POPPI

Provision Of Psychological support to People in Intensive care

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icnarc intensive care national audit & research centre

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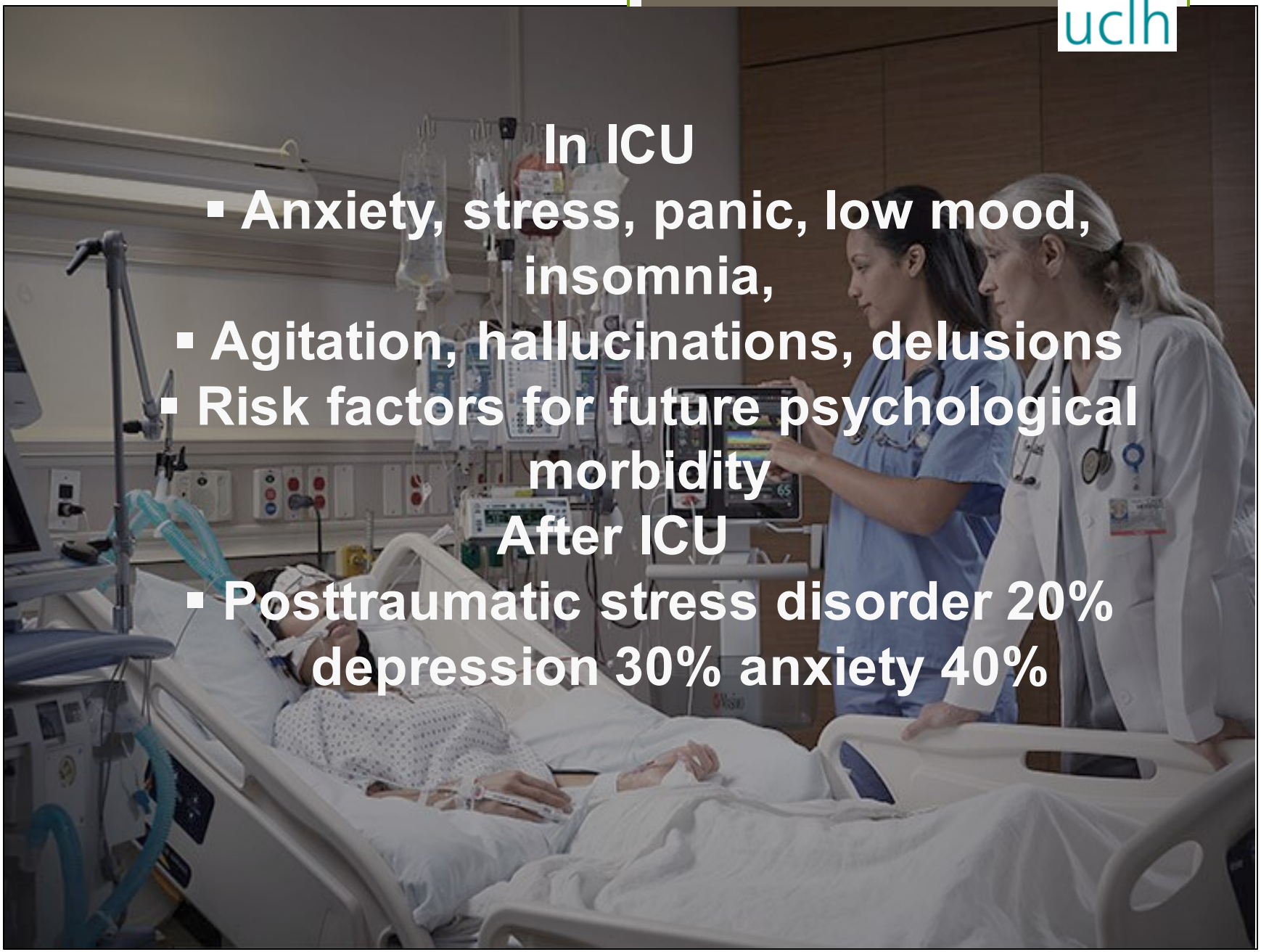

uclh
In ICU
▪ Anxiety, stress, panic, low mood, insomnia,
▪ Agitation, hallucinations, delusions
▪ Risk factors for future psychological morbidity
After ICU
▪ Posttraumatic stress disorder 20% depression 30% anxiety 40%

Nicole: thought nurses were trying to kill her and her baby

Nicole – ICU flashbacks

- ICU post emergency caesarean, nearly died
- 'Imprisoned in a blue room' for 12 days
- Stayed awake to stop nurses murdering her baby
- Home at 4 weeks – couldn't stop crying or sleep
- "My daughter forces me to get on with life, but I can't forget"
- Constant vivid flashbacks of ICU experience
- Five years on flashbacks less frequent but still vivid
- Recently triggered by need for hip operation – she cancelled

Psychosocial outcomes

Psychological morbidity

Data from numerous systematic reviews and meta-analyses suggest

- Around **20%** have PTSD symptoms
- **30%** depression symptoms
- Up to **40%** anxiety symptoms

Cognitive impairment (CI)

- 1 in 3 with new or accelerated CI post-ICU Wilson et al 2018

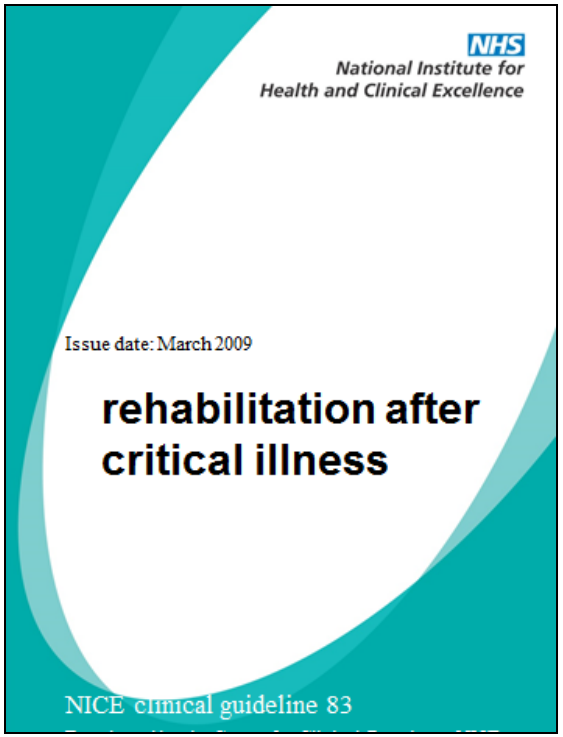
Return to work

- 29% unable to return to work post-ICU Hodgson et al 2018

Risk factors for post-ICU psychological morbidity

- Acute stress in ICU Wade 2012, Davydow 2013
  - Physical stress – life-threatening illness, invasive procedures
  - Environmental stress
  - Psychoactive drugs
- Memories Jones 2007, Wade 2014
  - Early intrusive trauma memories of ICU
  - Memories of delusions and hallucinations from ICU

Rehabilitation of body and mind



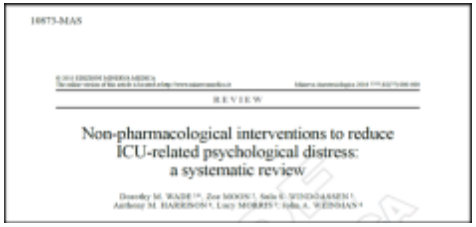
2009 Guideline

Assess patients for psychological risk

2017 Quality standard

Psychological support key to rehabilitation

Early interventions to reduce stress in ICU



REVIEW

Non-pharmacological interventions to reduce ICU-related psychological distress: a systematic review

