



Australian Government  
National Health and  
Medical Research Council

N H M R C

# A National Initiative for Implementing Acute Pain Management Evidence in Australian Hospital Emergency Departments

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[www.nhmrc.gov.au](http://www.nhmrc.gov.au)



# The issue

- Over **7 million presentations** to Australian emergency departments each year
- Pain is the deciding factor to attend an emergency department for **80%** of patients
- According to local and international studies, **pain management is poorly managed in emergency department** setting

# The National Emergency Care Pain Management Initiative



- Patients with a pain score increased from 41% to 64%
- Reduced time to analgesia 61 to 41minutes
- Proportion of patients in severe pain who reported a reduction of pain by more than three units within an hour.
  - *Baseline = 43%*
  - *Post intervention = 62.3%*

(sample of 16,500 patients)

# Introduction



## **NHMRC-NICS Emergency Care Community of Practice**

- Implementation of evidence in ED clinical priorities areas
- Bringing clinicians, researchers and government together

## **ANZCA Acute Pain Management: Scientific Evidence**

NHMRC approved guidelines

# Advisory Committee



Associate Professor Steve Doherty

Dr Jonathan Knott

Mr Ramon Shaban,

Ms Kerri Holzhauser

Dr Simone Taylor

Associate Professor Margaret Fry

Dr Franz Babl

Associate Professor Anna Holdgate

Dr Elizabeth Mary Cotterell

Mr Bill Barger

Ms Trish Lemin

# The issue



## A Global issue

- Analgesia delivery in the ED. *Am J Emerg Med* 2006
- Pain in an emergency department: an audit. *Eur J Emerg Med* 2006

## The Australian context

- High prevalence
- Variation in clinical practice
- Patients are often in significant distress
- A key issue identified by patients

# The evidence-practice gap

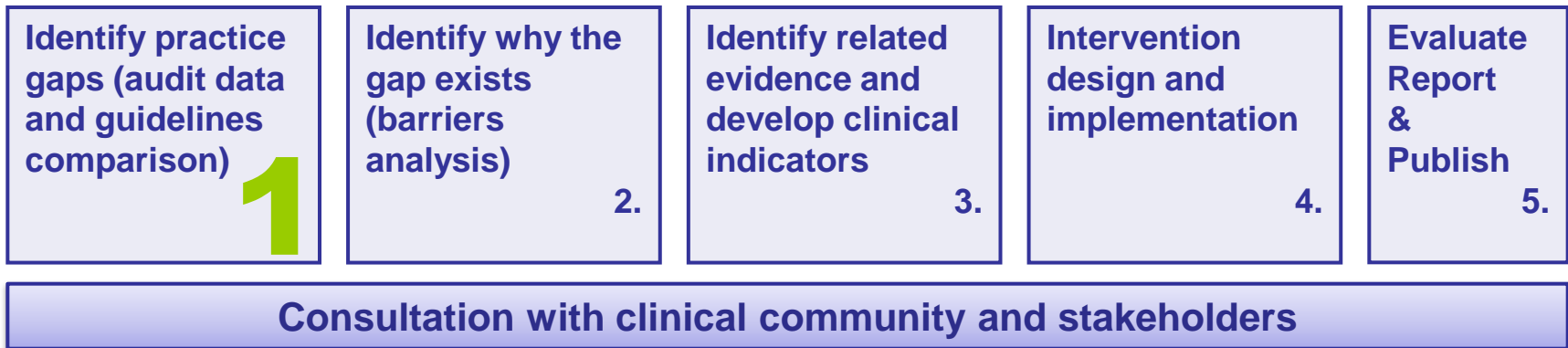


National audit of ED pain management (n=1966pts) compared with recommendations from NHMRC approved guidelines<sup>1</sup>

- 40% of patients received an initial pain score
- Median time to analgesia > 60 minutes
- 10% received femoral nerve block for #NOF

<sup>1</sup>*Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine. Acute pain management : scientific evidence 2nd edition.*

# Planning for change





# Key barriers to best practice pain management



- Workforce issues e.g. staffing levels / turn over / skill mix
- A lack of time and resources
- The ED setting - high acuity, busy, chaotic
- Lack of supportive policy and procedures

# Key enablers to best practice pain management



- Clinical champions, senior opinion leaders in the ED
- Recognising the need for better practice
- Providing a strong evidence base
- Positive patient outcome
- Evidence based policies and education packages

# Designing an Implementation Program



# The guideline recommendation

To ensure optimal management of acute pain, emergency departments should adopt systems to ensure:

- adequate **assessment** of pain
- provision of **timely** and **appropriate** analgesia
- frequent **monitoring**, and
- **reassessment** of pain.

