Measure what you value

The development of process quality indicators to measure quality of care for musculoskeletal injuries in the ED

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ACEM Annual Scientific Meeting
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BACKGROUND

- Important to manage variation in clinical practice[1]
  - Experience and skill mix of medical staff + evolving ED models of care (e.g. Physio, NPs) introduces
    - Variation in assessment
    - Variation in tests ordered
    - Variation in treatment
    - Variation in referral pathways and plans[2-13]
  - Measurement considered fundamental tool to identify and mitigate variation[1]
- Compliance with time-based performance measures do not necessarily measure *quality*[14-18]

- What is a quality indicator?[19]
- Why do we need them?
- How do you use them?

- What is a quality indicator?
  - *A tool that provides quantitative information about how care is delivered (i.e. the actions)*
- Why do we need them?
- How do you use them?

- What is a process quality indicator?
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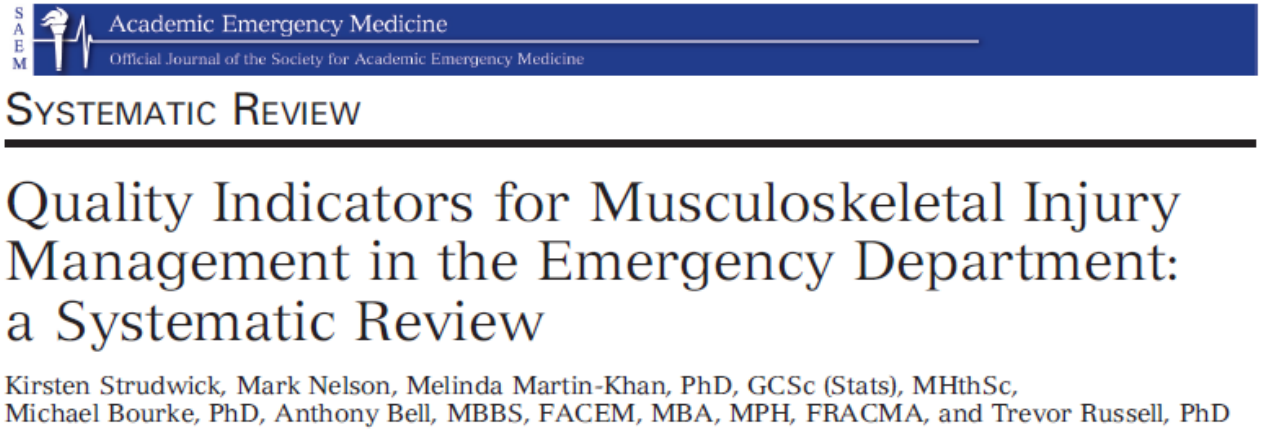
- Why do we need them?
  - *Variations in care, identify areas for improvement / areas of excellence, patient safety, value-based healthcare (use of resources etc.)*
- How do you use them?

- What is a process quality indicator?
  - *A tool that provides quantitative information about how care is delivered (i.e. the actions)*
- Why do we need them?
  - *Variations in care, identify areas for improvement / areas of excellence, patient safety, value-based healthcare (use of resources etc.)*
- How do you use them?
  - *Benchmarking, audits of interventions / SIA / models of care, reporting*

METHODS

Phase 1 → Phase 2 → Phase 3 → Phase 4



Academic Emergency Medicine
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SYSTEMATIC REVIEW

Quality Indicators for Musculoskeletal Injury Management in the Emergency Department: a Systematic Review

Kirsten Strudwick, Mark Nelson, Melinda Martin-Khan, PhD, GCSc (Stats), MHthSc, Michael Bourke, PhD, Anthony Bell, MBBS, FACEM, MBA, MPH, FRACMA, and Trevor Russell, PhD

METHODS

Phase 1 → Phase 2 → Phase 3 → Phase 4

Emergency Medicine Australasia (2017) doi: 10.1111/1742-6723.12907

REVIEW ARTICLE

Review article: Best practice management of low back pain in the emergency department (part 1 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2017) doi: 10.1111/1742-6723.12904

REVIEW ARTICLE

Review article: Best practice management of common ankle and foot injuries in the emergency department (part 2 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2017) doi: 10.1111/1742-6723.12870

REVIEW ARTICLE

Review article: Best practice management of common knee injuries in the emergency department (part 3 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2017) doi: 10.1111/1742-6723.12906