23 studies (15 RCT), 12 showed benefit

- Psychological interventions
- Music, nature sounds
- Mind/body, relaxation practices

The POPPI intervention

Rationale for POPPI intervention

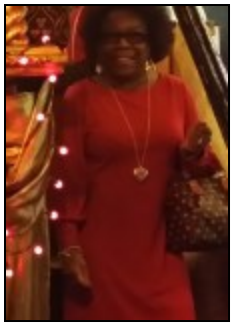
- Patient view. "Patients in intensive care are terrified for their lives. If there is something we can do about this, we should do it" (Journalist, ICU survivor, David Aaronovitch)
- Early interventions to reduce acute stress in ICU look promising
- E.g. Introducing psychology service in ICU reduced PTSD among trauma patients Peris 2011
- Three sessions of CBT delivered early to address acute stress following a trauma could prevent PTSD NICE 2013
- CBT for psychosis – reduces distress caused by hallucinations and delusions

Rationale for POPPI intervention

- Few psychologists in NHS ICUs
- Trained, non-expert staff delivered psychological interventions effectively in other settings
- Hypothesis that given special training, ICU nurses have motivation and understanding to deliver psychological support

Patient-public involvement

PPI group formed at UCLH in 2012, 20 patients involved in POPPI intervention development and studies

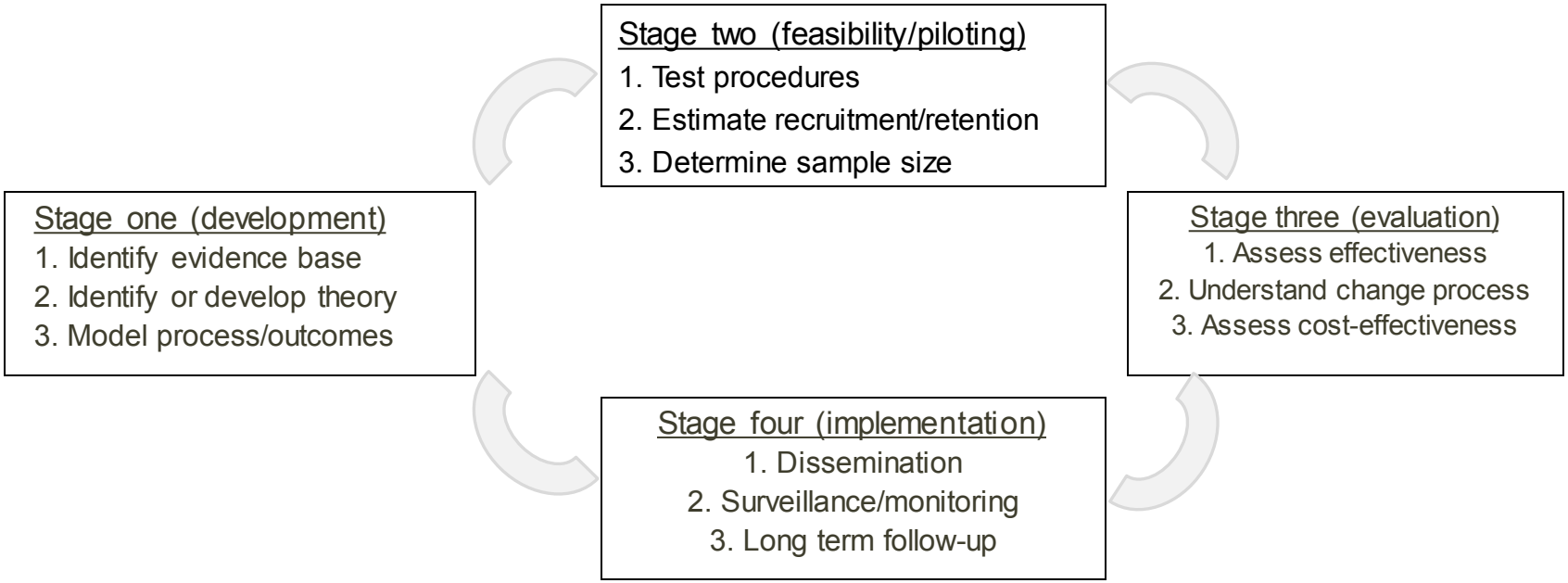


Nicole Als, Caroline Knight, Kate Baden-Fuller, Rajadurai Sunderalingam, Peter Cross, David Aaronovitch, Sheila Richards, Chris Whitman, Mags Harvey

Intervention development team

- Senior UCH nurses John Welch, Debbie Smyth; Psychologists Dorothy Wade and Dr Vaughan Bell (UCL, Maudesley)
- Overseen by an Expert psychology advisory group (EPAG) chaired by a professor of clinical psychology specialising in psychosis
- Including medical educationalists, and experts in PTSD and health psychology

Medical Research Council framework



...for developing and evaluating complex interventions

A preventative nurse-led intervention

Three elements

1. Promoting a therapeutic environment in ICU
2. Three stress support sessions for patients assessed as acutely stressed
3. Relaxation and recovery programme for acutely stressed patients

