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# A LONGITUDINAL ANALYSIS OF CHARACTERISTICS ASSOCIATED WITH INTER-INDIVIDUAL VARIABILITY IN EMPLOYMENT INTERFERENCE IN PATIENTS WITH BREAST CANCER

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A longitudinal analysis of characteristics associated with inter-individual variability in employment interference in patients with breast cancer

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Metro South  
Health



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# Research Team

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Flinders Centre  
for Innovation  
in Cancer



University of California  
San Francisco



# Background



Part of my Oncology Nursing Society Fellowship

Focus on methodological training in symptom science:

- Advanced Statistical Methods
- Genomics in Symptom Science



Extensive literature on:

Employment after cancer /breast cancer

Interference with employment is associated with a higher financial burden



Breast cancer patients report absenteeism from work, reduced work ability, limited work performance and career progression, and at times, voluntary termination of employment



Longitudinal studies focused on - whether patient returning to work or not at a particular timepoint

# Objectives

## **This descriptive, longitudinal analysis**

- evaluates for inter-individual differences in cancer's level of interference with employment;
- identify phenotypic and symptom characteristics associated with higher levels of interference

\*Part of a larger NCI-funded study that evaluated for neuropathic pain and lymphedema in women who underwent breast cancer surgery (NCI, CA107091 and CA118658)

# Data Collection, time points, and analysis



**Demographic, clinical and symptom characteristics**



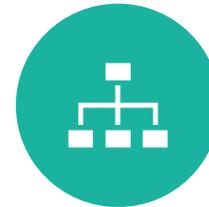
**Timepoints:** prior to surgery (0), 1, 2, 3, 4, 5, 6, 8, 10, 12 months after surgery



## **Employment:**

One single item from the Quality of Life Scale-Patient Version (QOL-PV) [19], namely, "To what degree has your cancer or its treatment interfered with your employment?".

0 (no problem) -10 (severe problem)