*Acute Pain Management: Scientific Evidence*  
*2<sup>nd</sup> Edition 2005*

# Development of indicators



## Assessment of Pain

- 80% of patients presenting to the emergency department in pain have a documented pain score

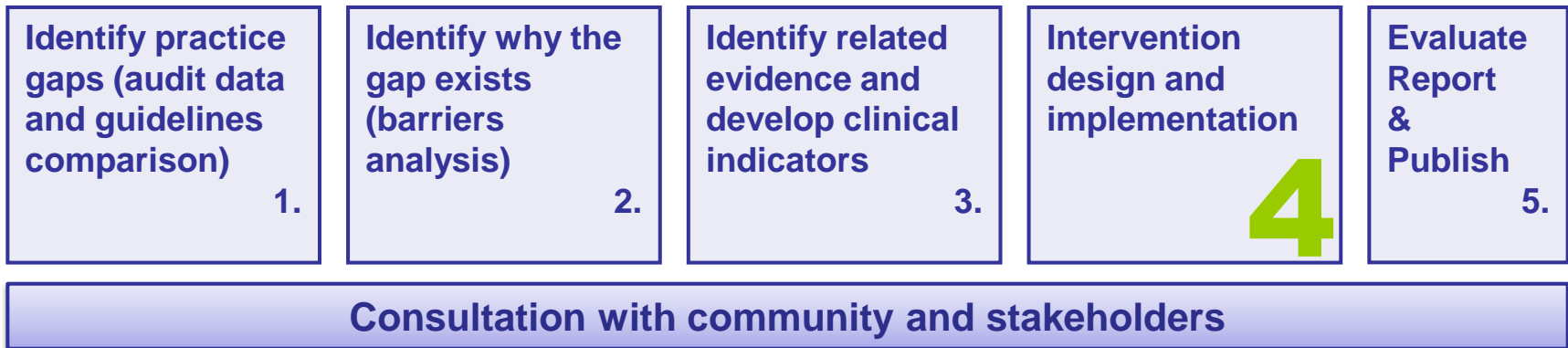
## Timeliness of analgesia

- A median time to analgesia of 30 minutes from triage

## Effectiveness of pain management

- 80% of patients with severe pain (7 or greater) who decrease their pain score by 3 or more points within one hour

# Designing an Implementation Program



# Targeted a multi level intervention



Ferlie & Shortell identify four levels:

- Larger health care environment
- Organisational level
- Team delivering care
- Individual health care practitioner

Consideration of interventions across all four levels of care can maximise the probability of implementing successful change to improve quality and outcomes in the health care sector

*Improving the quality of health care in the United Kingdom and the United States:  
A framework for change, Ferlie & Shortell, Millbank Quarterly 2001*

# Tailoring interventions



*‘Improving care is more successful when local barriers to change are carefully identified and strategies developed to specifically overcome these barriers’*

*Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. Baker R. et al., 2005. Cochrane database of systematic reviews*