REVIEW ARTICLE

Review article: Methodology for the 'rapid review' series on musculoskeletal injuries in the emergency department

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2018) doi: 10.1111/1742-6723.12921

REVIEW ARTICLE

Review article: Best practice management of common shoulder injuries and conditions in the emergency department (part 4 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2018) doi: 10.1111/1742-6723.12969

REVIEW ARTICLE

Review article: Best practice management of closed hand and wrist injuries in the emergency department (part 5 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

Emergency Medicine Australasia (2018) doi: 10.1111/1742-6723.13131

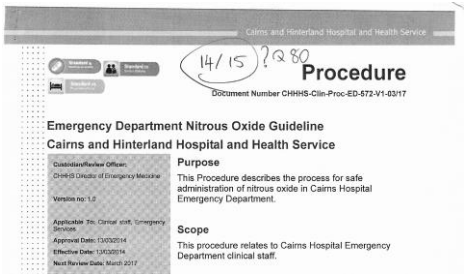
REVIEW ARTICLE

Review article: Best practice management of neck pain in the emergency department (part 6 of the musculoskeletal injuries rapid review series)

Kirsten STRUDWICK,[1,2,3] Megan MCPHEE,[2] Anthony BELL,[4,5] Melinda MARTIN-KHAN[6] and Trevor RUSSELL[3]

METHODS

Phase 1 → Phase 2 → Phase 3 → Phase 4


Cairns and Hinterland Hospital and Health Service

Procedure

Document Number CHHHS-Clin-Proc-ED-572-V1-03/17

Emergency Department Nitrous Oxide Guideline

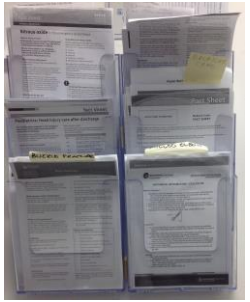
Cairns and Hinterland Hospital and Health Service

Purpose

This Procedure describes the process for safe administration of nitrous oxide in Cairns Hospital Emergency Department.

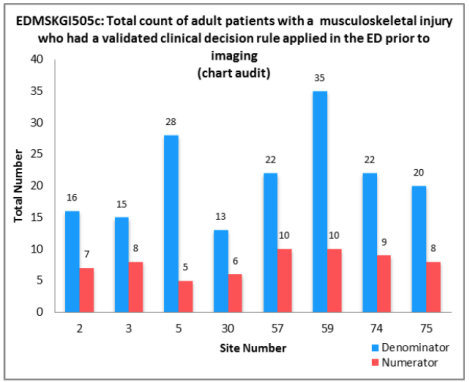
Scope

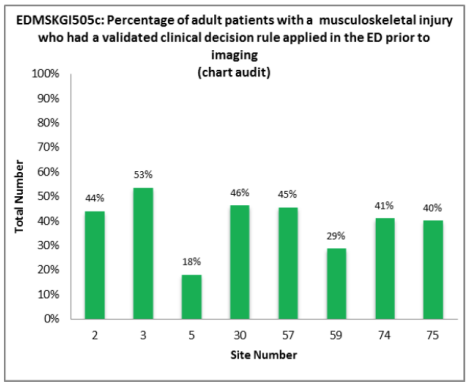
This procedure relates to Cairns Hospital Emergency Department clinical staff.



METHODS

Phase 1 → Phase 2 → Phase 3 → Phase 4

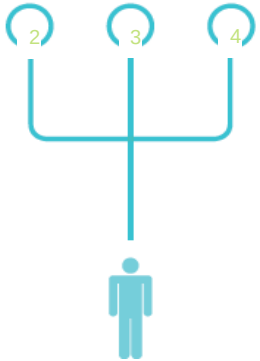




EDMSKGD502	The proportion of adult patients with a fragility fracture, with evidence of risk factors for osteoporosis, who were referred to their GP for further osteoporosis assessment and management.										
		1	*0*	*0*	*1*	*0*	*0*	*3*	*2*	*4*	*8*	*1.6*
	Include as an indicator	1	2	3	4	5	6	7	8	9	+	V
Include as an indicator (Round 2):			<-- place vote here									

THE STUDY SAMPLE (n = 633)

ATS Cat 2	ATS Cat 3	ATS Cat 4	ATS Cat 5
2%	**18%**	**71%**	**9%**



TREATING CLINICIAN

53% DOCTOR

35% NURSE PRACTITIONER

12% EMERGENCY PHYSIOTHERAPY PRACTITIONER

ANKLE	KNEE	LUMBAR SPINE
17%	**13%**	**9%**

QUALITY INDICATOR EXAMPLE (IMAGING)

