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# Factors associated with sleep disturbance as individuals diagnosed with colorectal cancer (CRC) transition to early survivorship

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The power of **knowledge.**  
The value of **understanding.**

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# Background

- CRC 3<sup>rd</sup> most common adult cancer in the US
- Sleep disturbance associated with:
  - decreased cognitive functioning
  - fatigue
  - increased healthcare utilization
- Sleep disturbance is a risk factor for:
  - cardiovascular disease
  - infectious diseases
  - depression
- Individuals diagnosed with CRC manage unique consequences of the disease, such as bowel control issues, as well as more general QoL issues such as fatigue, anxiety, pain and nausea.
- Yet, sleep is not often discussed with clinicians

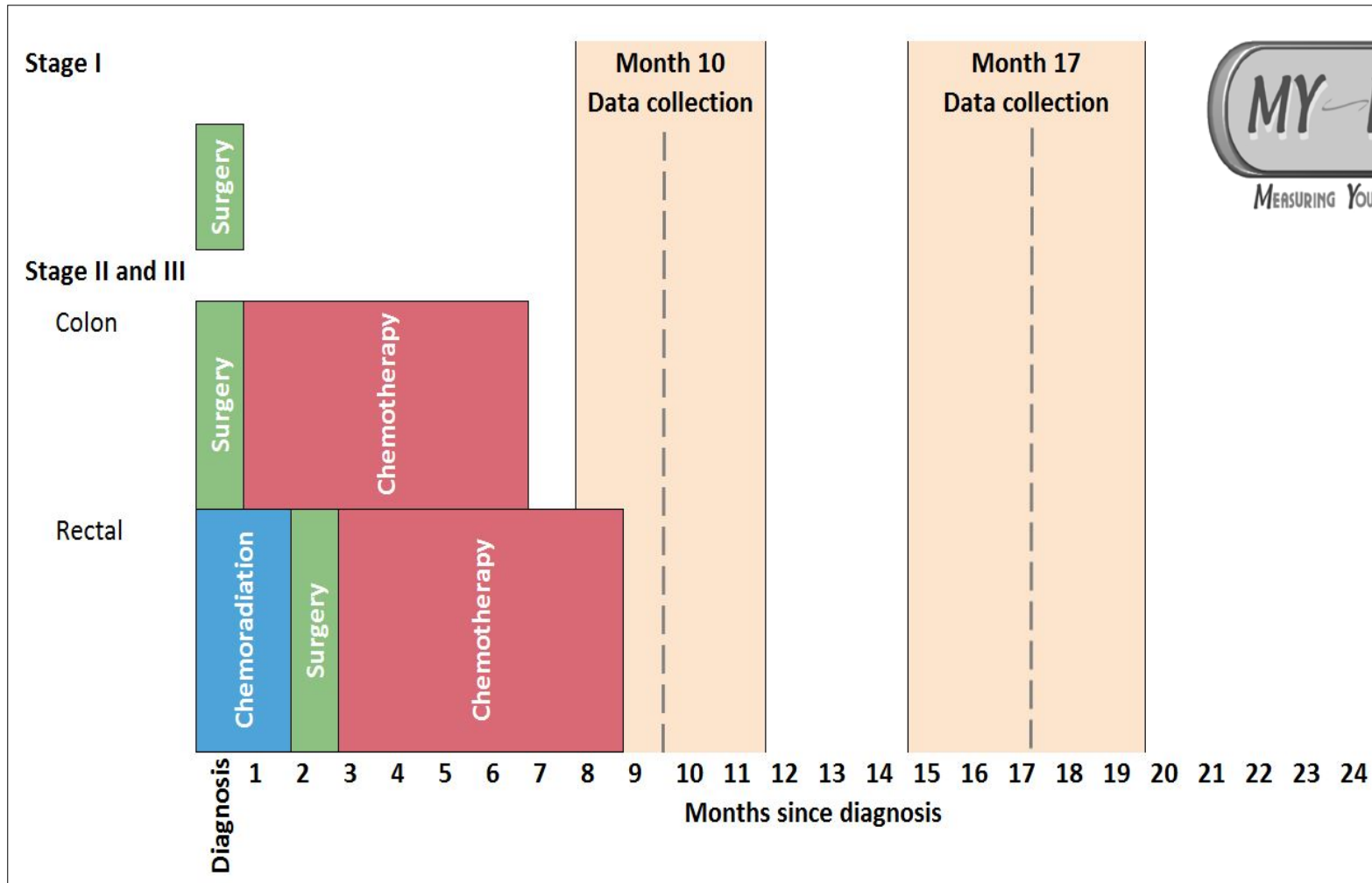
Winkelman 2015; Roscoe 2007; Manocchia 2001; Flynn 2010; Irwin 2015; Engstrom 1999

# Purpose

- **To identify patient, disease, and treatment characteristics associated with sleep disturbance (and change in sleep disturbance) in a sample of individuals diagnosed with stage I, II or III CRC.**
  - Etiology of sleep disturbance may vary from patient to patient: investigated variation in patient, disease, and treatment characteristics within levels of sleep disturbance severity and magnitude of change in sleep disturbance in early survivorship.