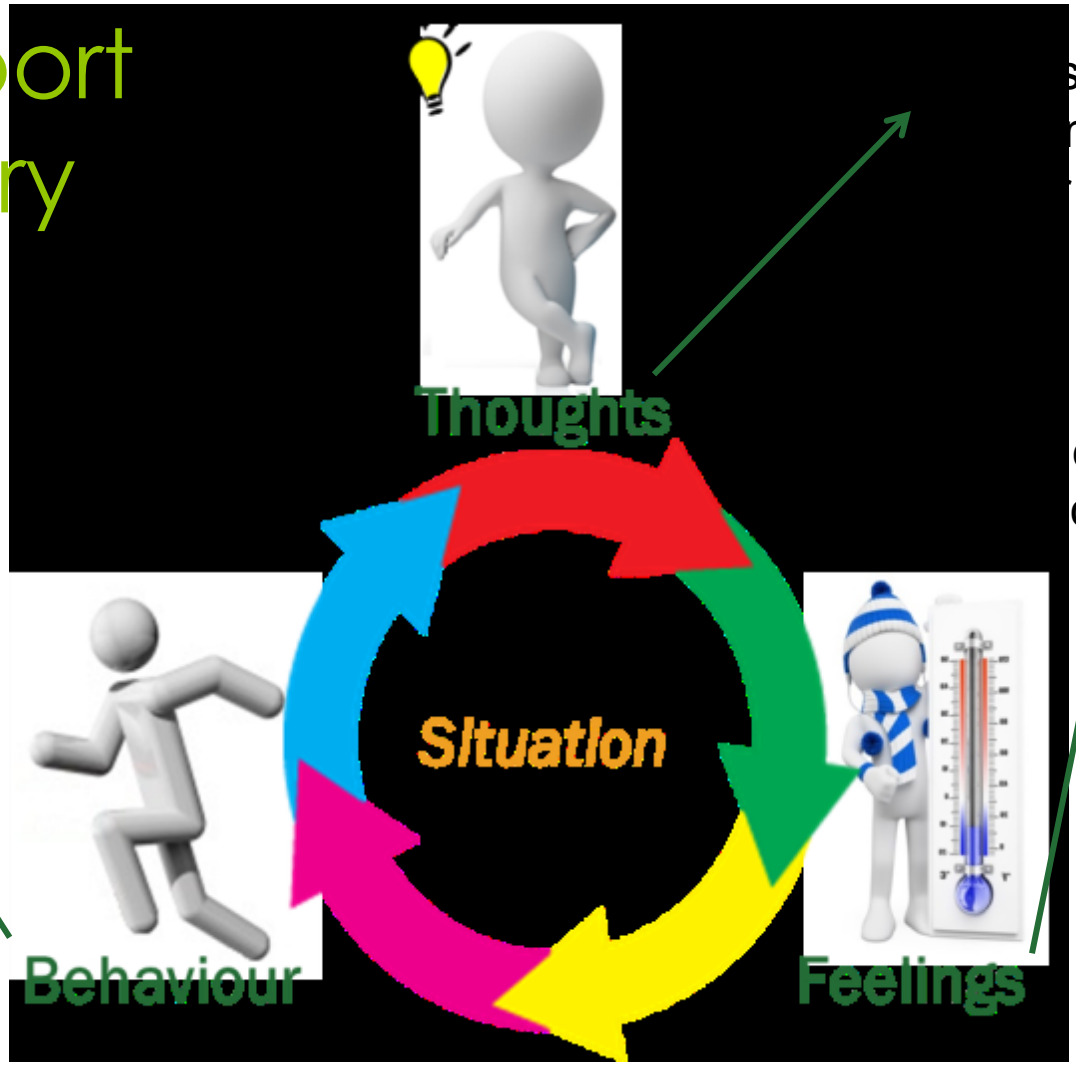
Element one of intervention

- Interactive online training for all staff
- Improve staff-patient communication and reduce stressors to create a more healing environment

Element two of intervention

- Patients with acute stress identified with intensive care psychological assessment tool (IPAT)
- Three stress support sessions for acutely stressed patients delivered by nurses
- Three-day training course in theory and skills of stress support for ‘POPPI’ nurses

Stress support theory



s through
mind
images)

emotions and
ody sensations
you feel

what you do,
how you react

CBT approaches used

- Emotional expression
- Normalisation
- Psychoeducation
- Stress management/coping strategies
- Cognitive reappraisal
- Behavioural experiments
- Homework tasks

Stress support sessions for acutely stressed*

- Session one (~30 mins) – helping patients understand and cope with stress
- Session two (~30 mins) – managing frightening thoughts from critical care
- Session three (~30 mins)– creating confidence and hope for a good recovery
- Ideally starting in ICU/completed in one week

Wade *et al. Critical Care* 2014, **18**:519
http://ccforum.com/content/18/5/519

CRITICAL CARE

RESEARCH Open Access

Detecting acute distress and risk of future psychological morbidity in critically ill patients: validation of the intensive care psychological assessment tool

Dorothy M Wade[1*], Matthew Hankins[2], Deborah A Smyth[3], Elijah E Rhone[4], Michael G Mythen[5], David CJ Howell[6] and John A Weinman[7]

Element three: Relaxation and recovery programme

- Relaxation practice
- Relaxing music
- Restful nature sounds and images
- Meditation
- Calming music
- Patient Recovery Stories

App on tablet computer (given in session 1 for use during 3 sessions), DVD and self-help booklet (given in session 2 for patients to keep)

The POPPI study

Study design

- Phase I: 2 feasibility studies completed – at UCLH, Watford, Bristol, Medway
- Phase 2: Cluster-randomised clinical trial
- Trial in 24 adult, general, critical care units
  - 12 control group
  - 12 intervention group
  - Allocated geographically in 3 groups of 8

Aim of the trial

To evaluate the clinical and cost-effectiveness of a nurse-led preventative psychological intervention in reducing patient-reported PTSD symptom severity at six months

Stable criteria

If patient stays in unit greater than 48 hours, screen for:

Inclusion criteria

- ✔ Age 18 years or greater
- ✔ Receipt of Level 3 critical care (for any period of time) during first 48 hours
- ✔ English-speaking

+

Exclusion criteria

Pre-existing conditions…

- ✘ chronic cognitive impairment
- ✘ chronic post-traumatic stress disorder
- ✘ psychotic illness

- ✘ Previously recruited to POPPI

If all stable criteria met, commence daily screening

Transient criteria

Once stable criteria met, screen daily for:

Inclusion criteria

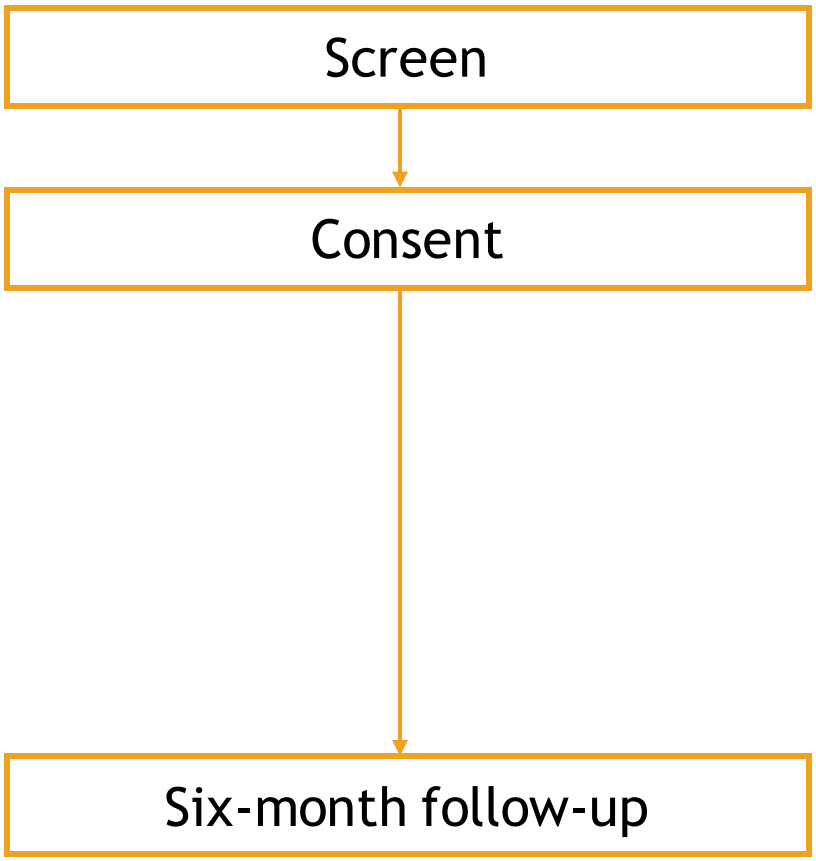
- ✔ Between +1 to -1 on the Richmond Agitation Sedation Scale
- ✔ Glasgow Coma Scale score of 15
- ✔ Able to communicate orally