The proportion of adults with a foot, ankle or knee injury who had a validated clinical decision rule for imaging applied in the ED prior to x-ray

- Robust evidence supporting diagnostic accuracy, external validity and usability of simple imaging clinical decision rules for the lower limb (Ottawa Foot & Ankle Rules, Ottawa Knee Rules, Pittsburgh Decision Rules)
    - Standardize the approach to assessing these injuries
    - Decrease unnecessary imaging
    - Reduce LOS
    - Lower missed injury rates in the ED
- Variation reported between clinician type, level of experience, and training in the application of the rules

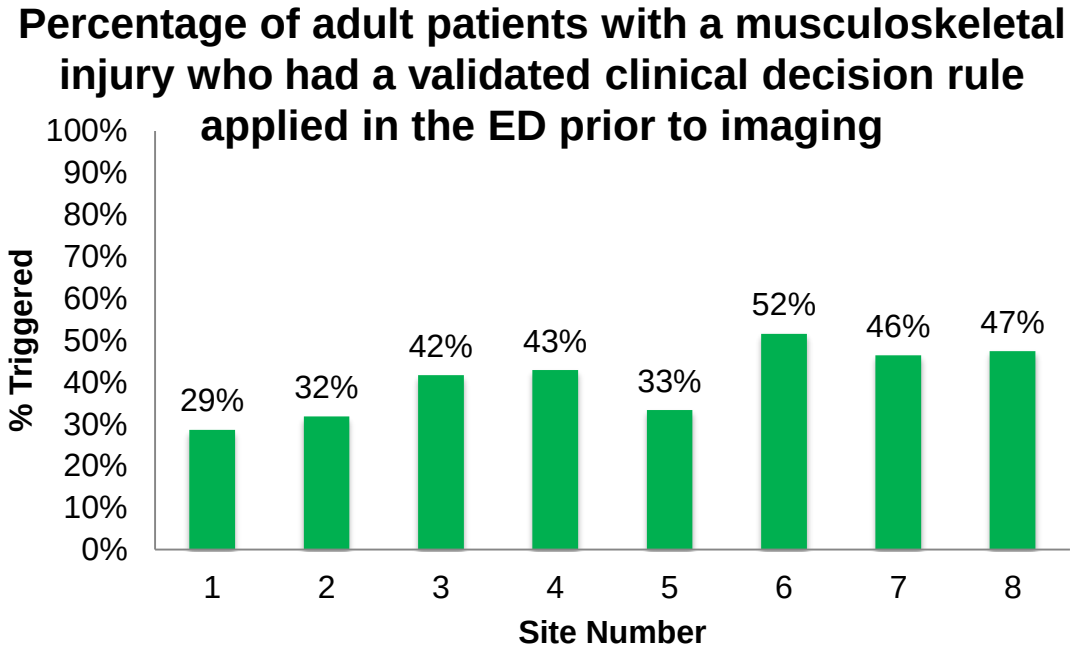
QUALITY INDICATOR EXAMPLE (IMAGING)

TOTAL

Numerator = 75

Denominator = 182

% triggered = 41%



QUALITY INDICATOR EXAMPLE (IMAGING)

- For the ankle injuries, 68% of ankle injuries (n = 63) who had x-rays had a negative result; just over half of these patients had no imaging rules applied prior to imaging.

= area for improvement!

QUALITY INDICATOR EXAMPLE (MOBILITY)

The proportion of adults with a musculoskeletal injury in the ED with impaired mobility or risk of falls, whose mobility was assessed prior to discharge

- MSK injuries commonly precipitate falls in the community.
- Mobility Ax in the ED can provide interventions to reduce the risk of falls in the community.
- ~43% of older people presenting to an ED after a fall are not admitted; 6% will return to the ED after another fall within 24 hours of d/c

QUALITY INDICATOR EXAMPLE (MOBILITY)

The proportion of adults with a musculoskeletal injury in the ED with impaired mobility or risk of falls, whose mobility was assessed prior to discharge

Denominator =

- ≥65 years of age and an MSK injury secondary to fall
- LBP
- Lower limb injury +/- immobilized

Numerator = No. of patients who had their mobility assessed prior to discharge

Exclusions = admitted, transferred, DNW, left after treatment commenced

QUALITY INDICATOR EXAMPLE (MOBILITY)