**Analysis:** Hierarchical linear modelling

## Results

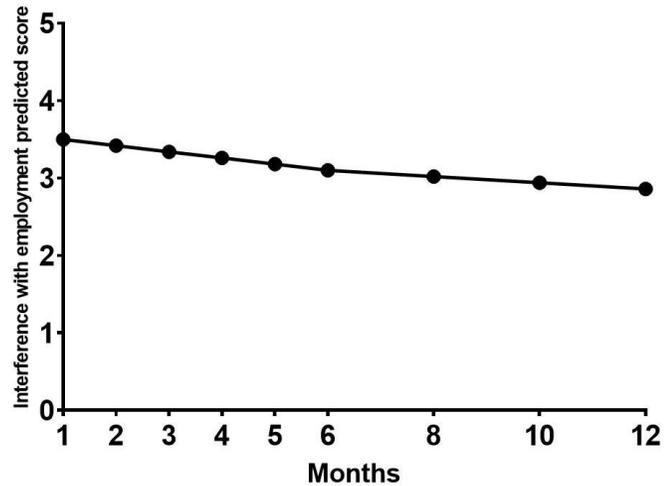
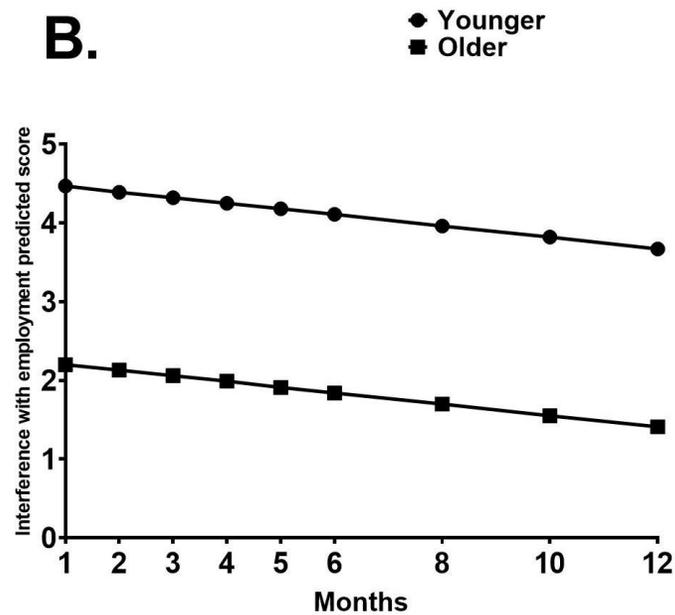
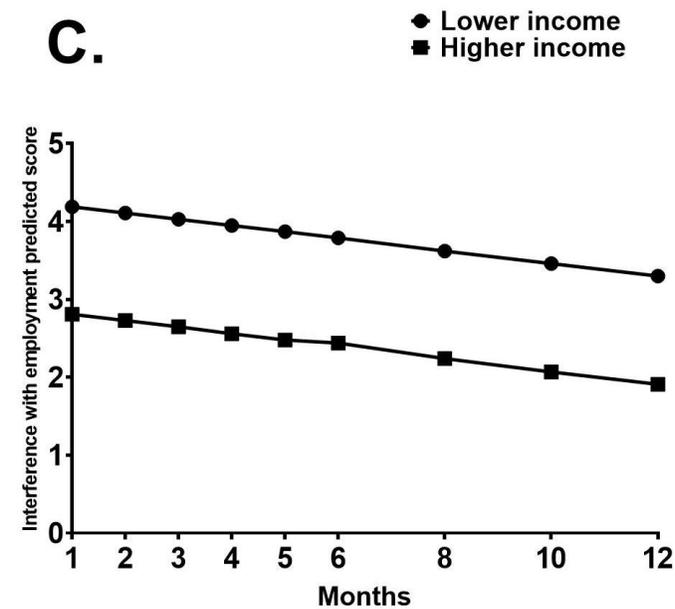
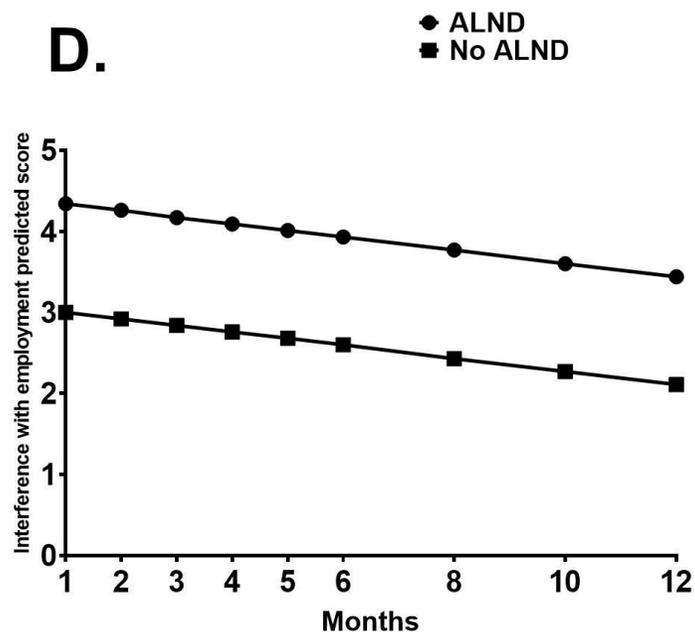
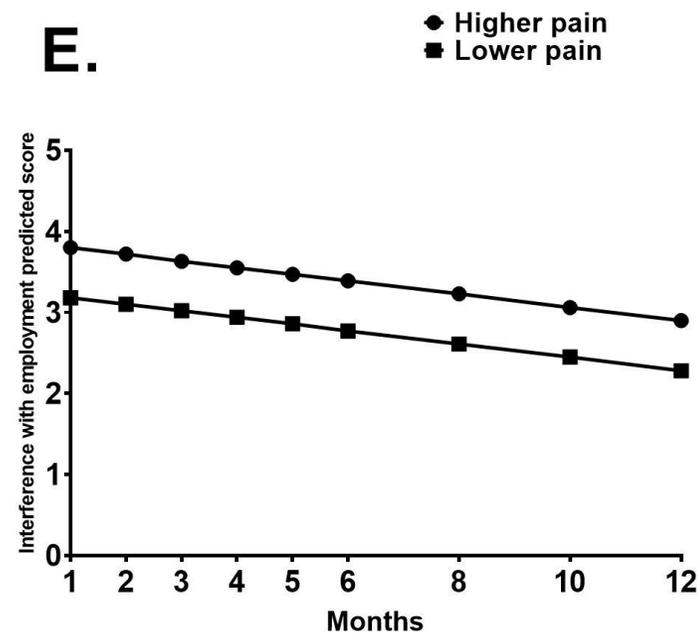
387 women were included in this analysis

On average:

- 55 years old
- Well educated
- Good functional status

Majority were

- White (66%)
  - post-menopausal (65%)
  - Married or partnered (41%)
  - Working for pay (48%)
- Mean employment interference score was 3.2 ( $\pm$ 3.7) [possible range 0-10]

**A.****B.****C.****D.****E.**

# Results

## Over the 12 months:

- Unconditional model for employment interference demonstrated a decreasing linear trend ( $-.076/\text{month}$ ).