Exclusion criteria +

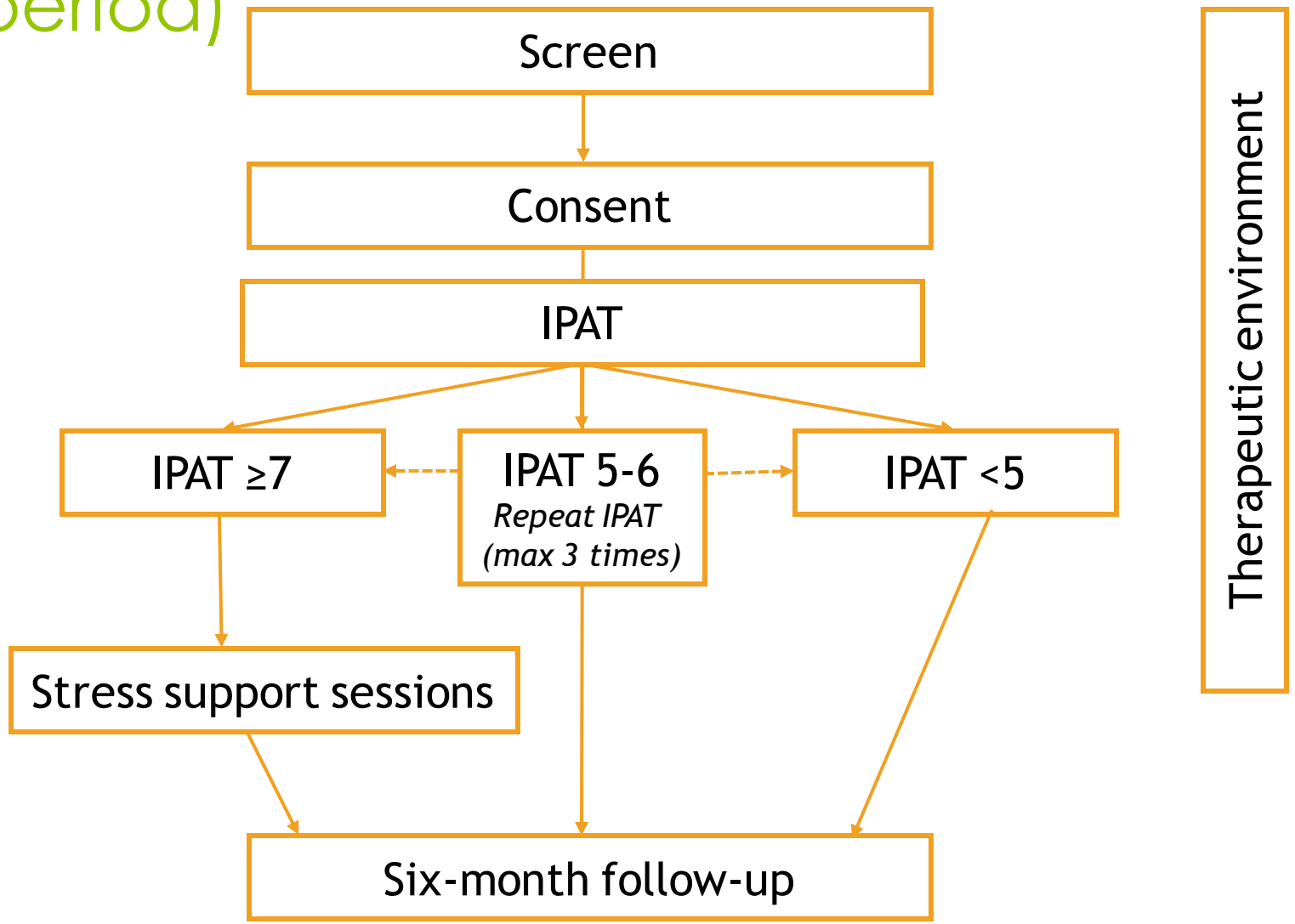
- ✘ Receiving end of life care

Able to consent (approach for consent must be in ICU)

Control sites



Intervention sites (intervention period)



Primary outcome

- Mean patient-reported PTSD symptom severity score at six months
- Measured using the PTSD Symptom Scale – Self Report questionnaire (PSS-SR)

Secondary outcomes

In hospital

- days alive and free from sedation to day 30
- duration of critical care unit stay

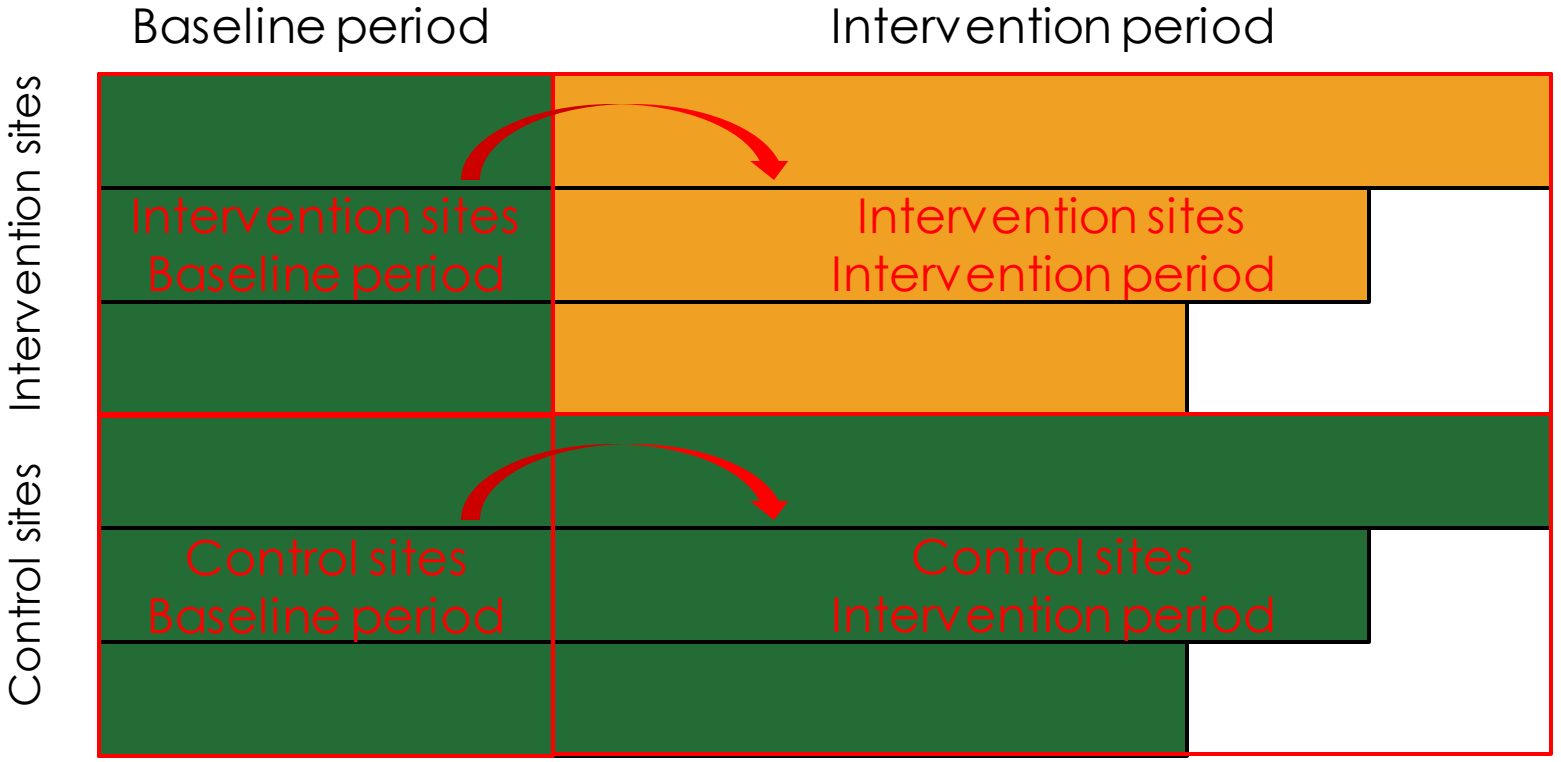
At six months

- PSS-SR threshold for prediction of current or future PTSD (>18 points)
- depression
- anxiety
- health-related quality of life

Sample size (power calculation)

- Assumed mean of 10.3 points on the PSS-SR
- Treatment effect of a reduction of 4.2 points
- Require minimum of 1,378 patients (including refusals/lost to follow-up)
- Anticipated 85% power

