the uplift study

Predicting relief for people with persistent back pain

Hayley Thomson

(Michel Coppieters)

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Griffith UNIVERSITY

MENZIES HEALTH INSTITUTE QUEENSLAND

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Research for Rehabilitation and Resilience

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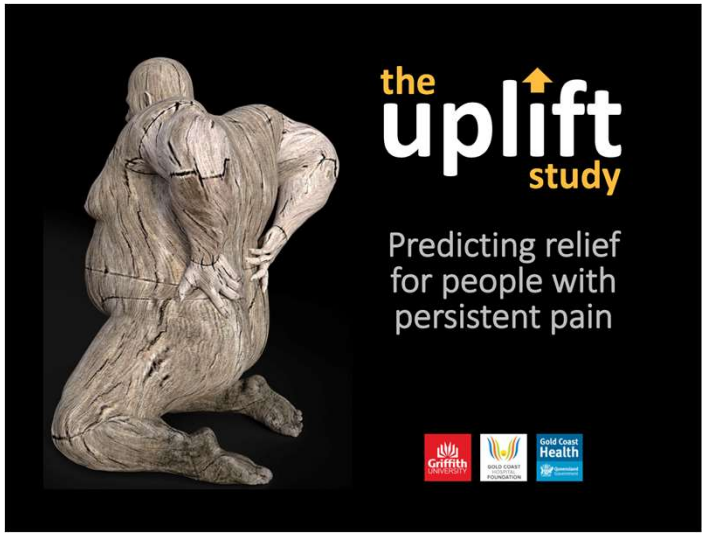

