The Burden of Pain on Quality of Life Among Adults with Medicare Supplement Insurance

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Background

- Approximately one in three older adults experience chronic pain. (1)
- Chronic pain has a significant impact on quality of life. (2)
- There are several adverse consequences for those who experience chronic pain such as physical disability, depression, anxiety, and fear of engaging in a host of activities. (3,4)
- Of those with original Fee-For-Service Medicare coverage (an estimated 34 million Americans), it has been estimated that 27% purchased Medigap coverage. (5)
  - –The impact of pain on quality of life for those with a Medigap insurance is not known.

Objective

- To better understand the impact that chronic pain has on quality of life in adults with Medigap insurance aged 65 years and older.
  - –To achieve this, we estimated the burden of three common types of pain (arthritis, sciatic, and back) on quality of life among adults with Medigap coverage.

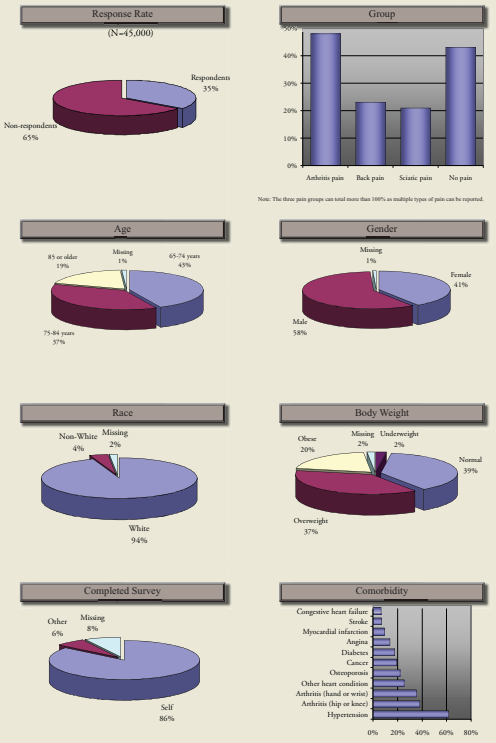
Population Studied

- About 2.9 million people are covered by an AARP® Medicare Supplement Insurance (i.e. Medigap) plan insured by UnitedHealthcare (for New York residents, UnitedHealthcare Insurance Company of New York).
  - –These plans are offered in all 50 states, Washington DC, and various US territories.
- The Health Update Survey (HUS) was administered to a random sample of 45,000 Medigap insureds in 10 states from 2008-2010.
- The HUS is a self-administered survey that includes all the questions on the Medicare Health Outcomes Survey (HOS).
  - –The instrument includes several questions on demographics, chronic medical conditions, and health status measured via the Veteran's RAND (VR) -12 item survey.
  - –The VR-12 is widely used and validated in other applications with older adults. (6,7)
  - –The VR-12 produces two quality of life summary scales, the mental component score (MCS) and physical component score (PCS).

Methods

- Study respondents were categorized into one of four groups based on the type of pain they self-reported: arthritis pain, sciatic pain, back pain, or none of these (the comparison group).
- Three analyses were performed:
  - –Analysis One: Described the sample and compared demographics, socioeconomic, and clinical characteristics between the pain groups relative to the comparison group using univariate techniques. Chi-square and Student's t-tests were used to test for differences in categorical and continuous variables.
  - –Analysis Two: Logistic regression models were used to identify demographic, socioeconomic, and clinical characteristics associated with each type of pain.
  - –Analysis Three: Ordinary Least Squares (OLS) regression models were used to estimate the impact of pain on quality of life metrics (MCS and PCS), controlling for patient demographics, socioeconomic, and clinical characteristics.

Sample Characteristics



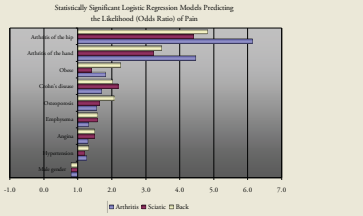
Predictors of Pain

- Based on logistic regression models, numerous demographic, socioeconomic, and clinical characteristics predicted the likelihood of reporting each type of pain.
  - –The graph below shows the Odds Ratio (OR) for independent variables that were the most significant predictors for all three types of pain ($p<0.001$).
  - –The OR shows the likelihood of reporting each type of pain relative to the appropriate reference group.
    - –An OR greater than one represents an increased likelihood of pain; whereas, a value less than one represents a decreased likelihood.
    - –For example, those with arthritis of the hip were 6.1 times as likely to have arthritis pain, compared to those without arthritis of the hip.
  - –According to the graph below, the variables that were most positively associated with reported pain were having arthritis of the hip and arthritis of the hand.
  - –The significant variables that were most negatively associated with reporting pain included male gender and not being married. Numerous other predictors were found.

Quality of Life

- The results of the OLS models showing the impact of each pain, respondent demographics, and clinical characteristics on quality of life are shown at the bottom of the next column.
  - –The graph shows the average effects of the significant ($p<0.0001$) variables in the model.
    - –Only the variables with the largest effects are shown.
    - –The average effect measures each variables' independent impact on quality of life.
    - –A negative average effect indicates a negative impact on quality of life, while a positive average effect indicates a positive impact on quality of life.
- Pain was one of the greatest negative factors affecting quality of life.
  - –Back pain decreased the average PCS and MCS by 6.7 and 2.9 points.
  - – Arthritis pain decreased the average PCS and MCS scores by 4.2 and 1.3 points.
  - – Sciatic pain decreased the average PCS and MCS scores by 1.3 and 0.5 points.
    - –The average PCS and MCS for the reference group were 54.1 and 55.4, respectively.
    - –A change of ten points represents one standard deviation from the mean.

Predictors of Pain



Conclusions

- Pain is common among older individuals, with nearly 60% of the respondents reporting either arthritis, sciatic, or back pain.
- Demographic, socioeconomic, and clinical predictors of pain were largely consistent with past reports.
  - –Arthritis (of the hip or of the hand), obesity, Crohn's disease, and osteoporosis, were the most common predictors associated with reports of pain.
- The burden of pain on quality of life varied by the type of pain.
  - –In general, pain had a stronger negative influence on quality of life than most of the comorbidities measured, such as osteoporosis, diabetes, and obesity.
  - –For both quality of life scales, back pain had the strongest negative influence, followed by arthritis pain and then sciatic pain.
- Clinicians, their patients, and family members should be aware of the negative impact pain can have on the physical and emotional quality of life of older adults.

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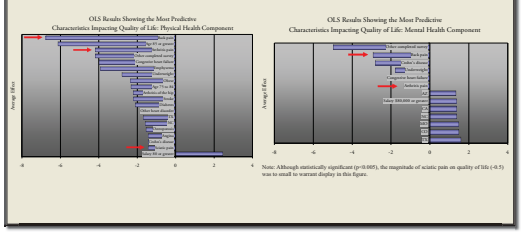
Quality of Life



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