



# Does an acute pain management protocol improve pain treatment in patients with acute musculoskeletal pain?

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EuSEM 2014



Medisch Spectrum  $\triangle$  Twente

UNIVERSITY OF TWENTE.



## Conflict of Interest Disclosure

Speaker: Jorien Pierik

Title: Does an acute pain management protocol improve pain treatment in patients with acute musculoskeletal pain?

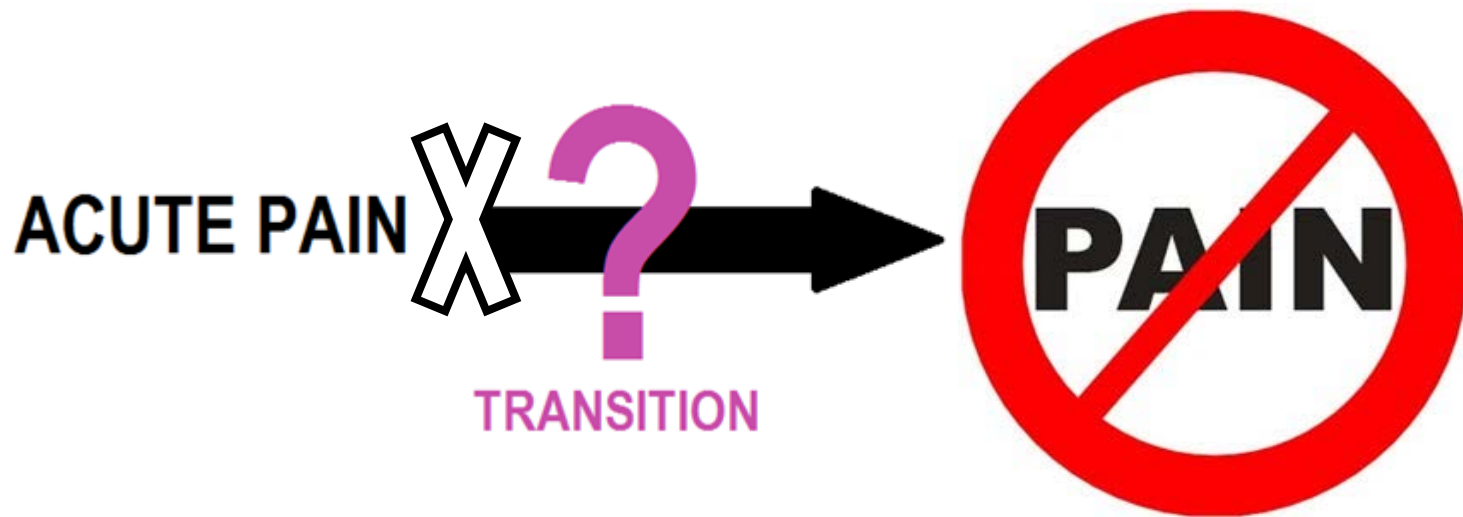
- Member of a scientific committee  YES  NO  
If so: ...
- Speaking or writing in exchange for remuneration  YES  NO  
If so: ...
- Travel expenses and/or registration to congresses or other events covered  YES  NO  
If so: ...
- Leader of research of clinical study  YES  NO

# Introduction (I)

- While acute musculoskeletal pain is a frequent complaint in the ED, its management is often neglected.
- The PROTACT study confirms oligoanalgesia to be a serious problem in patients with musculoskeletal extremity injury. Even though sixty percent of the patients used analgesics somewhere in the chain of emergency care, more than two-third of the patients still suffered moderate to very severe pain at discharge from the ED. (e-poster #518)

# Introduction (II)

- The PROTACT study confirms that patients who suffered severe pain at ED discharge have a 1.89 times higher risk to develop chronic pain after musculoskeletal injury. (Wednesday 11.45 - Research Potpourri: Updates - Lightning Session #514)



- Studies have shown that pain treatment may be improved with the implementation of an acute pain management protocol.

# Aim

To evaluate if the implementation of an acute pain management protocol improves the pain treatment in musculoskeletal patients.