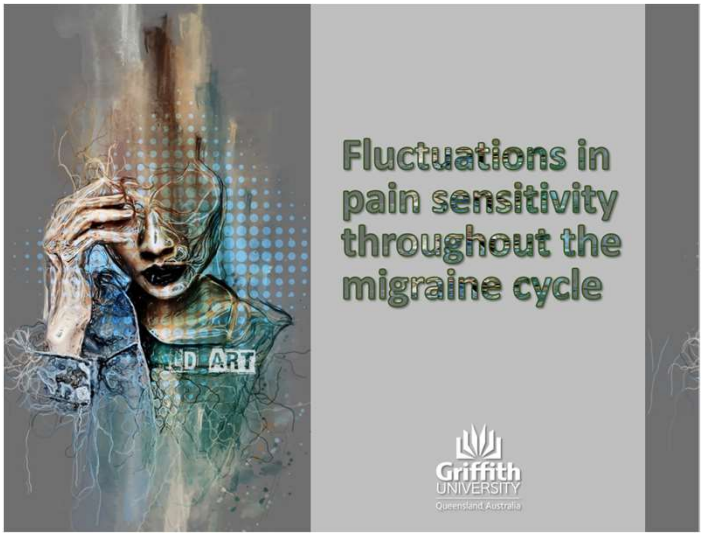

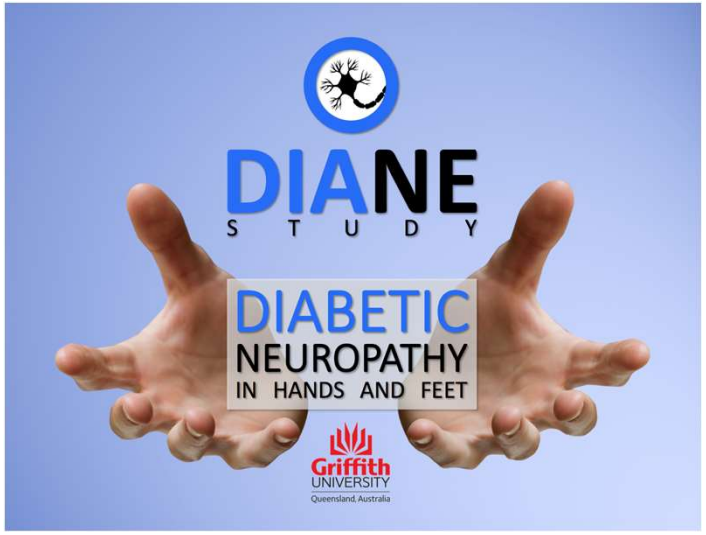

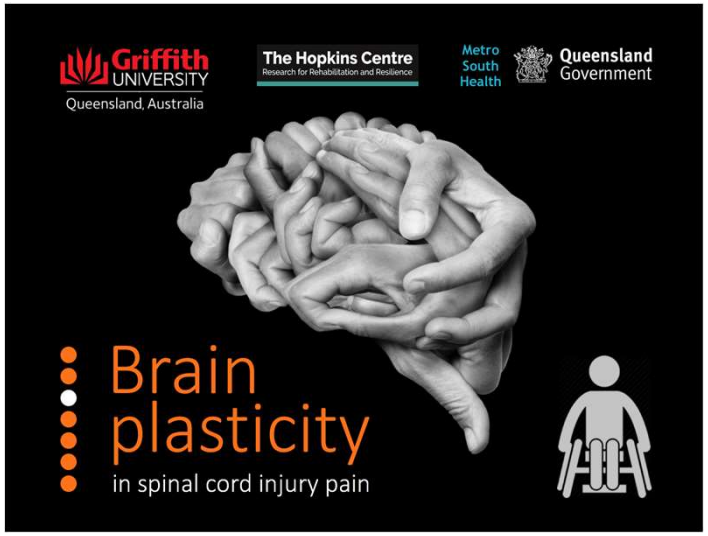

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Background

- Low back pain is ranked first in global burden of disease studies.
- Prognostic screening of people with back pain improves utilisation of primary healthcare resources.
- In primary healthcare, psychosocial factors have better predictive value than biological factors.
- Whether this also applies to secondary healthcare settings remains unclear.

Hartvigsen et al., 2018

Methods

A prospective cohort study in a secondary healthcare setting :

(1) To develop prognostic models to predict at baseline good and poor outcome to a physiotherapy program (UPLIFT).

(2) To determine whether participation in the UPLIFT program is associated with changes in psychosocial characteristics.

Methods

- N = 246 (from a physiotherapy-led neurosurgical screening clinic)
- Low back pain > 3 months

15%: 3 – 12 months
15%: 12 – 24 months
27%: 2 – 5 years
42%: > 5 years

21%: Employed
12%: Unemployed by choice
67%: Unemployed

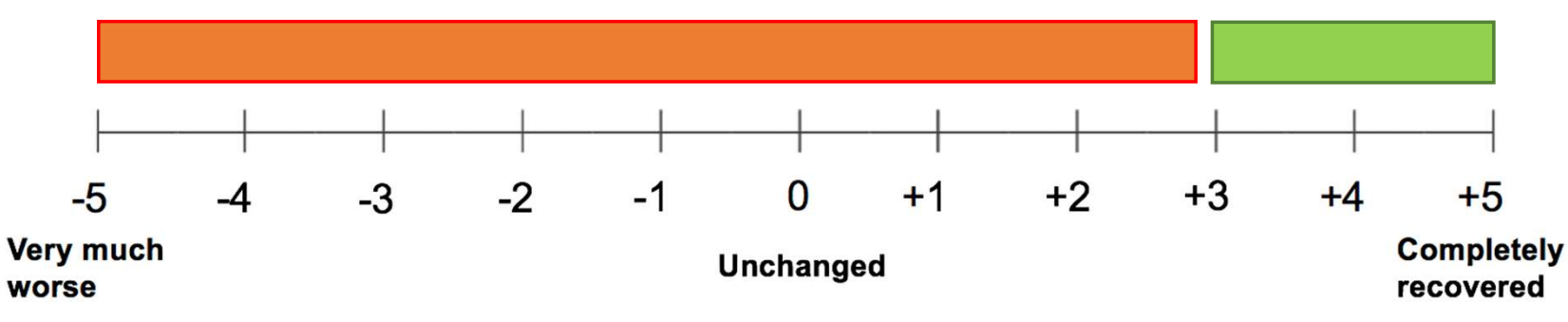
Methods

- N = 246 (from a physiotherapy-led neurosurgical screening clinic)
- Low back pain > 3 months
- 10 predictor variables

1. Fear avoidance beliefs
2. Pain self-efficacy
3. Low back pain treatment beliefs
4. Pain catastrophising
5. Perceived injustice
6. Depression, anxiety and stress
7. Disability level
8. Pain intensity and interference
9. Health status
10. Social connectedness

Methods

- N = 246 (from a physiotherapy-led neurosurgical screening clinic)
- Low back pain > 3 months
- 10 predictor variables
- Primary outcome: Global Rating of Change @ end of UPLIFT (& @ 6 months)



Methods

- N = 246 (from a physiotherapy-led neurosurgical screening clinic)
- Low back pain > 3 months
- 10 predictor variables
- Primary outcome: Global Rating of Change @ end of UPLIFT (& @ 6 months)
- Secondary outcome: Change in psychosocial characteristics
- Prognostic modelling: - Multivariable logistic regression analyses
  - Bootstrapping for internal validation
  - Explained variance of the models

The UPLIFT program

- 5 sessions (1 per week)
- 60 mins interactive group discussion & 30 mins exercise
- Volunteer ‘expert patient’
- Multidisciplinary team

Table 1 Curriculum of the UPLIFT programme

Interactive education sessions (60 min per theme/session)