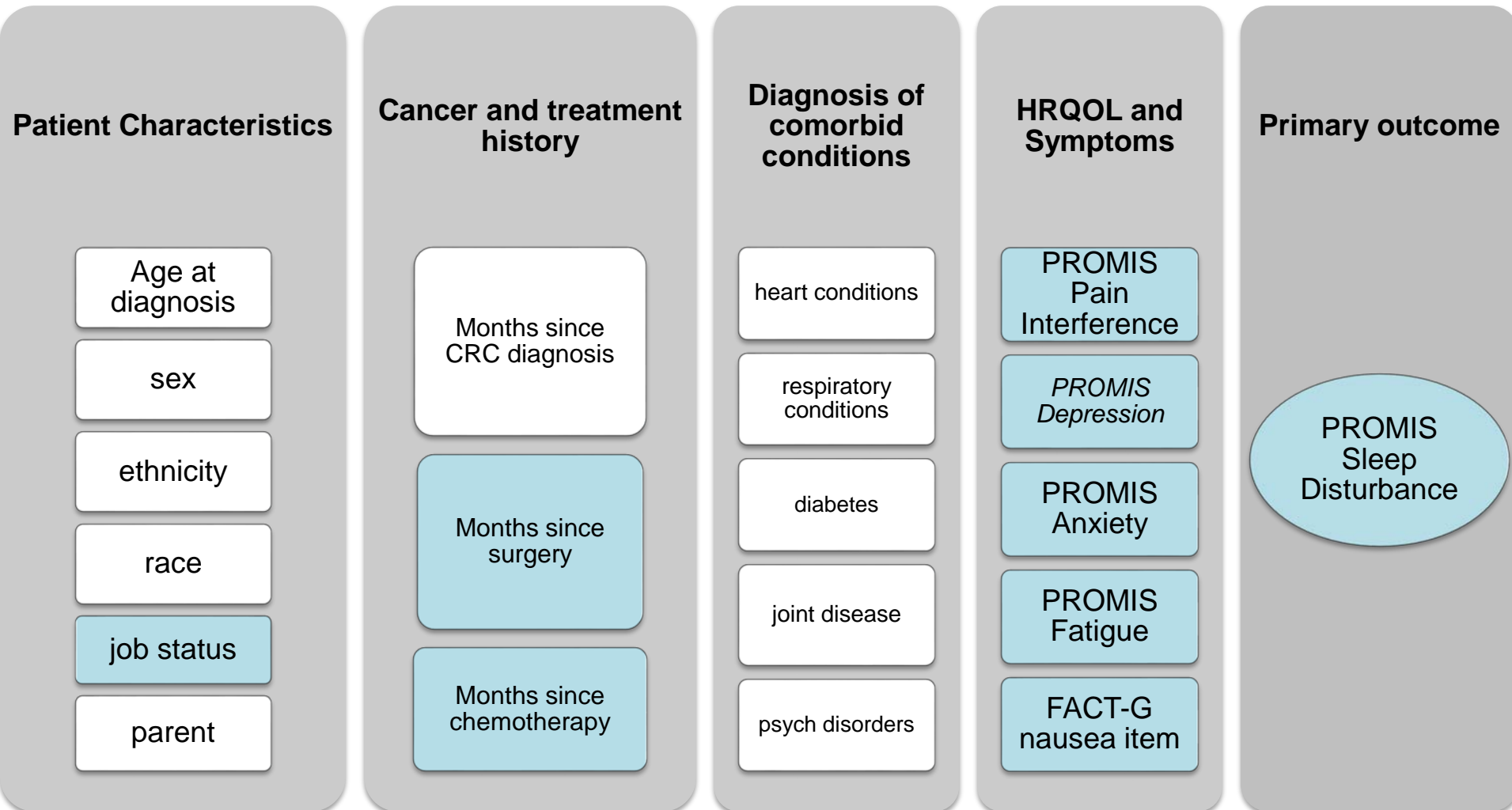


# Study Design (n = 734)



(Jensen, King-Kallimanis et al. 2016; Amer College of Surgeons Quality of Care Measures; Kang 2013)