# Tailoring interventions

## Lack of knowledge

- Educational courses
- Evidence based guidelines
- Decision aids

## Lack of motivation

- Incentives
- Sanctions

## Beliefs/Attitudes

- Peer influence
- Opinion leaders

## Perception / reality mismatch

- Audit & Feedback
- Reminders

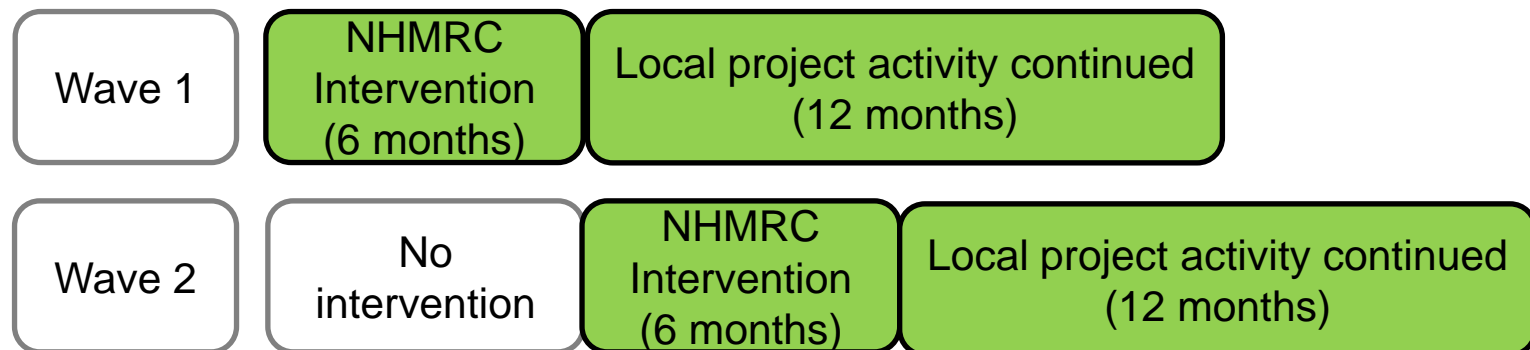
## Systems of care

- Process redesign

# Research Design

## Stepped wedge model

- Two waves with staggered start
- Common base line data collected
- Intensive intervention first six months for Wave 1, no activity for Wave 2
- Intervention replicated for Wave 2



# Program features



- 55 Hospitals volunteered to participate in the 2 year initiative
- No financial incentive
- Split into 2 project 'waves'
- 4 workshops
- Telephone / teleconference / email communication in between workshops
- Data collection and progress reports

# Planning the intervention

## Workshops / training

- Group feedback and brainstorming
- Leadership
- Project planning
- Barriers and enablers / tailored interventions
- Organisational change
- Audit and feedback
- Sustainability
- Communication
- Clinical decision making / biasing
- Emerging pain management evidence and trends

## Web tool

- Communication, sharing and on-line audit

# Intervention approach



1. Executive support
2. Project planning including:
3. Establish project team
4. Gain ethics approval
5. Establish pain management monitoring (audit)
6. Local barriers and enablers
7. Identification appropriate intervention
8. Implementation

# Intervention examples

## System

- ACEM / CENA / ACEN Joint positioning policy
- National indicators

## Organisation

- Executive support (travel, policy, ethics)

## Department

- Audit / monitoring, feedback
- Policy (femoral nerve block, intranasal fentanyl)
- Nurse initiated analgesia

## Individual

- Training
- Clinical champions

Please ensure that you check times before submitting.

Date	Time	Drug 1	Drug 2	Other drug?
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### Ongoing Analgesia

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- Choose Drug
- Antacid (Mylanta)
- Aspirin
- Bupivacaine (Marcain)
- Chlorpromazine (Largactil)
- Codeine
- Diazepam (Valium)
- Fentanyl IV or IN
- Glyceryl trinitrate (Anginine)
- Hyoscine butylbromide (Buscopan)
- Ibuprofen
- Indomethacin (oral)
- Indomethacin (pr)
- Ketorolac
- Lignocaine (viscous)
- Lignocaine +/- adrenaline
- Morphine IM / SC / oral
- Morphine IV
- Naratriptan (Naramig)
- Nitrous Oxide
- Oxycodone
- Painstop
- Panadeine
- Panadeine Forte
- Paracetamol
- Patient declined analgesia
- Pethidine
- Prochlorperazine
- Ropivacaine
- Sumatriptan (Imigran)

12. Has non-pharmacological pain treatment?  
 Yes - please document in text below  
 No

Date	Time	Treatment 1	Treatment 2	Other
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# Resources required



## Workshop attendance

## Project management time

- Planning
- Data collection
- Meetings
- Training material development
- Internal reporting

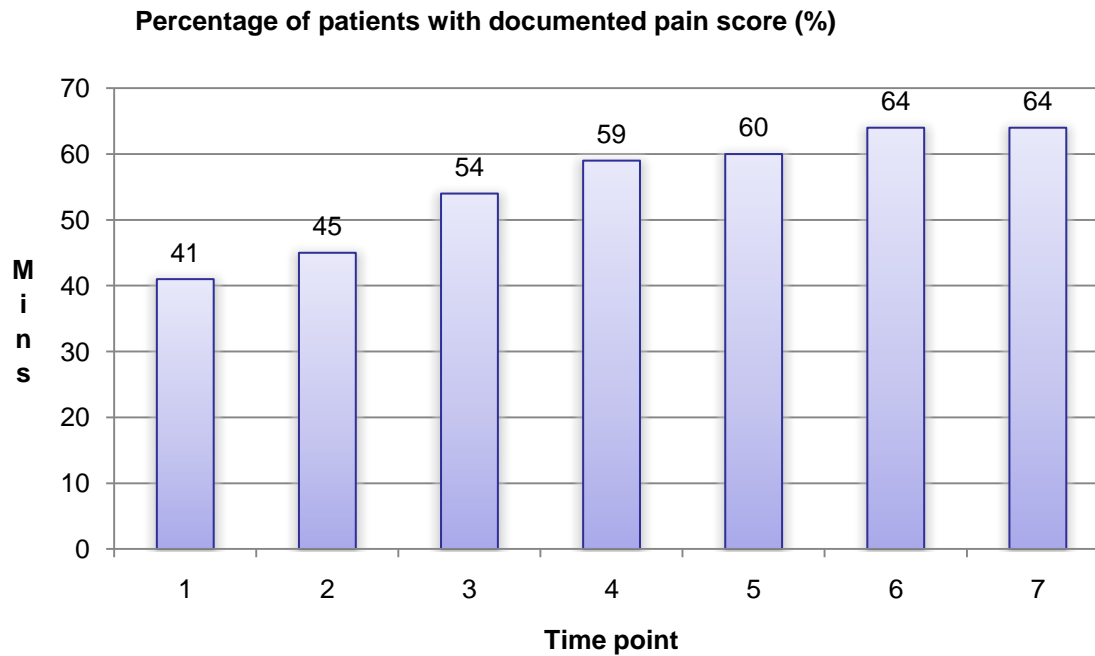
## Equipment (in some cases)

