

*STTI 25<sup>th</sup> Nursing Research Congress Hong Kong*


**Using Qstream, a novel, online learning module, to improve Australian palliative care nurses' pain assessment competencies and patients' reports of pain: results from a quasi-experimental pilot study .**

**Phillips, J.L., Heneka, N., Hickman, L., Lam, L. and Shaw, T.**



SACRED HEART  
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for palliative care

A black and white photograph of a person's face, which is almost entirely obscured by their hands. The hands are pressed against the forehead and eyes, suggesting a state of intense emotional distress, grief, or physical pain. The background is dark and out of focus, with a soft light source behind the person's head, creating a halo effect. The overall mood is somber and poignant.

**Pain is a  
common  
problem  
experienced  
by people  
requiring  
palliative  
care**

# Consumer Perspective

Pain last 3 days	2009
No not at all, no effect	4%
Slightly – but not bothered to be rid of it	10%
Moderately – pain limits some activity	41%
Severely – activities or concentration markedly affected	41%
Overwhelming – unable to think of anything else	4%

# The Gap

- Initiating site:
  - Patients' reported higher moderate to severe pain intensity scores than the national average (82% vs. 62%)
  - Chart audit 2010 – end of life care (n=60) only 9% had documented evidence of a pain assessment conducted during last 72 hours of life

# Clinical Problem

- **Problem**
  - Little evidence of routine pain screening and assessment practices – palliative care nurses
- **Pain management**
  - Continuous cycle of screening, assessment, management and reassessment
- **Few interventions**
  - Focussed exclusively on enhancing pain assessment practices

# Study overview

## **Aim**

- To test the acceptability, feasibility and impact of a novel focused on-line learning module using Qstream<sup>®</sup> on pain assessment knowledge and practice

## **Methods**

- Pre-post test quasi-experimental study design

## **Participants**

- Australian specialist palliative care nurses (n=34)

## **Intervention**

- Qstream – a tailored on-line learning module (pain assessment)

# Qstream©

- Evidence:
  - Positive outcomes in 12 clinical trials
- Built around two evidence-based theories:
  - The testing effect
  - The spacing effect
- A suite of realistic, complex case-based learning scenarios reflecting clinical decision making and practices

# Qstream© Sample Question



Workforce Education and Development Group

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## Question from "Palliative Care"



Joseph Miller, a 69 year old man has been brought in by ambulance, from home for symptom control of metastatic renal cell carcinoma. He is grimacing and calls out in pain when the ambulance officers transfer him onto his bed. His wife, Anna, asks if he could have something to settle his pain. She is concerned as Joseph was unable to take his morning OxyContin tablets as he was vomiting.

Which of the following is the first correct action in this situation?

**Choose all that apply**

- Treat Joseph's pain and phone the resident doctor.
- Treat Joseph's pain and communicate this with the team leader.
- Treat Joseph's pain and orientate him to the ward.
- Treat Joseph's pain after completing a comprehensive pain assessment



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Sorry, Your answer ( ▶ ) is incorrect.

Your Choice	Answer Key	Choices	Responses
	✗	Treat Joseph's pain and phone the resident doctor.	<input type="text"/> 23%
	✗	Treat Joseph's pain and communicate this with the team leader.	<input type="text"/> 16%
▶	✗	Treat Joseph's pain and orientate him to the ward.	<input type="text"/> 6%
	✓	Treat Joseph's pain after completing a comprehensive pain assessment	<input type="text"/> 54%
Total			100% (N = 81)

This question will be resent on 02/24/12

## Explanation

### Take Home Message:

It is important to recognise and treat all patients' pain promptly. But not before you have undertaken a comprehensive pain assessment so that you can adequately describe the characteristics of the patient's pain.<sup>1</sup>

### Consequences

In this scenario the action described in options a, b and d all need to be addressed when Joseph is found to have pain. However, the first step in treating pain promptly is to complete a comprehensive pain assessment. This assessment includes asking Joseph about the location and quality of his pain, if there are any aggravating and alleviating factors, and the effectiveness of any previous analgesics or non-pharmacological treatments.

