

Chronic Cough in America: Descriptive Analysis of Cough Characteristics and Diagnostic History

Eli O. Meltzer¹, Peter Dicpinigaitis², Robert S. Zeiger³, Michael Schatz⁴, John J. Oppenheimer⁵, Jonathan A. Bernstein⁶, Nate Way⁷, Eileen Fonseca⁸, Robert Boggs⁸, Vicky W. Li⁷, Jonathan Schelfhout⁸

¹University of California, San Diego, La Jolla, CA; ²Montefiore Medical Center, Bronx, NY; ³Kaiser Permanente Southern California, San Diego and Pasadena, CA; ⁴Kaiser Permanente Medical Center, San Diego, CA; ⁵Rutgers New Jersey Medical School, Newark, NJ; ⁶University of Cincinnati College of Medicine, Cincinnati, OH; ⁷Kantar Health Co., Inc., New York, NY; ⁸Merck & Co., Inc., Kenilworth, NJ

BACKGROUND

- Chronic cough is a significant burden for patients in the US, yet characteristics of these patients are poorly understood.
- Subjects were recruited from a general-purpose, web-based consumer panel reflective of the US adult population in terms of age, sex, race, and ethnicity.

OBJECTIVES

To describe cough duration, severity, triggers, and diagnosis as well as healthcare resource use (HCRU) and health status among self-reported chronic cough (CC) sufferers in the United States.

METHODS

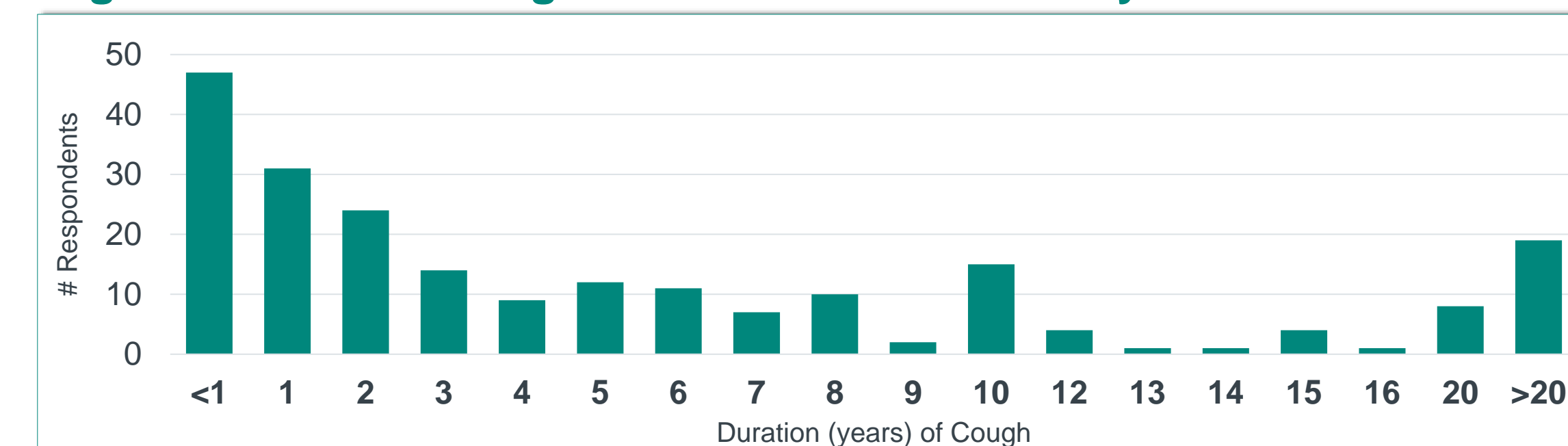
- Respondents who reported coughing daily for eight (8) weeks or more during the past year in the 2018 National Health and Wellness Survey (NHWS; Kantar, New York, USA) were eligible to complete a questionnaire about their CC experience.
- The CC Questionnaire inclusion criteria were: current CC; no lung disease*; not current (in past year) smoker/vaper; not regularly taking oral steroids to treat CC, asthma or COPD; not taking ACE inhibitor for high blood pressure.
- Respondents also completed health status questionnaires:
 - Work Productivity and Activity Impairment (WPAI) measures impact, over prior 7 days, of health state on work productivity (missed hours and impaired hours while at work) and on regular daily activities other than at work.¹
 - General Anxiety Disorder-7 item (GAD-7) scale (0-21) assesses symptoms over prior 2 weeks.²
 - The Patient Health Questionnaire (PHQ-9) (scale 0-27) assesses depression severity over 2 weeks.³
 - Cough Quality of Life Questionnaire (CQLQ) assesses the impact of cough on quality of life and the efficacy of cough therapies in chronic coughers.⁴
 - Hull Airway Reflux Questionnaire (HARQ) (scale 0-70) assesses likelihood of having cough hypersensitivity syndrome symptoms over the preceding one month.⁵
- Respondents also reported HCRU including their appointments with healthcare providers (HCPs) in the prior 6 months.
- Summary statistics are based on raw results.

*No lung disease in this survey means no current or past idiopathic interstitial lung disease or lung cancer. Presented at the American Academy of Allergy Asthma & Immunology Annual Meeting, Philadelphia, PA, March 13-16, 2020.

Demographics and Clinical Characteristics

- Of 875 adults who self-reported experiencing CC in the prior 12 months and consented, 36.0% met CC questionnaire inclusion criteria. 10 respondents voluntarily withdrew and 9 were removed during data quality checks.
- 296 adults completed the CC questionnaire, mean age of 60.1 years and most commonly female (72.6%).
- Respondents were: 86.1% non-Hispanic Caucasian, 55.1% with income ≤ \$50K, 77.0% overweight/obese, 63.5% reported never smoking, and 53.0% reported exercising regularly for health maintenance.
- For the 220 (74.3%) who recalled, cough duration was a mean of 7.4 (±10.3) years and a median of 3.4 (IQR 1.3-9.0) years. 25.9% had CC for 5-10 years (Fig 1).

