

The rising prevalence of chronic low back pain

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Study team

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Chronic back pain

- Expensive, > \$25B in US direct medical costs, \$100B total
- Rate of surgery in NC increasing: 150% since early 90's
- Morbid
 - Increasingly common cause of work disability
 - Poor functional status, depression, poor satisfaction
- Prevalent
 - UNC team found 3.9% prevalence in 1992
 - Variable estimates depending on definition
- Rising costs and use may be due to:
 - Increased use of visits and procedures by those who seek care
 - Increased care seeking by those affected by chronic low back pain
 - Increased prevalence of the condition
 - Demographic changes vs response bias

Specific aim

- Describe the prevalence of chronic low back pain in North Carolina and the demographic and clinical characteristics of individuals with the condition
 - Have the prevalence, demographic and clinical characteristics changed between similar studies conducted in 1992 and 2006?
 - Take advantage of 92 survey which used a specific definition of chronic LBP

Chronic back pain case definition

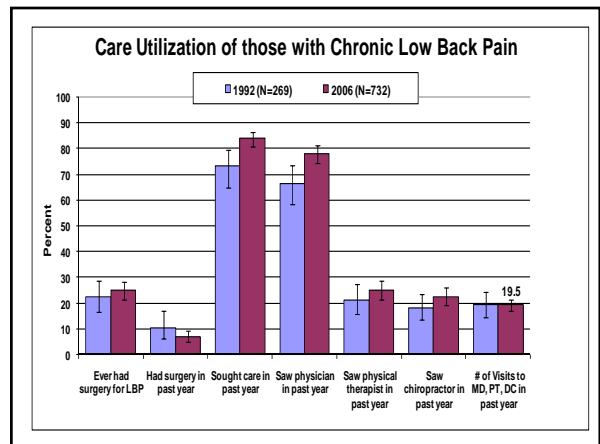
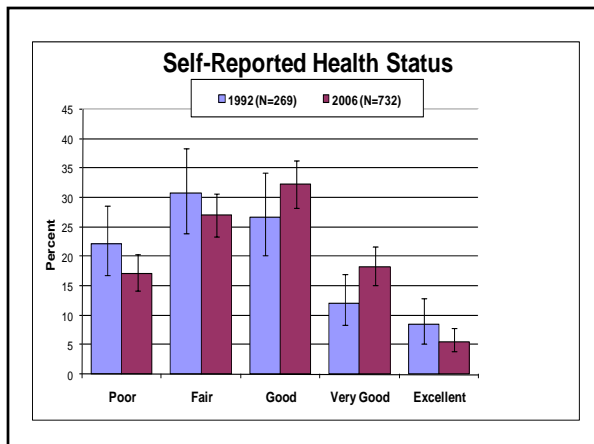
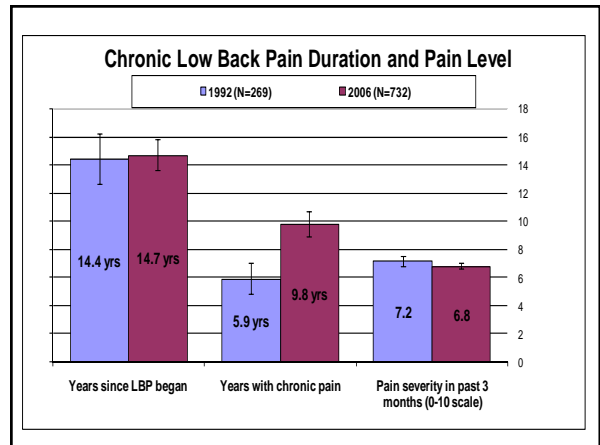
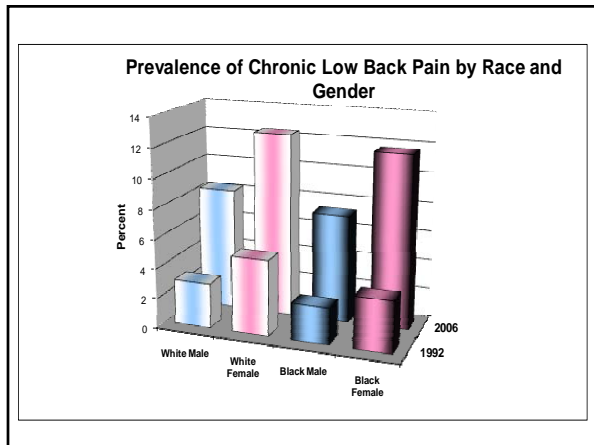
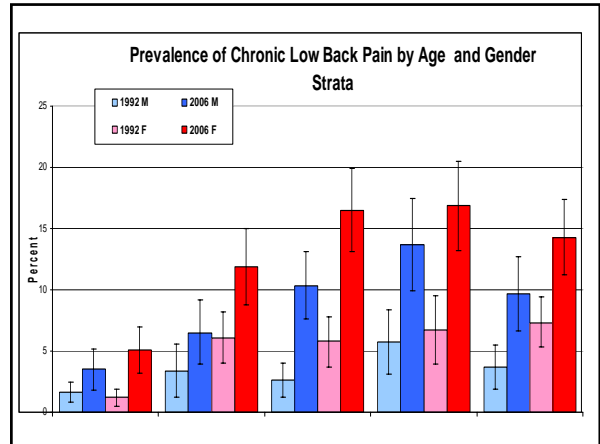
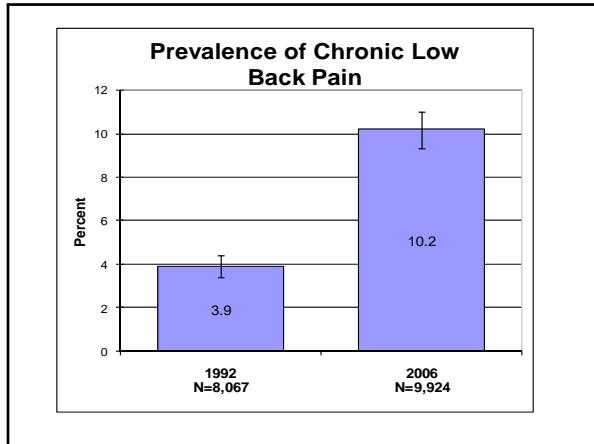
- Chronic
 - Level of waist or below, with or without leg radiation
 - Greater than 3 months in previous year, OR
 - Greater than 24 episodes of acute back pain, and:
- Functionally impairing
 - Bad enough to limit usual daily activities on most days for the previous 3 months

