropriate
- End-of-life care

Treatment goals and limitations

- Collect data on treatment limitations
 - at admission
 - during unit stay
 - at discharge (e.g. not for readmission)
- At/during - not for intubation/IMV, DNACPR, not for dialysis, other

Obstetric data

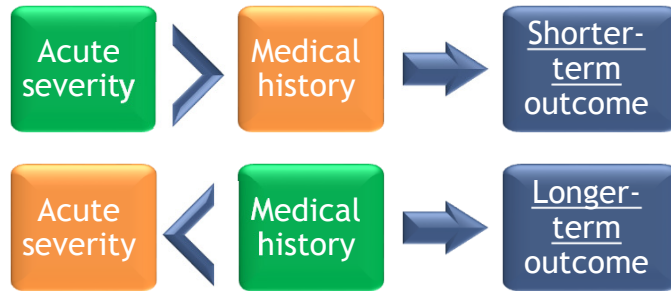
- Exploring data linkage to NMPA
 - ‘Admission currently/recently pregnant’ and gestation retained
- *Exploring accuracy of obstetric data in NMPA*

Dropping data

- Pre-admission biochemistry and haematology
 - collected as potential replacement/substitution when first 24 hour unit values unavailable
 - assessed in risk modelling
 - not useful
 - use multiple imputation

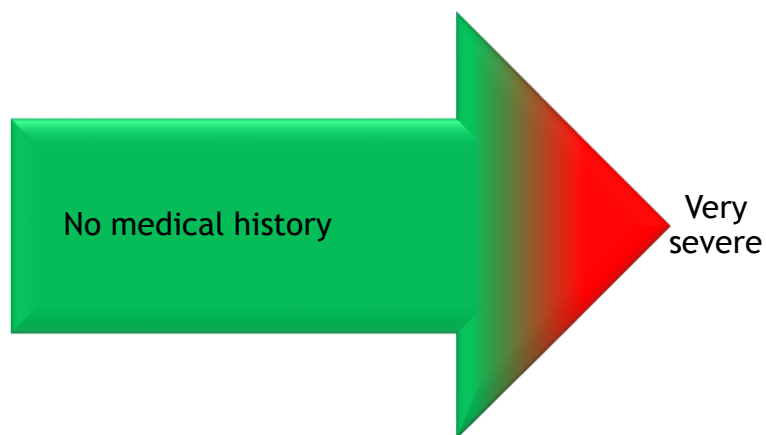
Medical history

- Currently only collect very severe chronic conditions

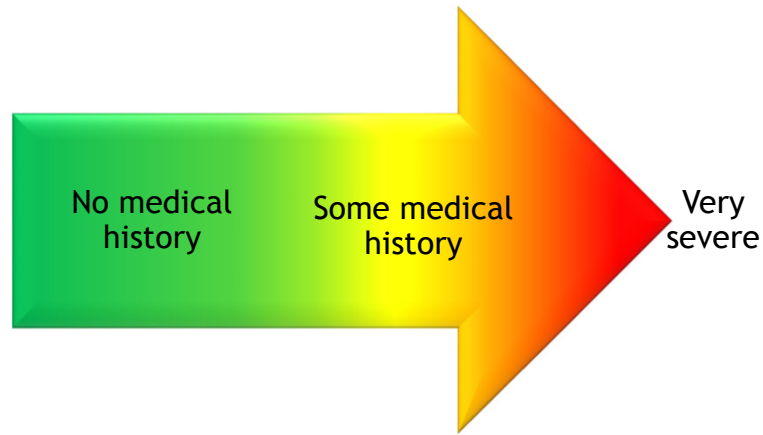


- Insufficient detail for modelling longer-term outcomes (e.g. mortality at one year)

Introduce grading and new conditions



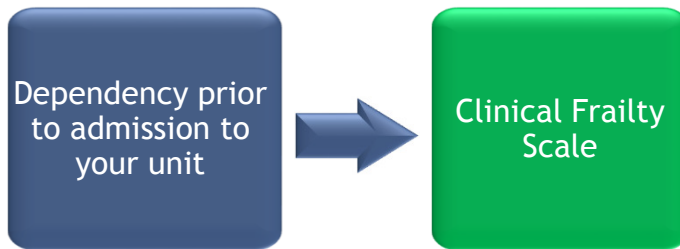
Grading



New conditions

1. Essential hypertension
2. Diabetes mellitus
3. Chronic obstructive pulmonary disease
4. Alcohol dependence
5. Chronic renal failure
6. Chronic angina
7. Drug dependence
8. Obstructive sleep apnoea
9. Rheumatoid arthritis
10. Thrombo-occlusive disease of brain

Clinical frailty



Clinical Frailty Scale

1 Very fit - People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well - People who have no active disease symptoms but do not fit into category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3 Managing Well - People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4 Vulnerable - While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up" and/or being tired during the day.

5 Mildly Frail - These people often have more visible slowing, and need help in high order (ADLs) (bathing, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 Moderately Frail - People need help with all outside activities and with keeping home. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7 Severely Frail - Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem capable and not at high risk of dying within ~6 months.

8 Very Severely Frail - Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9 Terminally Ill - Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia
 The degree of frailty corresponds to the degree of dementia. Common symptoms in **mild dementia** include forgetting the details of a recent event, though still remembering the event itself; requiring the same question/story and social withdrawal. In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting. In **severe dementia**, they cannot do personal care without help.

Surgery/procedures

- Capture both surgical and procedural data irrespective of location
- Separate surgical and procedural data from reason for admission
 - drop first tier of ICNARC Coding Method (ICM)

Sepsis-3/SOFA

- Add vasoactive drug(s) and serum bilirubin
- Record maximum infusion rate for given vasoactive drug(s) in first 24 hours

APACHE III and IV

- Add albumin and bilirubin

Organ support (daily – as module)

- Collect daily organ support data
- Median unit LOS=3 calendar days

Data linkage



Scope

- Dataset
- IT platform

IT platform – “Platform X”

- Direct data upload
- Online data validation
- Customise data validation report (e.g. delay outcome queries in early stages)
- More efficient processing
- Paperless
- Potential (future...) to add optional modules and host specific ad-hoc audits and future research studies
- Current status...

Scope

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Activities

- Network Quality Reports (2 per year)
- Direct access to Network's units Quarterly Quality Reports (via IT platform)
- Ad hoc analyses requests (paid for)
- Training – workshops and webinars
- Network meeting presentations
- Visits to/meetings at ICNARC
- Day-to-day customer services (e.g. queries, participation, SSQD dashboard checks, etc.)

Activities

- Inequitable customer services
- No standard service
- Service(s) not resourced
- Potential to do more (e.g. Annual Network CMP Meeting, etc.)

- Comments/reflections/ideas – the floor is yours...???