Themes/Sessions	Target concepts	Content	Delivery mode and additional resources	Assessment *Did the participant understand?*
1. Pain neuroscience education	▶ Pain is normal and is always real. ▶ Pain is a protective mechanism. ▶ Pain involves distributed brain activity. ▶ Pain and tissue damage are poorly related. ▶ Pain relies on context. ▶ We are bioplastic.	▶ Examples of pain as an output of the nervous system in everyday activity. ▶ The body sending danger signals and the brain decides whether to produce	▶ Every participant will be provided a take-away patient workbook to strengthen the education provided by face-to-face group sessions. ▶ Small group peer-to-peer discussion model with	▶ Level of group interaction and engagement. ▶ Can participants extrapolate target concepts to personal experience of pain? ▶ Can participants share examples of when
2. Pacing	▶ Degree of pain does not equal d of damage. ▶ Pain is an overprotector. ▶ Pain is one of many protective c ▶ Meaningful movement reduces			
3. Flare-up management	▶ Degree of pain does not equal d of damage. ▶ Increased pain can be from mul causes. ▶ Important to manage the physic and psychological responses. ▶ Triggers of flare-ups are not nec biomechanical. ▶ Active approaches promote rec			
4. Acceptance	▶ Pain is one of many protective outputs. ▶ Some pain may be unavoidable. ▶ Normal experience of persistent pain is one of relapse and recovery over a protracted period. ▶ Acceptance is pragmatic resilience, it is not 'giving up' or resignation. ▶ In most cases, more scans are not helpful. ▶ Pain and disability from pain are two different things and can be uncoupled.	▶ Group discussion sharing 'good news stories' and 'lessons learnt' from previous weeks. ▶ Examination of some of the personal stories about what participants have avoided and why. ▶ Exploration of how participants feel they may have to validate their pain in light of social stigma. ▶ Presentation of evidence regarding the poor correlation between normal age- ▶ Examinatic differences pain and th ▶ Value- bas ▶ Participant of any perc barrier to r	▶ Small group peer-to-peer discussion model. ▶ With facilitators present to steer and nudge conversation. ▶ Storytelling encouraged and peer supported. ▶ Expert patient shares their experience of reaching a point of acceptance (third-party endorsement). ▶ Motivational interviewing techniques used, discovering what behavioural changes have been made and/or attempted. As required, challenge participant ambivalence ('on a scale of 1–10, how likely are you to try and do a little more exercise'). ▶ Workbook activities:	▶ Level of group interaction and engagement. ▶ Can participants identify support networks—family, friends, health professionals? ▶ Can participants describe what valued activity they have been avoiding that they can reintegrate over the week? ▶ Review of 4-point decision making grid activity. Can participants explain their responses to group members? ▶ Review of goal setting activity. ▶ Review engagement in waking and walking programme.
5. Healthy lifestyles	▶ Overall improved general health enhances reduction in pain and increased capacity. ▶ Sleep is restorative. ▶ Aim to reach a 30 min per day exercise programme. ▶ Socialisation is important. ▶ Meaningful movement reduces pain.	▶ Group disc stories' an previous w ▶ Education compromis system thr smoking o recovery. ▶ Pain and p bidirection ▶ Group acti sleep plan, behaviours ▶ Presentatic group exer ▶ Seek input knowledge community		

Week 1–5: physical activity and exercise (30 min per session)

- ▶ The kind of exercise each participant finds accessible and affordable is identifie
- ▶ Immediately following group learning, participants move into an adjacent area f
- ▶ Exercise is supervised by two physiotherapists. A feature of the exercise area is reduce pain associated with movement.
- ▶ Participants are encouraged to reflect individually during each exercise session interactive education sessions.
- ▶ Participants engage in goal-oriented 'safe' movement, including graduated exp
- ▶ Participants can choose which cardiovascular exercise modality they perform (s
- ▶ Exercises are tailored to match individual capacity and individualised goals.
- ▶ Where possible, exercises are designed to facilitate socialisation between partic

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g the

Open access Protocol

BMJ Open

Identifying psychosocial characteristics that predict outcome to the UPLIFT programme for people with persistent back pain: protocol for a prospective cohort study

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ABSTRACT

Introduction Prognostic screening of people with low back pain (LBP) improves utilisation of primary healthcare resources. Whether this also applies to secondary healthcare remains unclear. Therefore, this study aims to develop prognostic models to determine at baseline which patients with persistent LBP are likely to have a good and poor outcome to a 5-week programme of combined education and exercise ('UPLIFT') delivered in a secondary healthcare setting.