# Designing an Implementation Program



# Key results

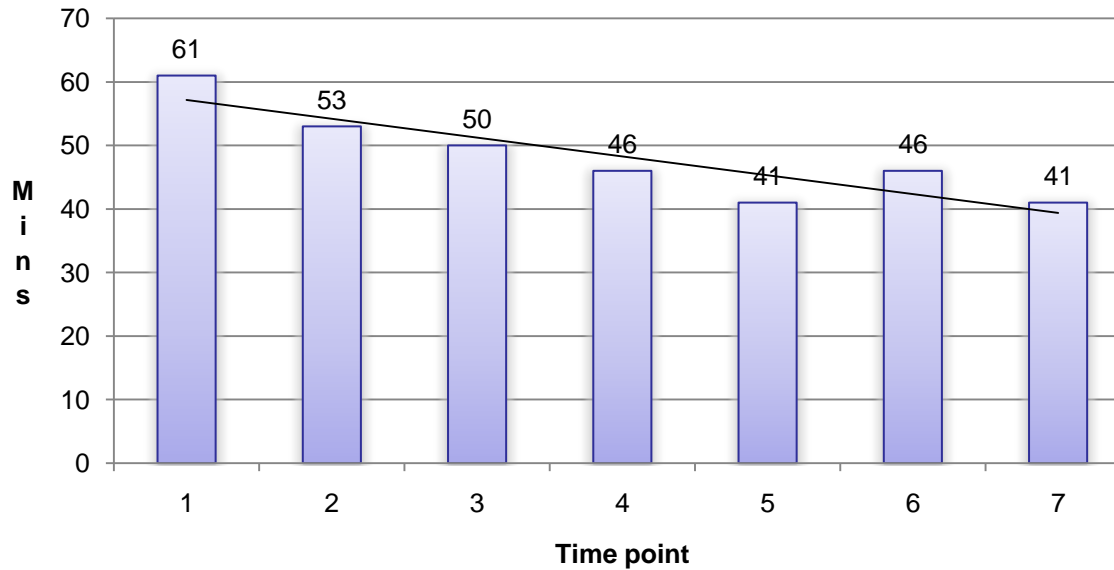
## INDICATOR 1 - Assessment of pain



# Key results

## INDICATOR 2—Time to analgesia

Median(min) to analgesia



# Key results

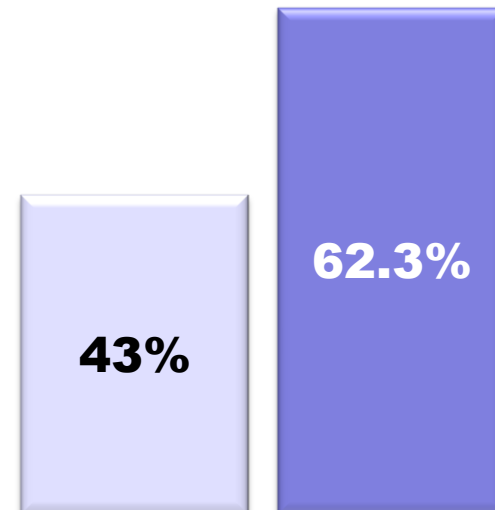
## INDICATOR 3 — Effectiveness of pain management

The proportion of patients in severe pain who reported a reduction of pain by more than three units within an hour.

**Baseline - 43%**

**Post intervention - 62.3%**

(Time-points 5,6,7)



# Key Messages



## Locally you can...

- Measure (audit) → feedback to staff
- Build a project team
- Gain exec sponsor
- Understand barriers and enablers
- Tailored interventions
- Target opinion leaders
- Ongoing monitoring



# Thank you

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