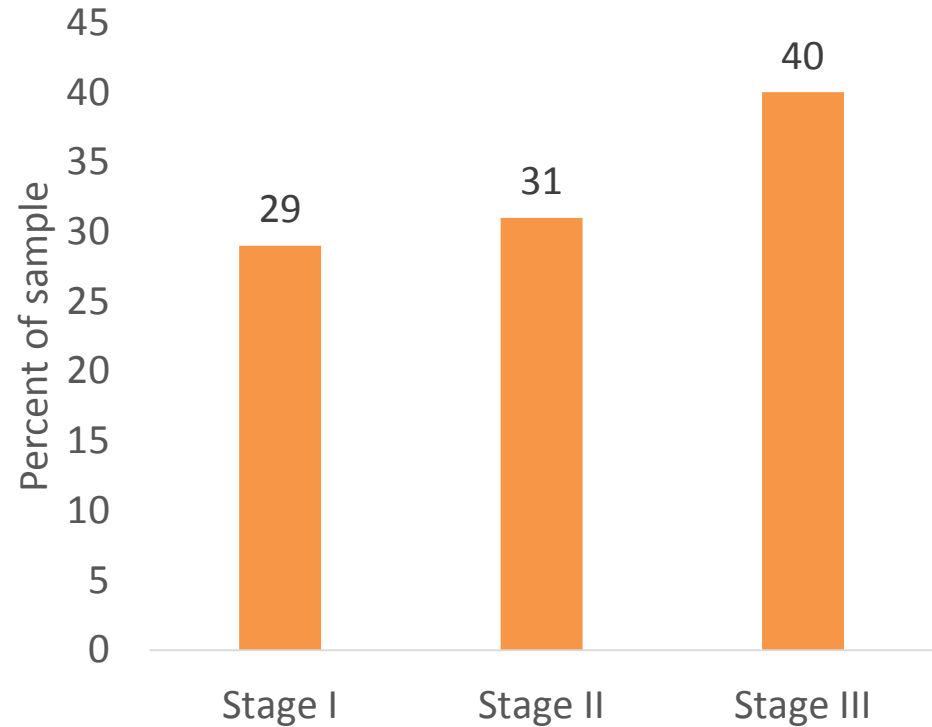
# Relevant Variables from MY-Health



(Jensen, King-Kallimanis et al. 2016)

# Patient Characteristics at Month 10 (n = 613)

- Age at diagnosis
  - mean = 62
  - range: 22 to 84
- PROMIS Sleep Disturbance
  - mean = 50.6
  - Range: 30 to 75
- 53% female
- Race/ethnicity
  - 55% white
  - 19% black
  - 27% Other/multiple
- Month 17 – loss to follow-up



# Cross-sectional Month 10 Model (n = 613)

- 2 or more comorbid conditions (ref = no comorbid conditions):  $B = 1.53$ ,  $p = 0.046$
- Retired (ref = working/student):  $B = -2.49$ ,  $p = 0.004$
- PROMIS Anxiety:  $B = 0.22$ ,  $p < 0.001$
- PROMIS Fatigue:  $B = 0.29$
- PROMIS Pain Interference:  $B = 0.09$ ,  $p = 0.017$

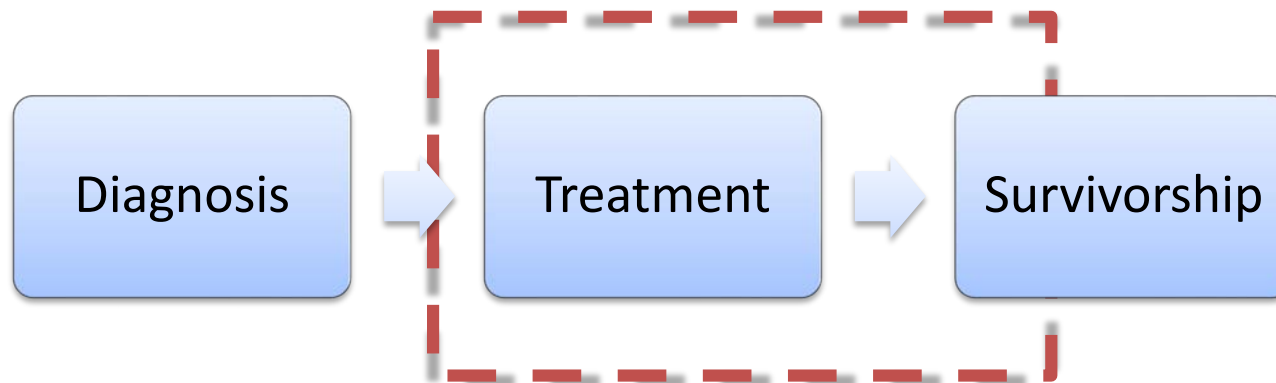


# Results: Change Model [Month 10 to Month 17] (n = 361)

- PROMIS Anxiety Change:  $B = 0.14$ ,  $p = 0.002$
- PROMIS Fatigue Change:  $B = 0.20$ ,  $p > 0.001$
- PROMIS Sleep Disturbance at Month 10:  $B = -.21$ ,  $p < 0.001$
- 373 patients lost to follow-up. Patients who participated in the second data collection were more likely to:
  - Be a minority (Asian, American Indian or Alaska Native, Asian Hawaiian or Pacific Islander, Other, combination of races)
  - Retired

# Conclusions

- Confirmed relationships among fatigue, anxiety and pain, and sleep disturbance in CRC sample
- Small coefficients; screening may be warranted
- Future research should evaluate sleep disturbance at other windows of time during the cancer continuum



# Thank you!



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