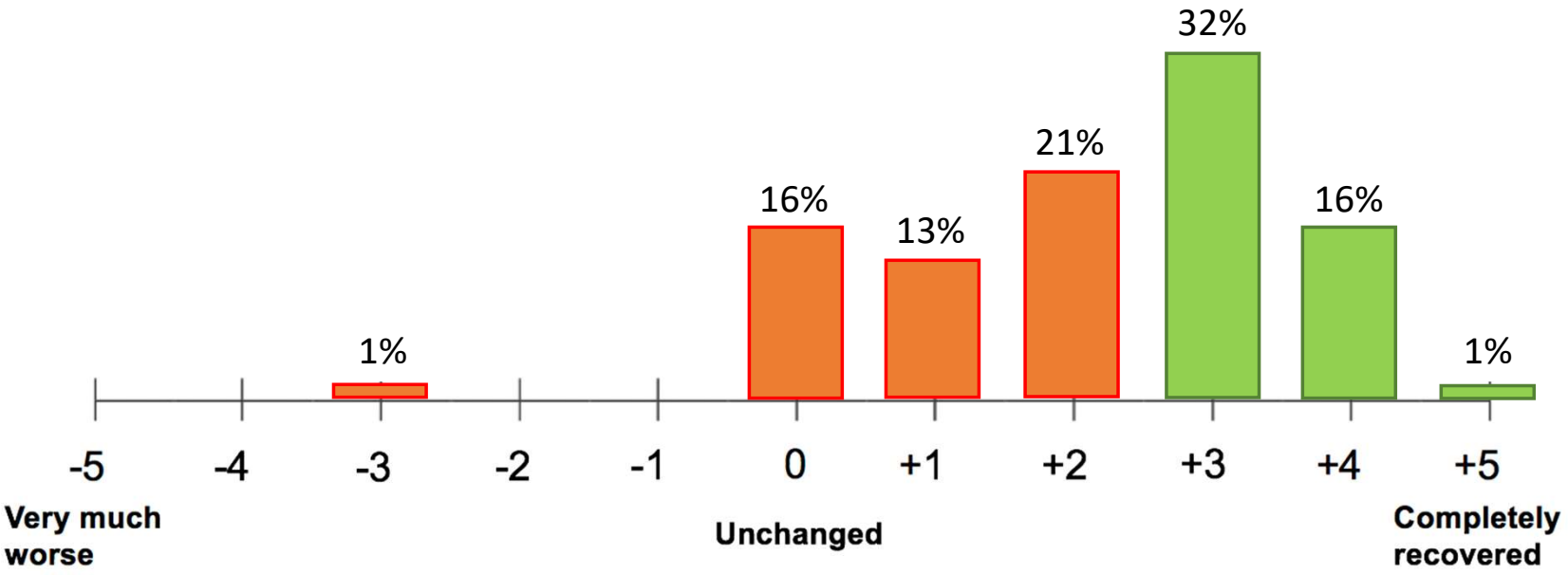
Methods and analysis A prospective cohort study of 246 people with persistent LBP will be conducted in a secondary healthcare outpatient setting. Patients will be recruited from a physiotherapy-led neurosurgical screening clinic. Demographic data, medical history and psychosocial characteristics will be recorded at baseline. Fear avoidance beliefs, pain self-efficacy, LBP treatment beliefs, pain catastrophising, perceived

Strengths and limitations of this study

- ▶ The results of this study may help identify factors that influence outcome for patients with low back pain in secondary healthcare settings.
- ▶ The sample size allows assessment of a broad spectrum of psychosocial predictor variables, but does not allow the reassessment of previously studied biological variables.
- ▶ This pragmatic study evaluates existing best evidence-informed clinical practice.
- ▶ This study is a valuable first step in identifying potential predictors or effect modifiers, but without a comparison group we cannot guarantee that the predictors identify those who do well with the UPLIFT programme, or those that have a favourable natural history.
- ▶ Patients are recruited from one hospital which may

Results

- 49% success; 51% non-success
- Improvements in all psychosocial characteristics



Results and conclusions…

- 49% success; 51% non-success
- Improvements in all psychosocial characteristics

But,… and:

- Poor performance of prediction models: Explained variance: ~ 6 %

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1. Predictor variables
    - Fear Avoidance Beliefs Questionnaire — Waddell et al.,1993
    - Pain Self Efficacy Questionnaire — Nicholas, 2007
    - Low Back Pain Treatment Beliefs Questionnaire — Dima et al., 2015
    - Pain Catastrophising Scale — Sullivan et al., 2008
    - Injustice Experience Questionnaire — Sullivan et al., 2008
    - Depression Anxiety Stress Scales 21 — Lovibond & Lovibond, 1995
    - Oswestry Disability Index — Fairbank & Pynsent, 2000
    - Brief Pain Inventory — Wand et al., 2011
    - 36 Item Short Form Health Survey — Ware Junior, 2000
    - Social Connectedness Scale — Lee & Robbins, 1995
2. Outcome measure
    - Global Rating of Change Scale — Dworkin et al., 2005