# Methods

Design: pre-post intervention study.

Study population: adult patients with acute pain due to musculoskeletal extremity injury.

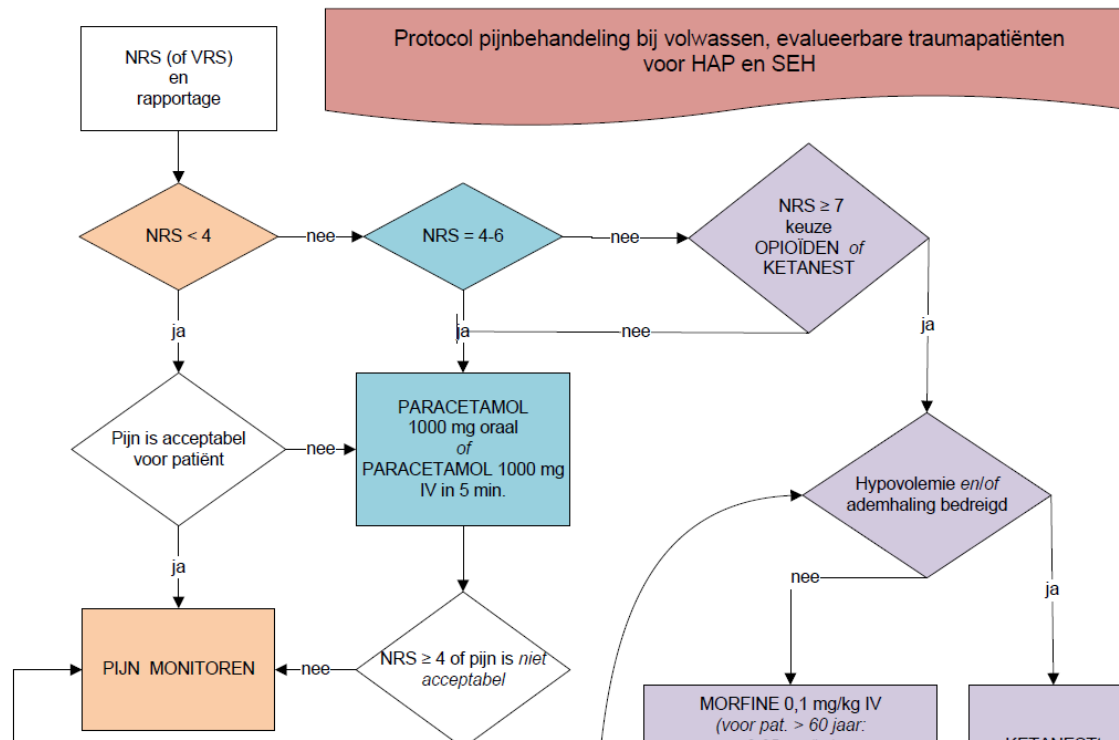
Setting: the ED of Medisch Spectrum Twente, The Netherlands.

Data collection: -pain management data (registry)  
-self-reported pain intensity (questionnaires)