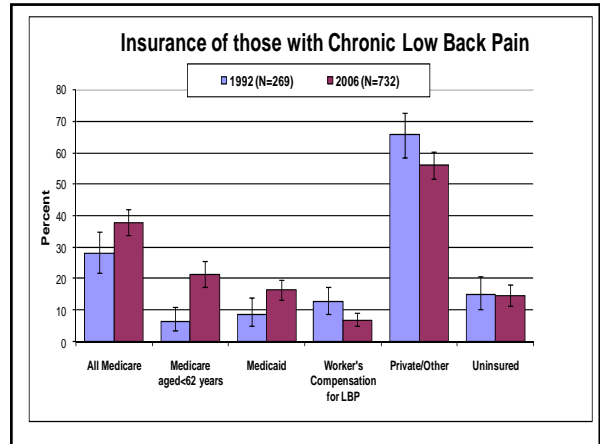
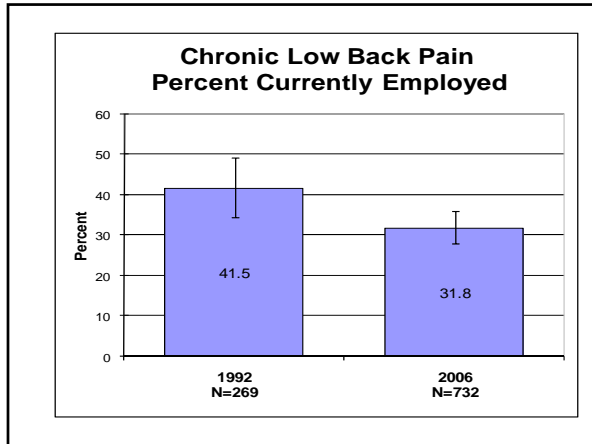
1992

- 4437 NC households
 - 4 regions
 - 79% household response rate
- "Knowledgeable adult" identified back pain candidates among adults in household
- One individual randomly selected among low back pain candidates
 - 20 minute survey on duration, care seeking, modest functional status information
- Weighted data to obtain population-based estimates
 - Sample weights to account for differential probability of selection, telephone coverage, survey non-response
 - Post-stratification adjustment (age, race, sex)
- 269 individuals

2006

- 5,357 NC households
 - 3 regions, African American areas over-sampled
 - 66% household response rate
 - Same identification of LBP as '92
 - Spanish translation
 - 35 minute survey
 - Greater detail on utilization
 - Weighted data to obtain population-based estimates
 - Weighting process same as in 1992
 - 732 individuals
 - Analysis largely descriptive, multivariable adjustments yielded similar results.