Approach to analysis

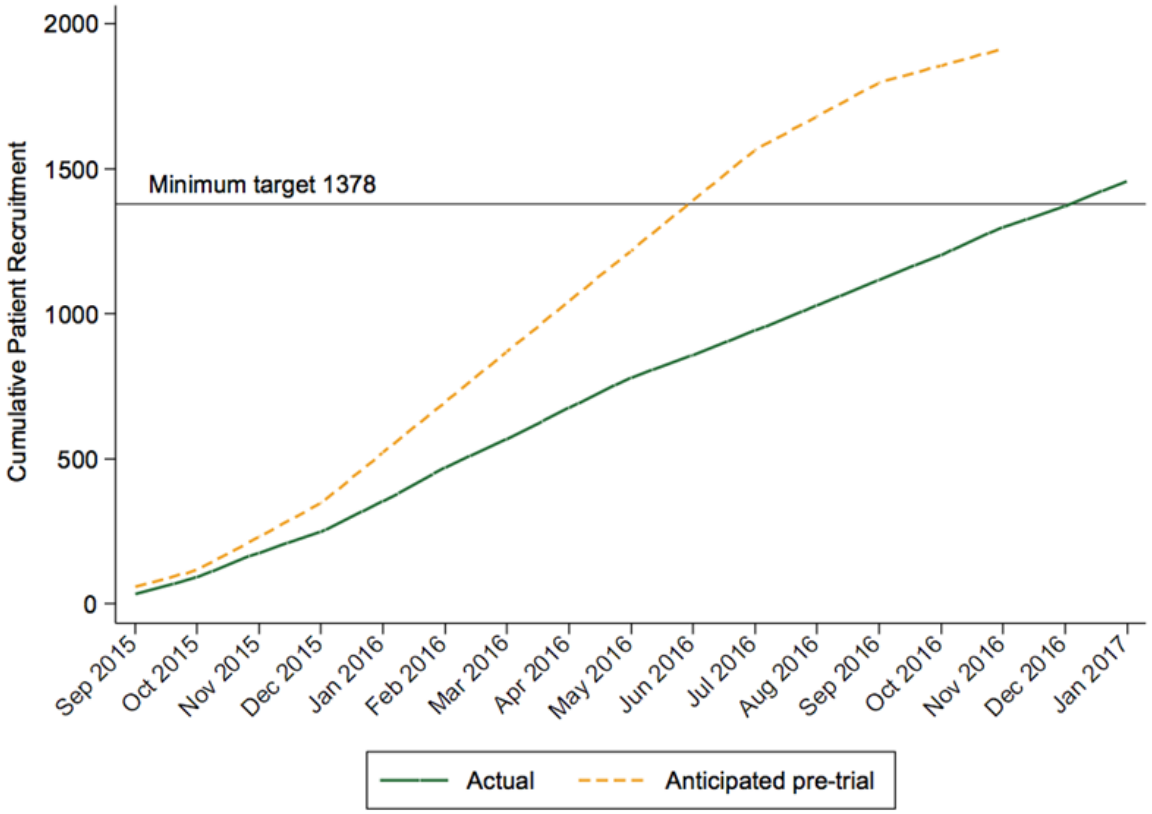


Is the change in intervention sites different from the change in control sites?

POPPI trial results

Recruitment

- 1,458 patients recruited
  - 5 withdrew



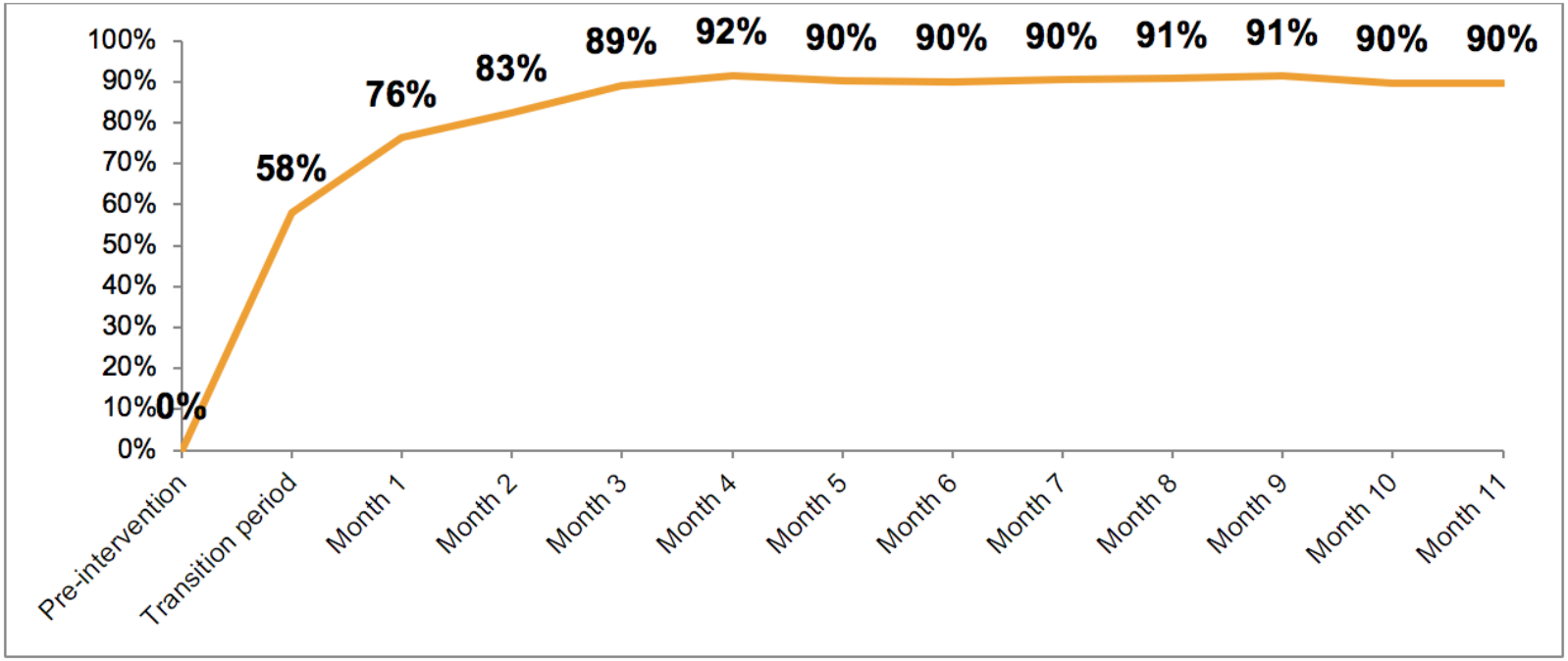
Patient follow-up

	Baseline period		Intervention period	
	Control	Intervention	Control	Intervention
Returned questionnaire, % of alive at six months				
Completed	78.4	78.8	79.8	79.9
Refused	8.5	10.2	7.5	6.1
Lost to follow-up	13.1	11.0	12.8	14.0