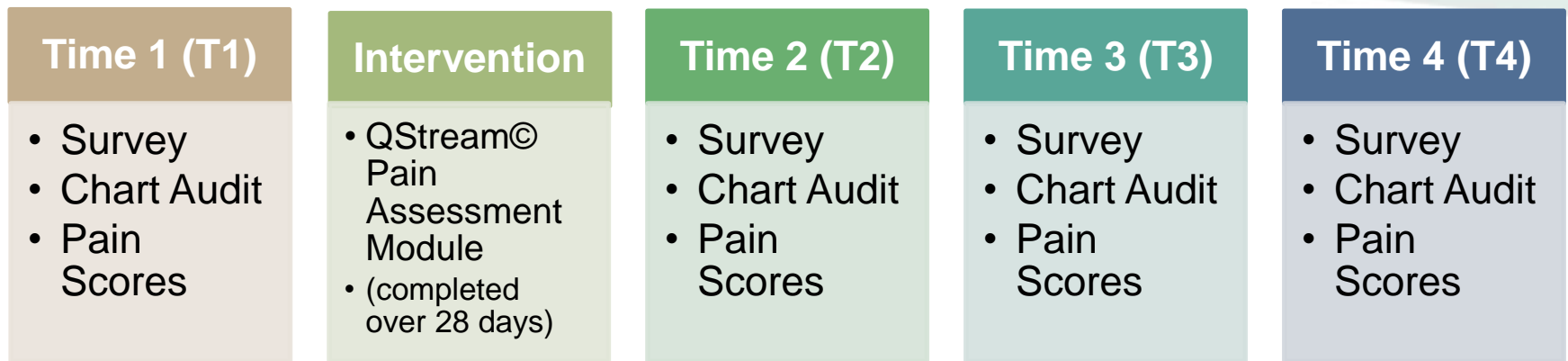
If you treat Joseph's pain without conducting a comprehensive pain assessment it could compromise his diagnosis, and the development of the most effective treatment and pain management plans.<sup>1,2</sup> Failure to assess appropriately could amplify the impact of pain on Joseph's physical and emotional function and increase the amount of analgesia he needs in the long term.<sup>1,2</sup>

### References:

1. [Gordon, D.B., et al., American Pain Society Recommendations for Improving the Quality of Acute and Cancer Pain Management; American Pain Society Quality of Care Task Force. Arch Intern Med. 2005. 165\(14\): p. 1574-1580.](#)
2. [Pain in patients receiving palliative care: introduction \[revised 2010 Feb\]. In: eTG complete \[Internet\]. Melbourne: Therapeutic Guidelines Limited; 2011 Jul. Accessed 2011 Aug 22.](#)

# Methods

## Pre-post test quasi-experimental study design



T1 = Baseline Intervention

T2 = Week 6

T3 = Week 10

T4 = Week 16

# Data Collection

- Self-Perceived Pain Assessment Capabilities (Self-PAC) Survey (17 items)
  - Pain assessment knowledge (7 items)
  - Pain assessment tools (3 items)
  - Pain assessment confidence (7 items)
- Chart audit
  - Designed to capture pain assessment practices
  - Patient reported pain scores – Numerical Rating Scale (NRS)

# Results

## Study Sample - Nurses

- Potential sample: (N= 103)
- **T1 (n=74) Baseline**
- **T2 (n=34) Week 6**
- T3 (n=18) Week 10
- T4 (n=16) Week 16

## Demographics

- Age 43 years (median)
- 94% Female
- 88% Registered Nurses

## Differences in participants and non participants

- Years working at site
  - $\leq 5$  years (57%) ( $p = 0.03$ )

# Self-PAC Survey: Results

Pain Assessment Domains	Time 1	Time 2	<i>P</i>
	(n=34)	(n=34)	
	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	
Knowledge	7.1 (1.7)	8.38 (1.0)	0.001
Assessment tool awareness	3.14 (2.09)	6.30 (5.8)	0.007
Confidence	7.40 (1.63)	9.30 (3.5)	0.007

Paired sample t-test

# Demographics Chart Audit

	T1	N=60 (%)	T2	N=60 (%)
Age (median)		74 years		74.5 years
Male		23 (38%)		34 (57%)
Primary Cancer Diagnosis		53 (88%)		54 (90%)
Admission for pain control		23 (39%)		20 (33%)
Length of stay (median)		20 Days		25 Days

# Documented Evidence of Pain Assessment: Chart Audit

	<b>Time 1 (n=34)</b>	<b>Time 2 (n=34)</b>	
	<b>N (%)</b>	<b>(N%)</b>	<b><i>P</i></b>
<b>SE Participants</b>	52 (54%)	82 (70%)	0.021
<b>Non-SE Participants</b>	44 (45%)	36 (31%)	NS

Independent sample t-test

# Patient Reported Pain Scores: Chart Audit

- Significant reduction in the mean patient reported pain ratings between the admission and audit date
  - T2 (M=2.4) compared to T1 (M=3.9) ( $t=1.51, df=82, p<.0010$ ).
- A 1.5 point reduction in patient reported pain scores (95% C.I.=0.7-2.3) at T2 compared to T1.

Pearson chi-square test



# Strengths

- One of the few studies building pain assessment evidence
- Improvements in pain assessment capabilities
- Impacted positively on patient reported pain outcomes
- Scalable intervention applicable to other symptoms and discipline

# Limitations

- Pilot
- Single arm study
- Attrition
- Dependent upon IT capabilities

# Conclusion

- Qstream© offers the opportunity to deliver specialised clinical content in an on-line format that can change practice.
- Potential to integrate:
  - into other translational research and/or education interventions
  - an Audit and Feedback element
- Further evaluation is required using larger controlled design

# Published

Original Article



## **Impact of a novel online learning module on specialist palliative care nurses' pain assessment competencies and patients' reports of pain: Results from a quasi-experimental pilot study**

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**Abstract**

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# Thank you



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