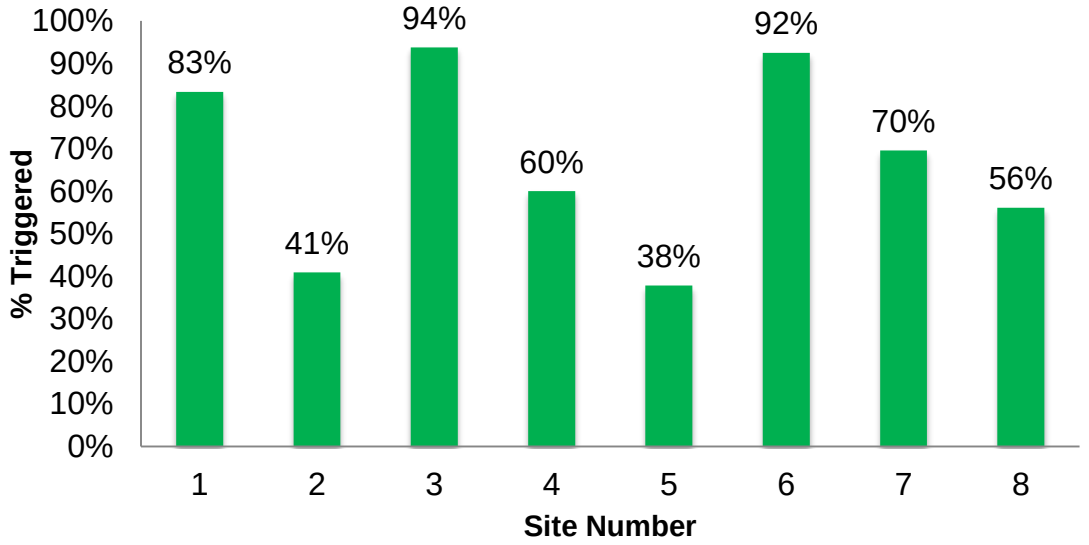
TOTAL

Numerator = 248

Denominator = 362

% triggered = 69%

Percentage of adults with a musculoskeletal injury in ED with impaired mobility or risk of falls, whose mobility was assessed prior to discharge



QUALITY INDICATOR EXAMPLE (MOBILITY)

- 1/3 of patients who reported ≥3 falls in the preceding 12 months did not have a mobility assessment prior to d/c
- 7% of patients with impaired mobility or risk of falls had services in place; only 65% of those patients had a mobility assessment prior to d/c
- 1-week follow-up phone call post ED: 5% (n = 15) of contactable patients had reported a fall at home since d/c; 3 of these patients did not have a mobility assessment prior to d/c; 1 patient sustained an injury requiring medical input.

= area for improvement!

QUALITY INDICATOR EXAMPLE (PAIN PLAN)

The proportion of adults with a musculoskeletal injury who were discharged from the ED with an acute pain management plan that was verbalised to the patient AND documented in the GP letter

- A high-quality ED discharge includes informing and educating patients on their diagnosis, prognosis, treatment plan and expected course of illness.
- ED OPIOID study (RBWH): most patients discharged on oxycodone had no mention of an oxycodone prescription, or incomplete communication to their GP about a plan for dosing, duration, follow-up, and de-escalation.