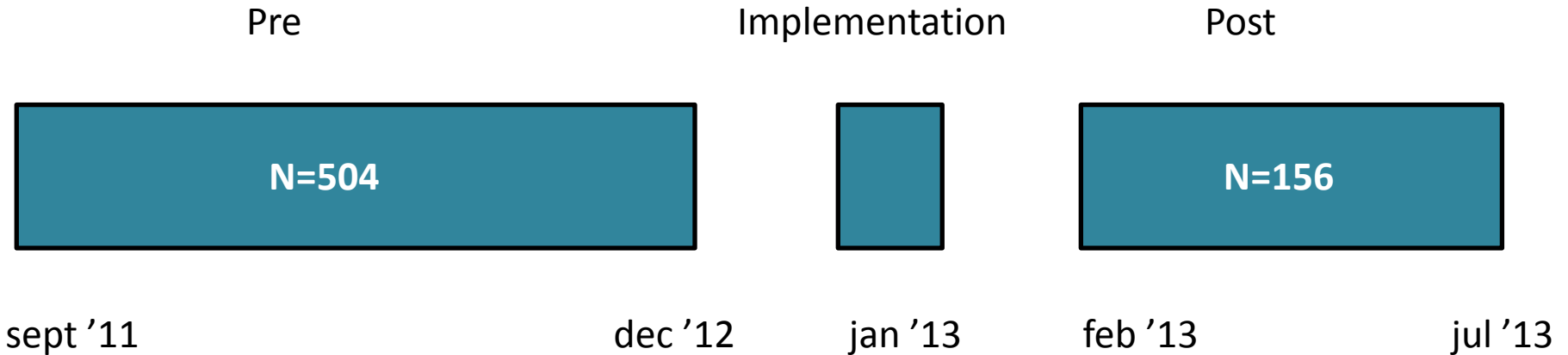


# Acute pain protocol

- Based on Dutch guideline for pain management in trauma patients.
- Professionals collaborate and synchronize pain management.
- Nursing staff can initiate analgesics without consulting a physician.
- Patients with a pain score  $NRS \geq 4$  should be provided analgesics.
- Algorithm:



# Results (I)



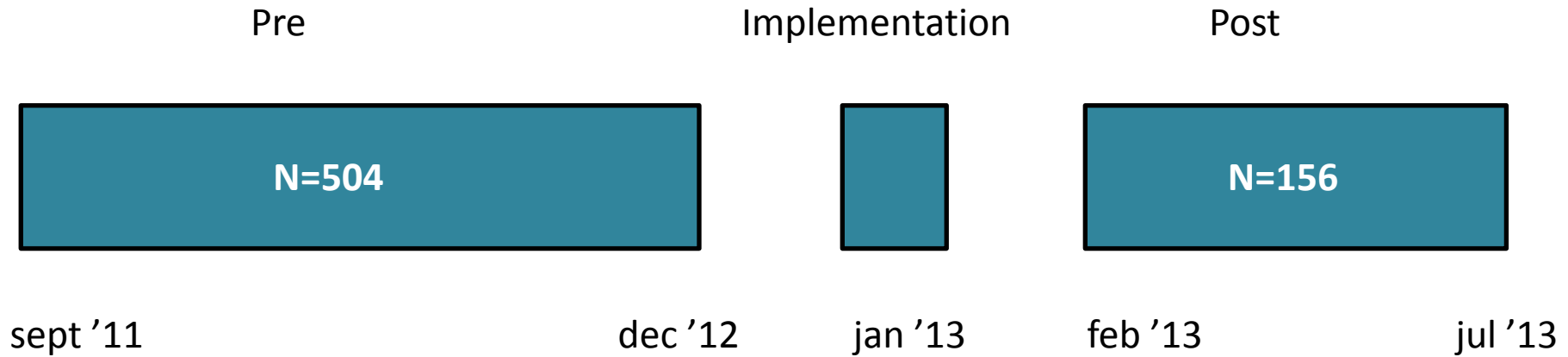
## Provision of analgesics

❖ 432 patients had a  $NRS \geq 4$ ; of whom 158 patients (36.6%) received analgesics.

❖ 128 patients had a  $NRS \geq 4$ ; of whom 59 patients (46.1%) received analgesics.