## Significant intercept and/or slope predictors:

- Younger age, lower income, higher pain intensity, having an axillary lymph node dissection (ALND), having a sentinel lymph node biopsy (SLNB), higher sleep disturbance scores

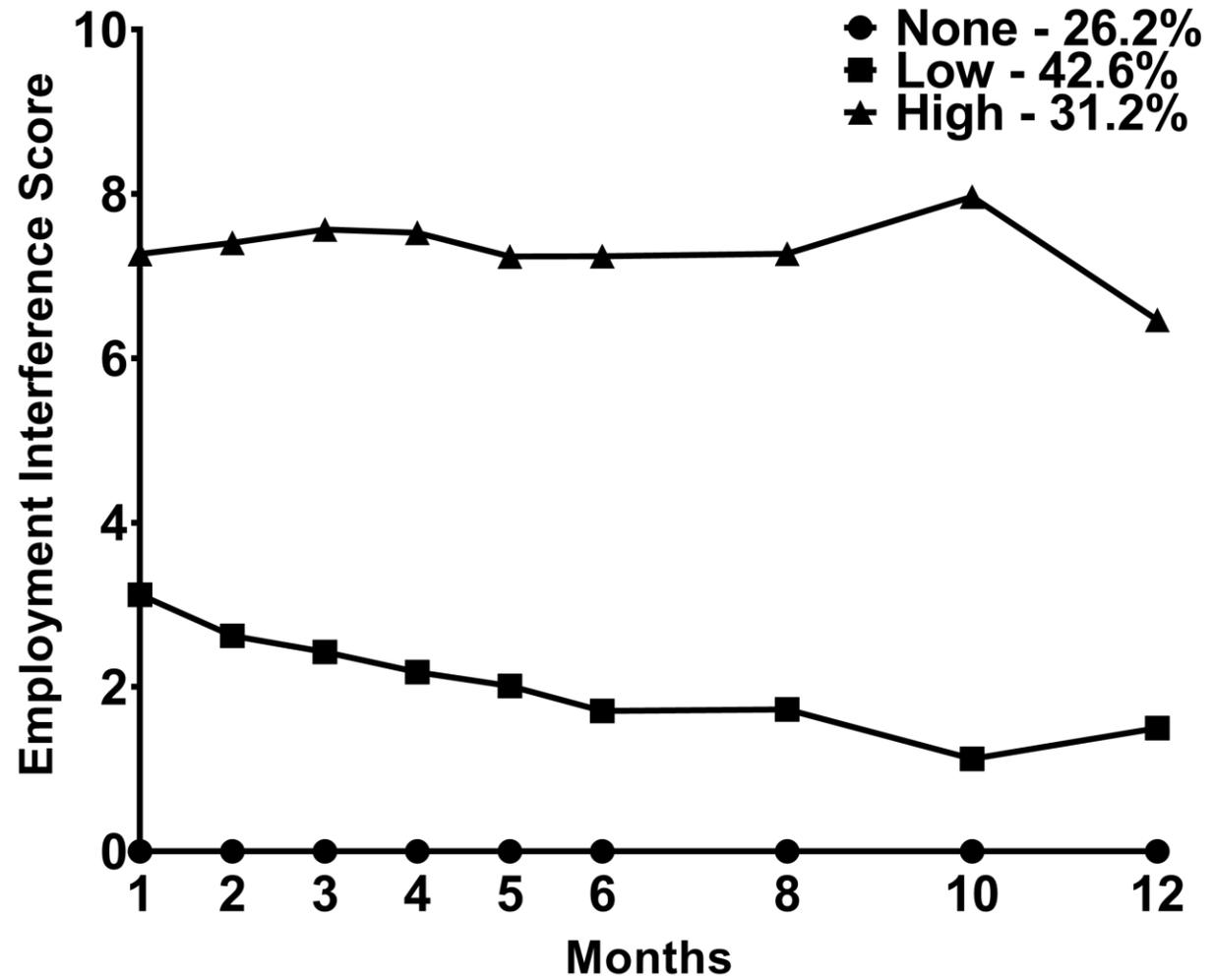
## Significant time varying covariates

- Receipt of chemotherapy, use of complementary or alternative therapies, and re-excision or mastectomy following surgery

## Key take home points

- This study is the first to use HLM to describe inter-individual differences in the trajectories of cancer's interference with employment and associated factors prior to and for 12 months following breast cancer surgery.
- Employment interference does not change too much from pre-surgery – indicating screening and assessment during the pre-surgical assessment CAN inform ongoing management
- Patients with the identified risk factors warrant ongoing assessments of employment interference and appropriate referrals.

Next step



Thank you

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