- Overall response rate:
  79.3% of survivors at six months

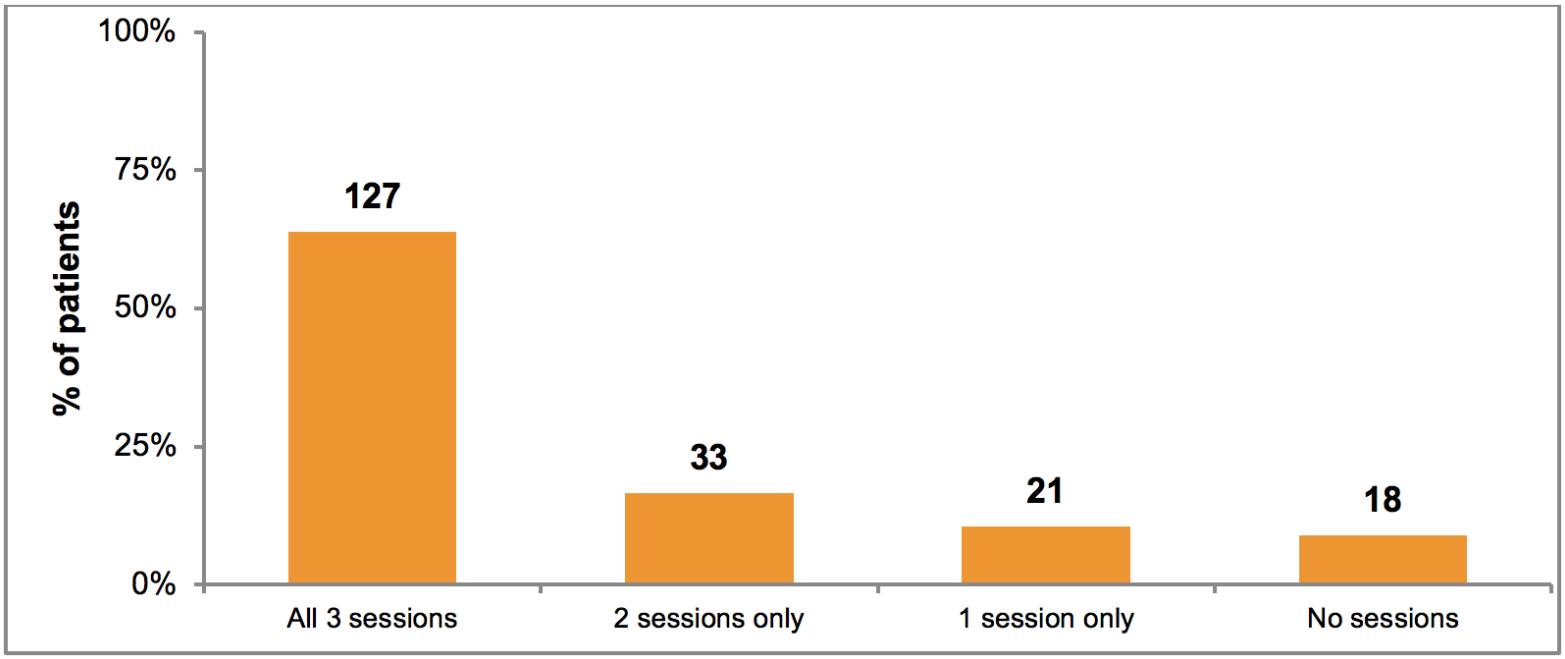
Intervention delivery - creating a therapeutic environment

POPPI online training



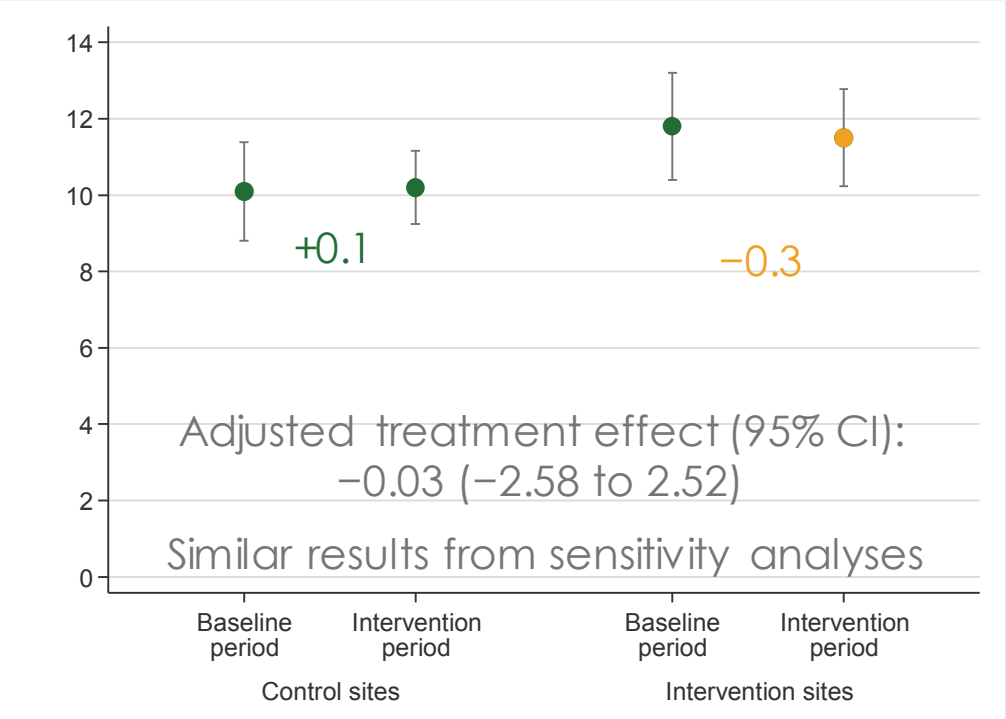
Median POPPI online training uptake across intervention group sites (N=12) from transition month until end of intervention period

Intervention delivery – the stress support sessions



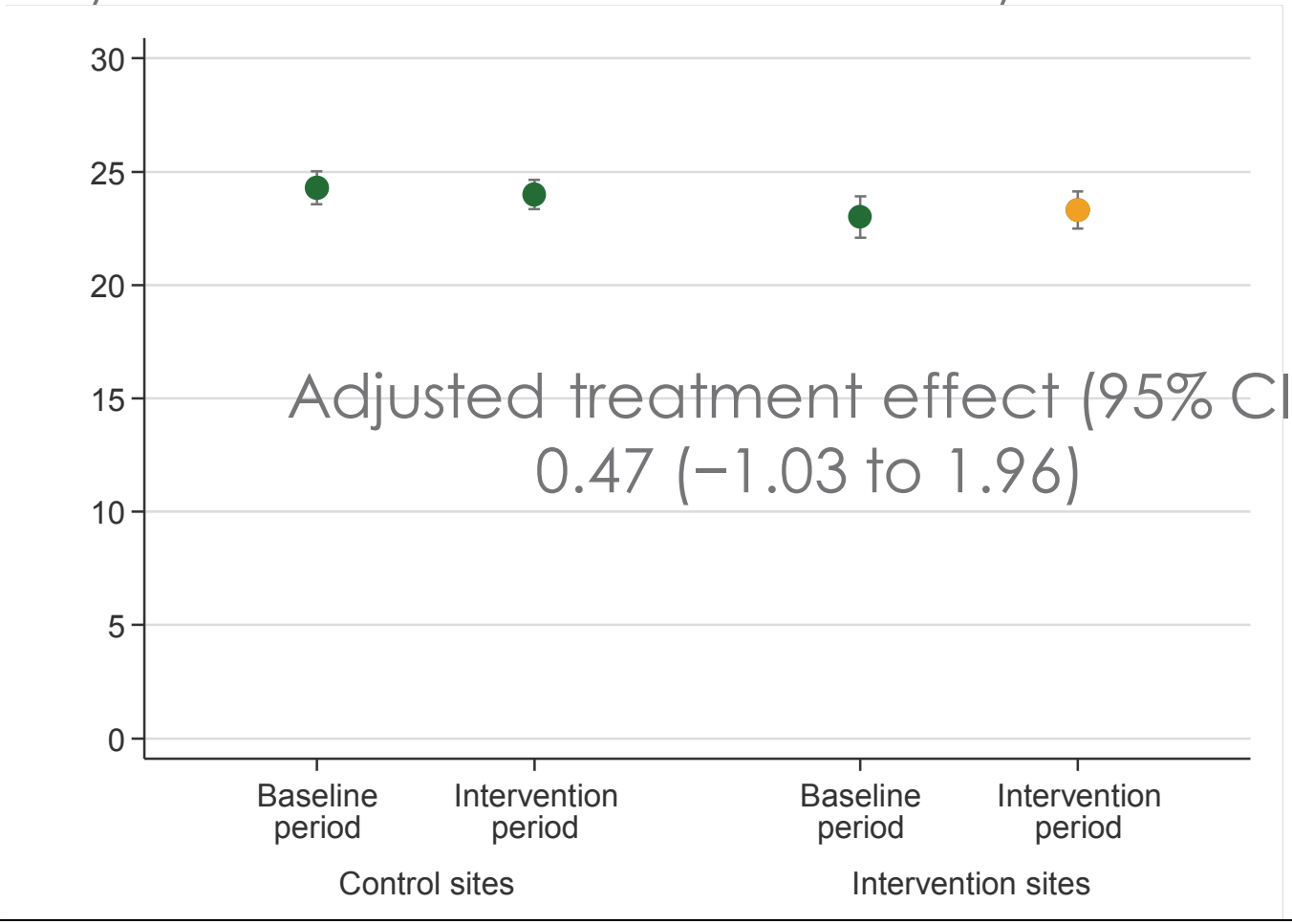
Number of stress support sessions received by patients (n=199)