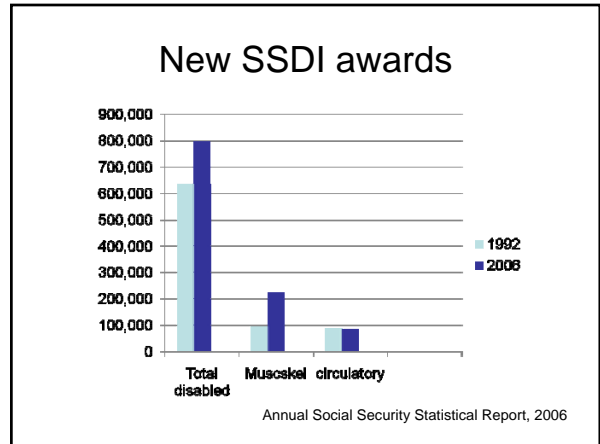


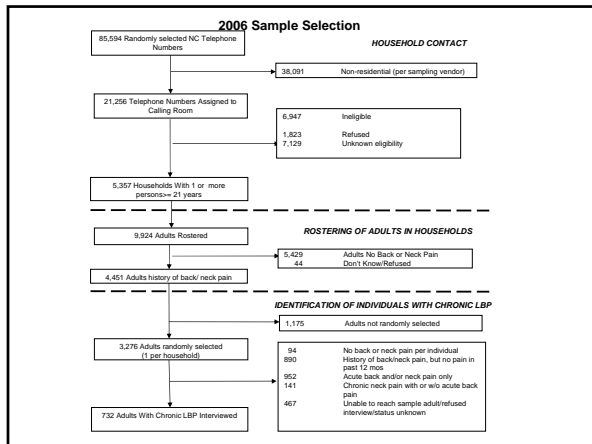


- ### Potential explanations and limitations
- Response rate lower in 2006; non response adjustment performed
 - Potential response bias, but little indication in the sub-analyses; Roland in 2006 = 14.9
 - Increase in other conditions that make back pain more common or severe
 - Obesity: % population BMI > 30 in NC has doubled over interval; 13-26% (BRFSS)
 - Increase in sedentary lifestyle?
 - Depression and stress has increased in national surveys; 3.3-7.6% major depressive disorder in US
 - Iatrogenic factors of wide use of surgery and medicalization

- ### Conclusions
- Alarming increase in prevalence of chronic, disabling back pain
 - Care seeking increased
 - Utilization similar, but very high
 - Significant portion of rising costs of LBP may be due to rising prevalence, care seeking and work disability
 - Efforts to better manage chronic LBP must take prevalence issues into account using population-based interventions
- Carey TS et al. Arch Intern Med 2009; 169: 251-8

- ### Implications
- Efforts to control utilization will result in only modest savings
 - Acute back pain is ubiquitous, so need to conduct research on factors that lead to transformation from acute to chronic LBP
 - Need to test intervention, but previous studies have demonstrated only modest success
 - Limited knowledge of risk factors for chronic LBP
 - Pre-existing depression -Sciatica
 - Obesity -Work problems
 - Smoking -Sedentary
 - ?Fear-avoidance behaviors -Baseline functional deficits