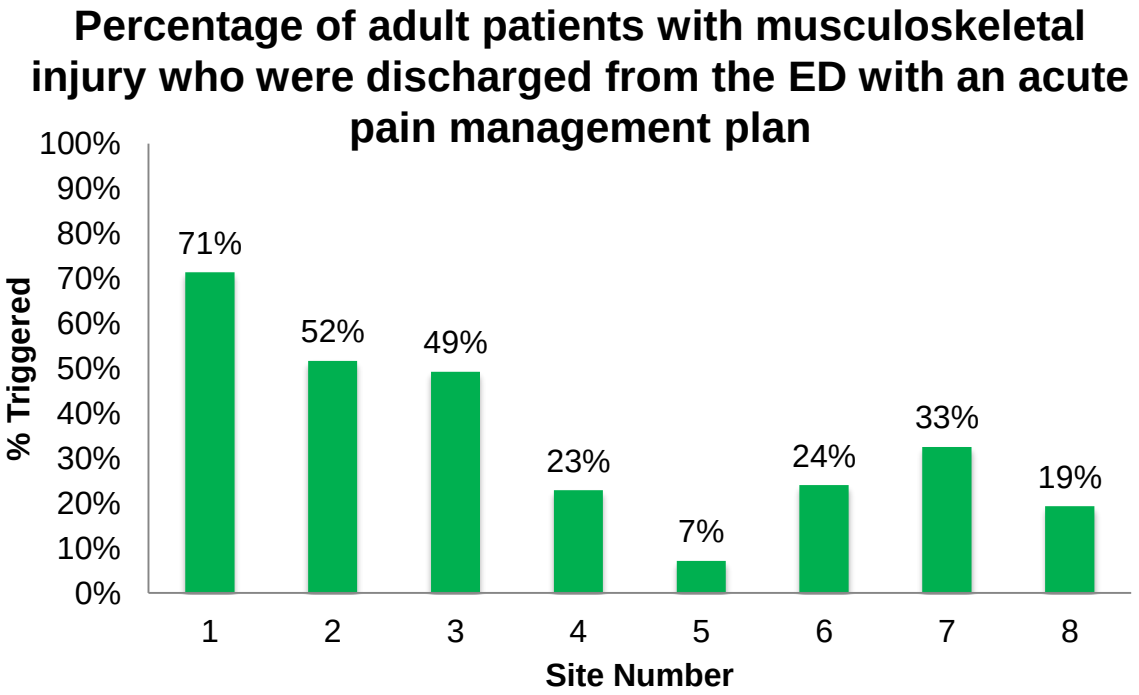
QUALITY INDICATOR EXAMPLE (PAIN PLAN)

TOTAL

Numerator = 194

Denominator = 554

% triggered = 35%



QUALITY INDICATOR EXAMPLE (PAIN PLAN)

1-week follow-up phone call:

- 43% of contactable patients (n = 195) reported pain was still moderate, severe, or extreme; of these, 66% (n = 129) did not receive verbal and GP communication on the acute pain management plan

i.e. a large proportion of patients are still experiencing moderate (or worse) pain in the weeks after the ED presentation

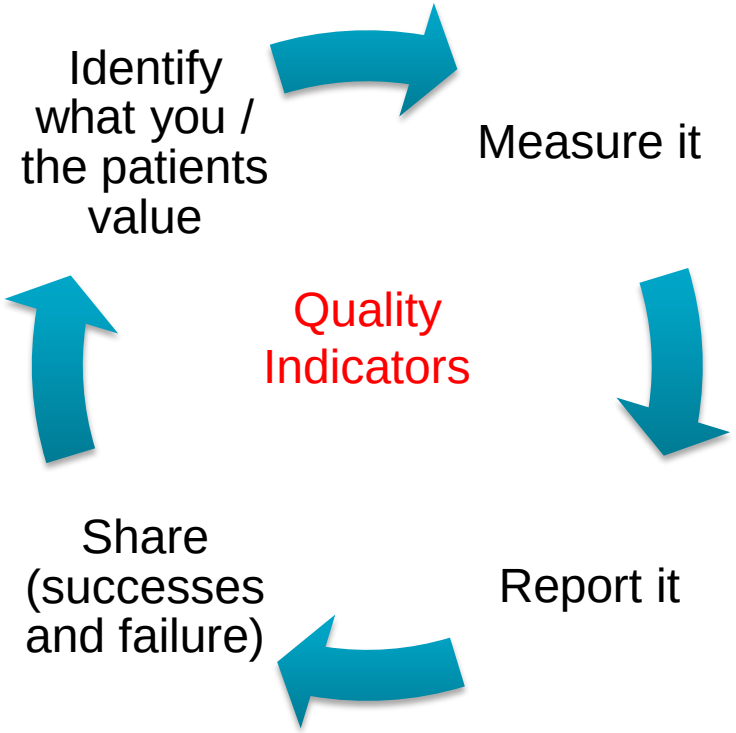
- ?not effectively addressed in the ED or
- ?plan for post-discharge pain management not effectively communicated / poor linkages w GP

= area for improvement!

How will it change practice?

- Other focus areas (e.g. safety with opioid prescribing, patient-centered information, appropriate use of imaging)
- Reduce provision of low-value care, improve patient safety, reward staff
- Allows the ED to conduct SIAs without having to develop a method for measuring effectiveness
- Utilise data from digital hospital (cheaper)

How will it change practice?



Acknowledgements

The research team

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The Expert Panel

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