**difference 9.5%; 95%CI (0.0-19.1%)**

# Results (II)



## Provision of opioids

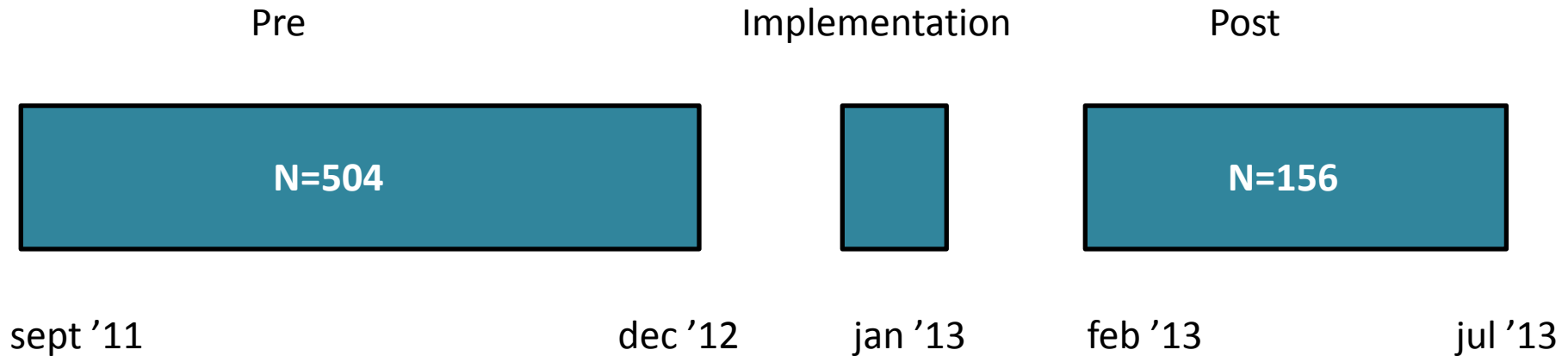
❖ 35 out of 504 patients (6.9%)

❖ 18 out of 156 patients (11.5%)

**difference 4.6%; 95%CI (-0.3-9.5%)**



# Results (III)



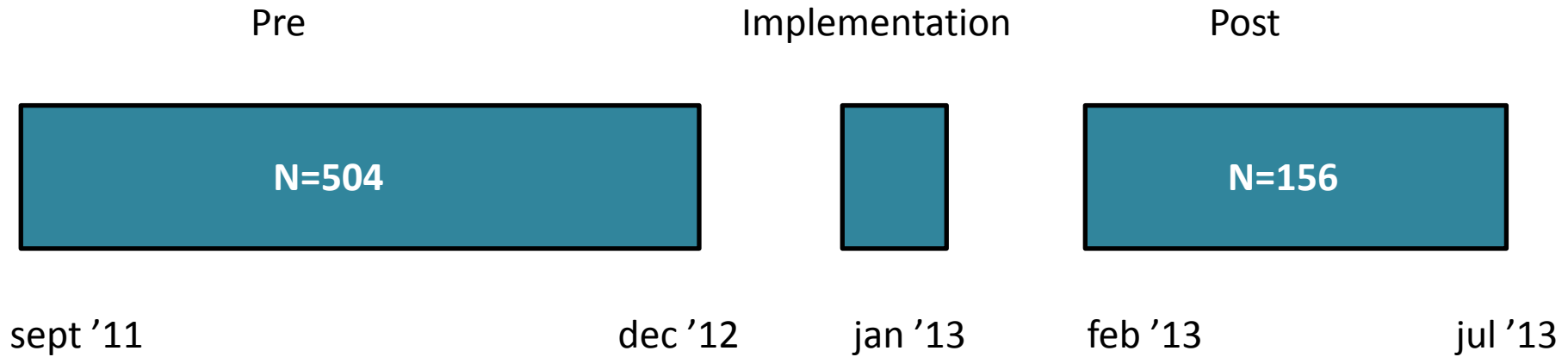
## Time to analgesics

❖ “Time to analgesic” = 33 min (SD= 40)

❖ “Time to analgesic” = 21 min (SD=29)