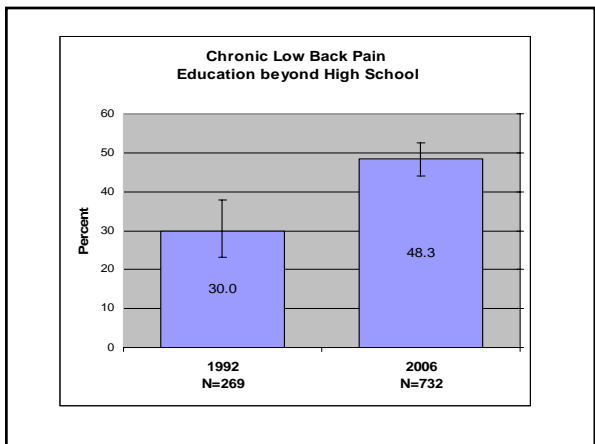
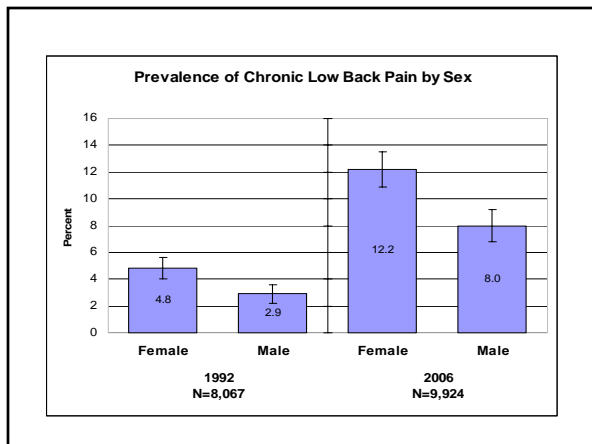
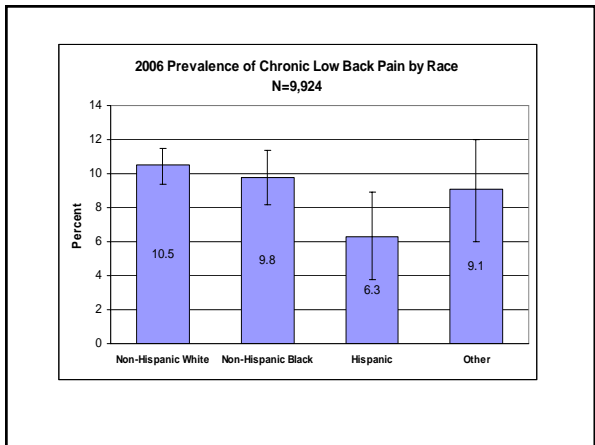


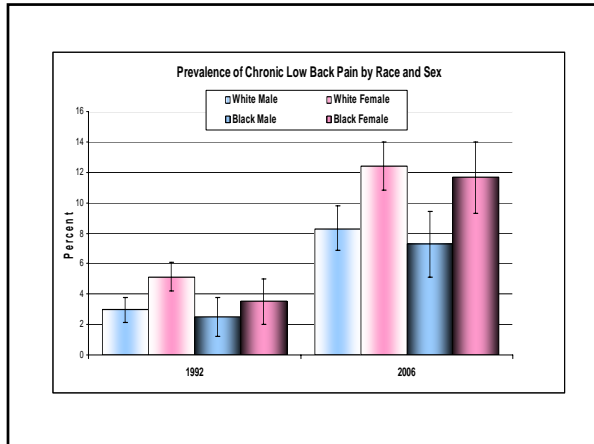
Defining chronic back and neck pain

- Have you had any kind of back or neck problems in the past few years?
 - This means back or neck discomfort or pain. Back pain starts at the level of the waist or below and sometimes spreads to buttocks area or legs. Neck pain starts in the neck, area, it may spread to the shoulder or arm.
- Have you ever had low back or neck pain bad enough to limit your usual daily activities for more than one day?
- Have you had low back pain nearly every day for at least the past 3 months?
- Has your back pain been bad enough to limit your usual daily activities or change your daily routine nearly every day for the past 3 months?
 - If yes, **CHRONIC BACK PAIN**
- During the past 12 months, have you had spells where your low back pain was bad enough to limit your usual activities or change your daily routine for more than one day?
- How many spells like that did you have in the past 12 months
 - If > 24 spells, **CHRONIC BACK PAIN**
- Similar process conducted for chronic neck pain

Possible next steps

- Additional epidemiology
- Consideration of large scale interventions
- Public health approach similar to Australia
- Provider education
- Common cause with other public health measures?





- ### 2006 UNC Survey methods
- 5,357 NC households
 - 3 geographic strata, oversampling of areas with large African-American populations
 - 66% household response rate
 - Spanish translation
 - Same method of identifying back and neck pain candidates
 - For individuals with chronic LBP or neck pain, 35 minute survey
 - Demographics
 - Functional status
 - Diagnostic and therapeutic care utilization
 - Satisfaction
 - 873 individuals completed chronic back or neck survey
 - Weighted data to obtain population-based estimates
 - Sample weights to account for differential probability of selection, telephone coverage, survey non-response
 - Post-stratification adjustment (age, race, sex)
 - 732 with chronic, impairing low back pain