Primary outcome



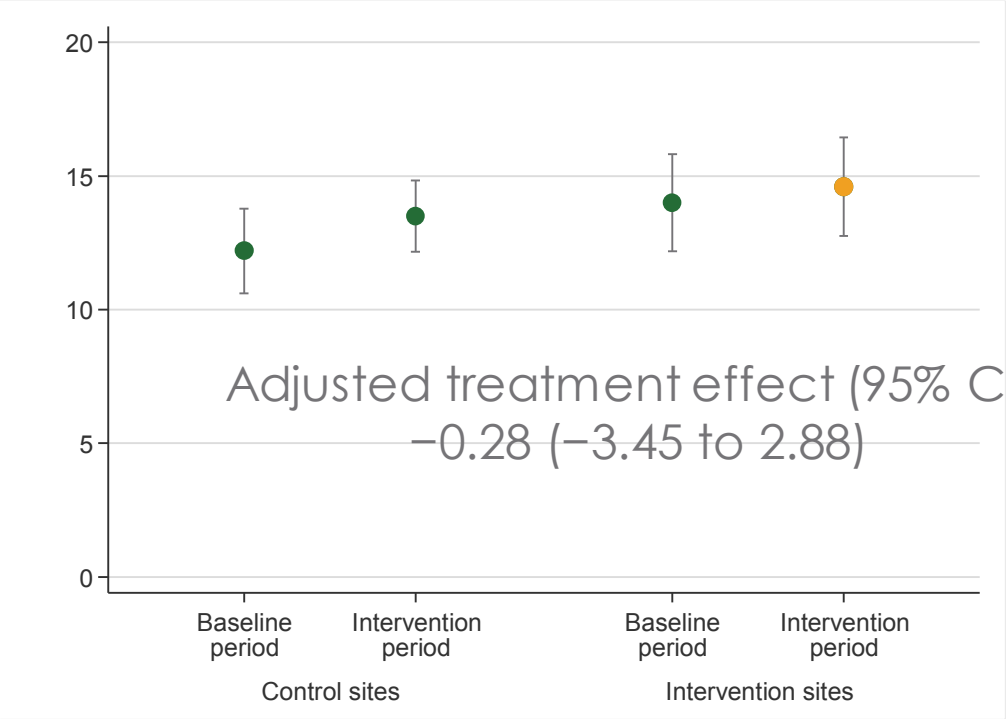
Secondary outcomes

- Days alive and free from sedation to day 30



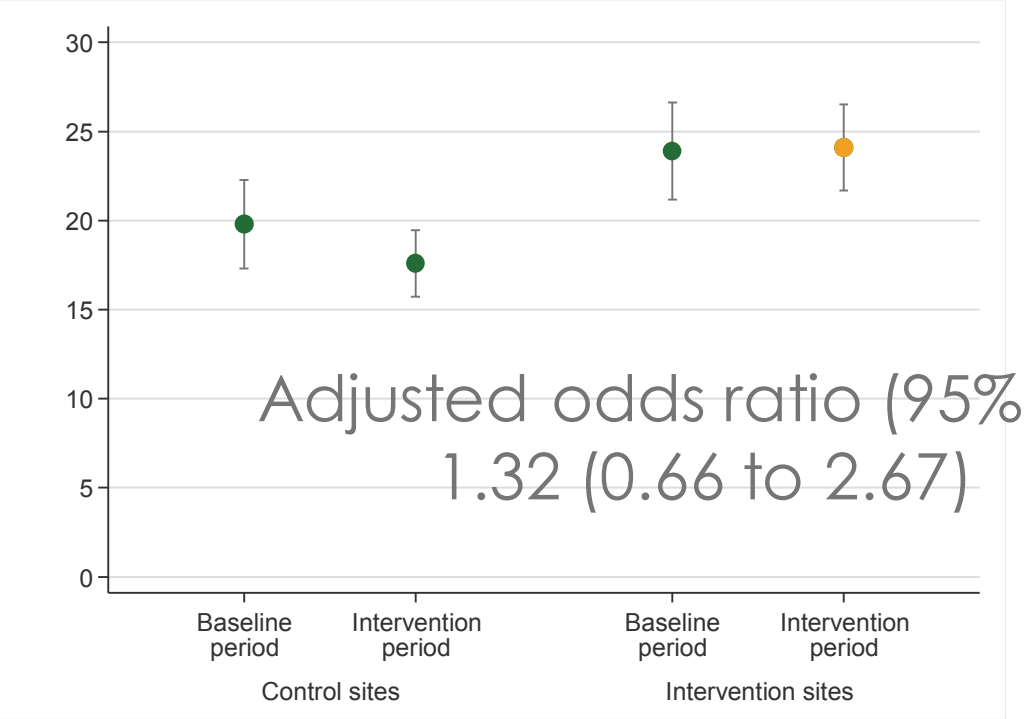
Secondary outcomes

- Duration of critical care unit stay



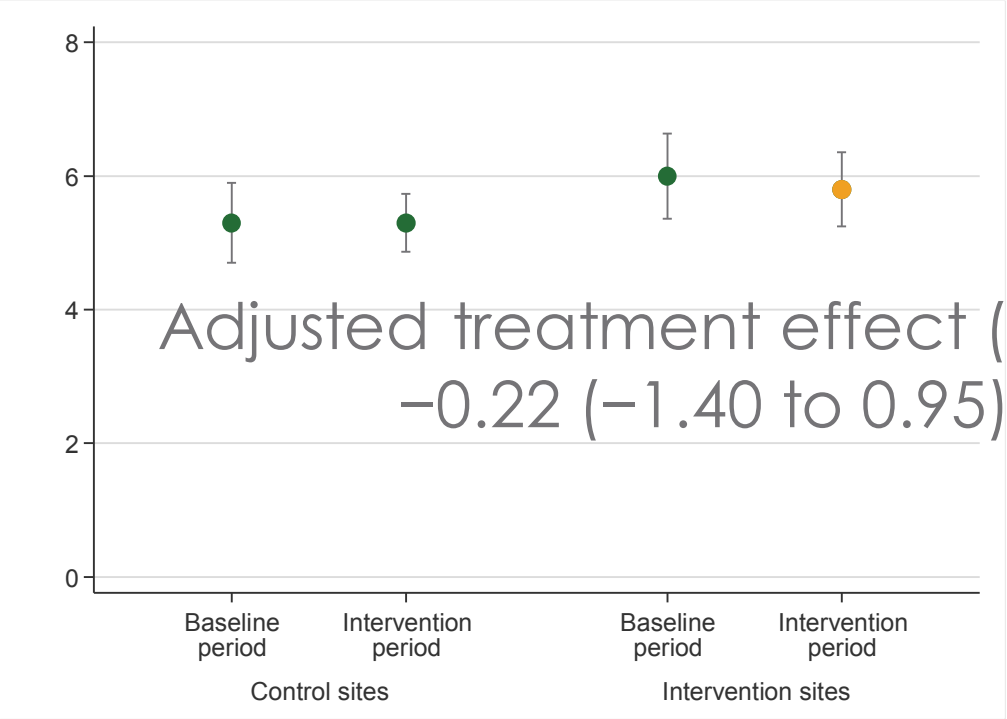
Secondary outcomes

- PSS-SR threshold for prediction of current or future PTSD (>18 points)