**difference 12 min; 95%CI (2-21 min)**

# Results (IV)



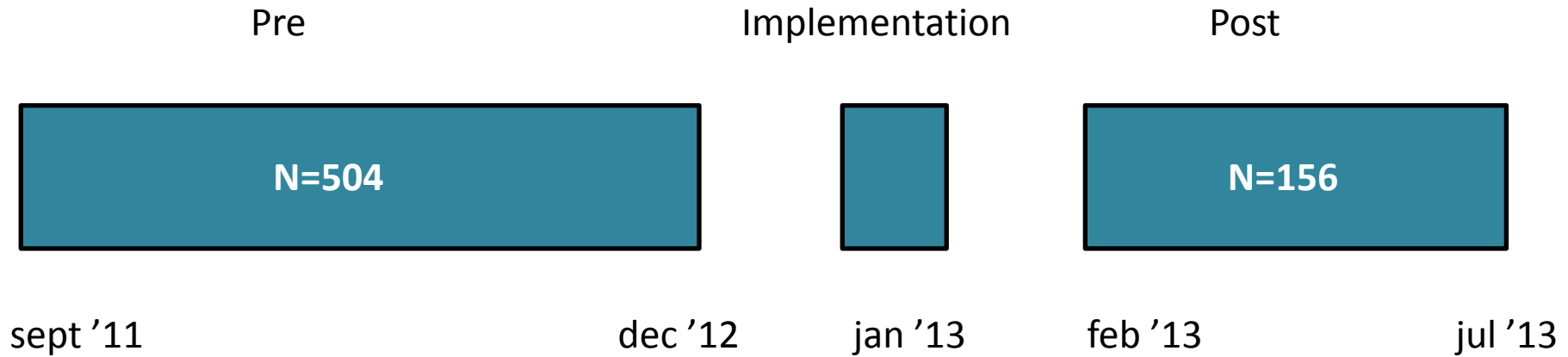
## Pain reduction

❖ Mean pain reduction: 1.00 (SD=1.77)

❖ Mean pain reduction: 1.36 (SD=1.96)

**difference 0.35; 95%CI (0.00-0.71)**

# Results (V)



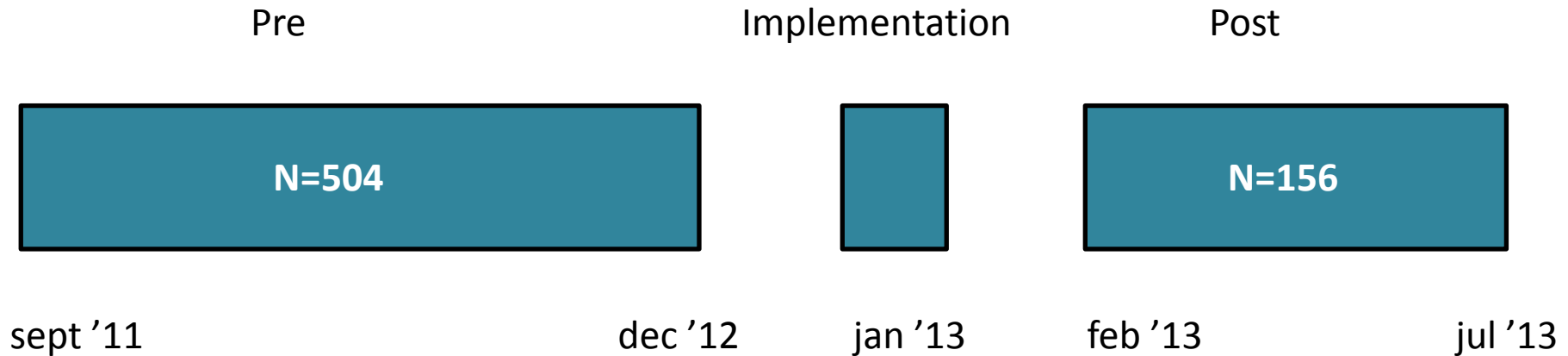
## Clinically relevant pain reduction (-33%)

❖ 101 out of 504 patients (20.1%)

❖ 40 out of 156 patients (25.8%)

**difference 5.6%; 95%CI (-2.5 -13.8%)**

# Results (VI)



## Moderate to severe pain at discharge

❖ 342 out of 504 patients (67.8%)

❖ 96 out of 156 patients (61.5%)

**difference 6.3%; 95%CI (-2.2 – 14.8%)**

# Conclusion

- The implementation of an acute pain management protocol appeared to lead to
  - increase of analgesic administration
  - shorter time to analgesics
  - higher pain relief
- Despite the improvement in pain management after implementation of the protocol, the percentage of patients with moderate to severe pain at ED discharge is still high.
- The adherence to the acute pain management protocol needs to be studied in order to further optimize pain management in the ED.

**Thank you for your attention!**

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