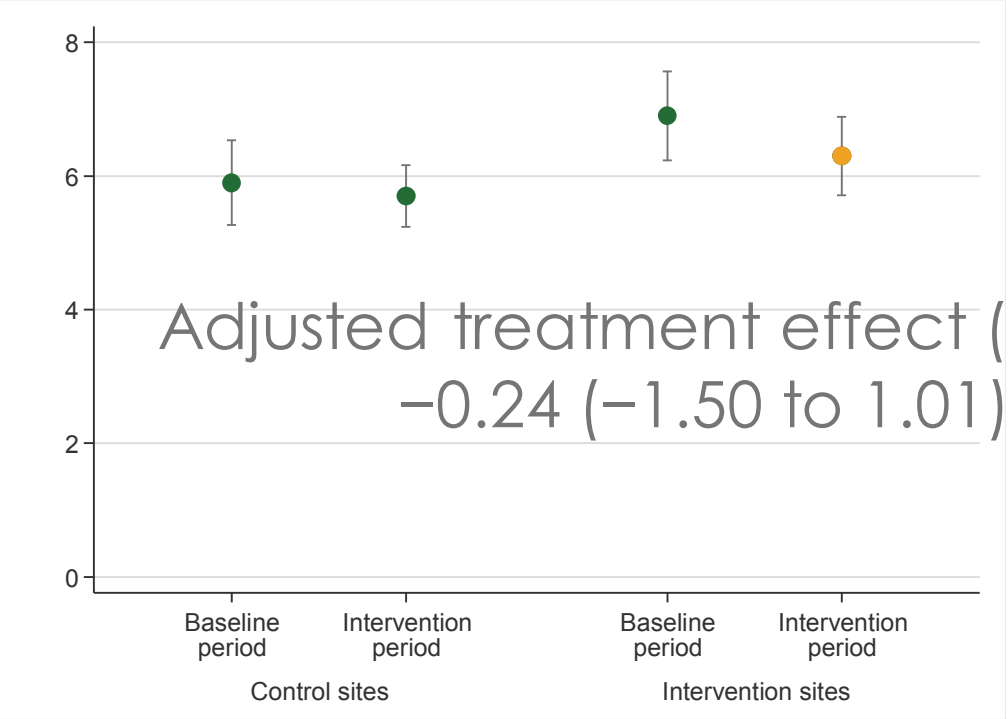
Secondary outcomes

- Depression at six months



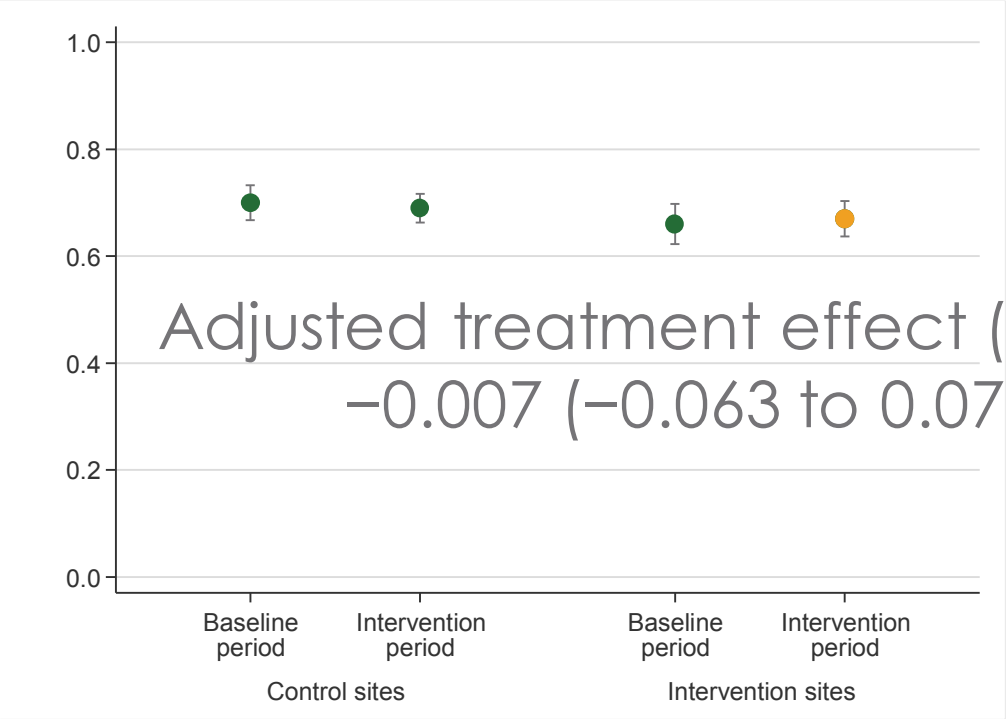
Secondary outcomes

- Anxiety at six months



Secondary outcomes

- Health-related quality of life at six months



State anxiety (STAI-6)score

- For those patients who received three sessions, post-hoc analysis observed a reduction in the mean (SD) STAI-6 score of 49.3 (16.9) at the time of consent to 40.3(13.5) at the end of their third session

Summary

- The POPPI intervention did not significantly reduce PTSD symptom severity
- No significant difference in any secondary outcomes
- No significant variation across subgroups
- Secondary/sensitivity analyses all consistent with primary analysis

Process evaluation

- Variation in delivery 50% sites engaged/50% passive
- Fidelity of intervention Unknown
- Complexity Intervention/patients
- Patient group Some too 'muddled' to give consent or participate in sessions

What's next

"The staff were going to eat me alive" David Aaronovitch, journalist

"I will never forget those days and nights of terror and delusion"

ICU patients are terrified out of their minds. If there is something we can do about this, we should do it"

Discussion

- Patient group

  Were patients who may benefit discharged earlier than expected?
- Timing of the intervention

  Was 'early' the right timing?
- Implementation of the creation of the therapeutic environment

  Translate sufficiently into practice?
- Dose of the stress support sessions received

  Did they need all three sessions?
- Non-expert delivery of the intervention

  Sufficient training and support provided?

  Was the POPPI nurse selection process adequate?

Acknowledgements

- John Welch, David Howell, Monty Mythen - UCLH
- Nicole Als, Mags Harvey, Chris Whitman, David Aaronovitch and the PPI group
- John Weinman, Vaughan Bell, Chris Brewin, Daniel Freeman – psychology experts
- Kathy Rowan, chief investigator, David Harrison, head statistician, Paul Mouncey, trial manager, Alvin Richards-Belle, ICNARC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Royal Cornwall Hospital
St James's University Hospital
Freeman Hospital
The Ipswich Hospital
Warwick Hospital
Royal Berkshire Hospital
Peterborough City Hospital
Hull Royal Infirmary
Queen Elizabeth Hospital, King's Lynn
Whiston Hospital
University Hospital Coventry
Ulster Hospital
St George's Hospital
York Hospital
Queen's Medical Centre
Bristol Royal Infirmary
Musgrove Park Hospital
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Watford General Hospital
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