Figure 1. Chronic Cough Duration: Distribution by Years



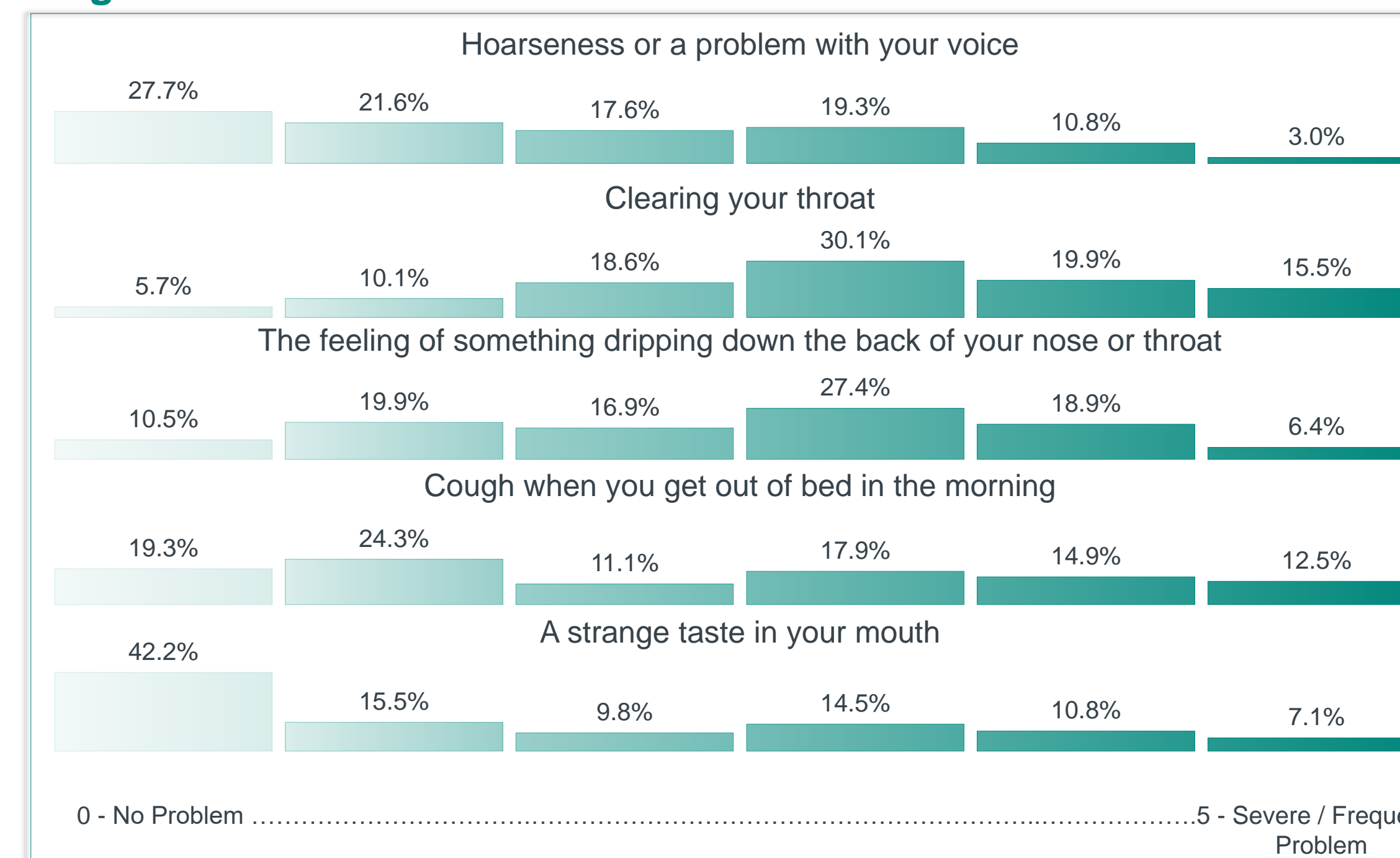
- Mean cough severity (out of 10) over prior two weeks was 4.9 overall and 5.9 on the worst day.
- Mean of 3.3 cough triggers reported, including seasons (winter 45.9%; spring 38.8%), temperature changes (56.4%), strong smells (51.4%), exercise (43.2%), talking (46.6%), and change in posture (43.2%).
- 80.4% were told by HCPs they had a condition related to their CC, most frequently upper airway conditions* (54.1%), lower airway conditions** (41.9%), and GERD (25.7%).
- Mean amount of daily living activity impairment was 42.0%. Among the employed 1/3 of respondents, mean amount of total work productivity impairment was 30.9%.
- 43.6% reported cough interfered with their overall enjoyment of life some to all of the time during the preceding 2 weeks.
- 56.8% Agree/Strongly Agree that over the past week they felt self-conscious because of their cough; 46.3% reported being hoarse and 36.5% had difficulty speaking on the phone during the past week due to their cough.

*Upper Airway: chronic bronchitis, emphysema, COPD, and asthma. **Lower Airway: post-nasal drip, vocal cord dysfunction, allergic rhinitis, chronic rhinitis, chronic sinusitis, nasal allergies, and nasal polyp disease.

RESULTS

- The severity of each symptom is generally not extreme but is a problem for the majority of patients (Fig 2).

Figure 2. Selected Items from the HARQ

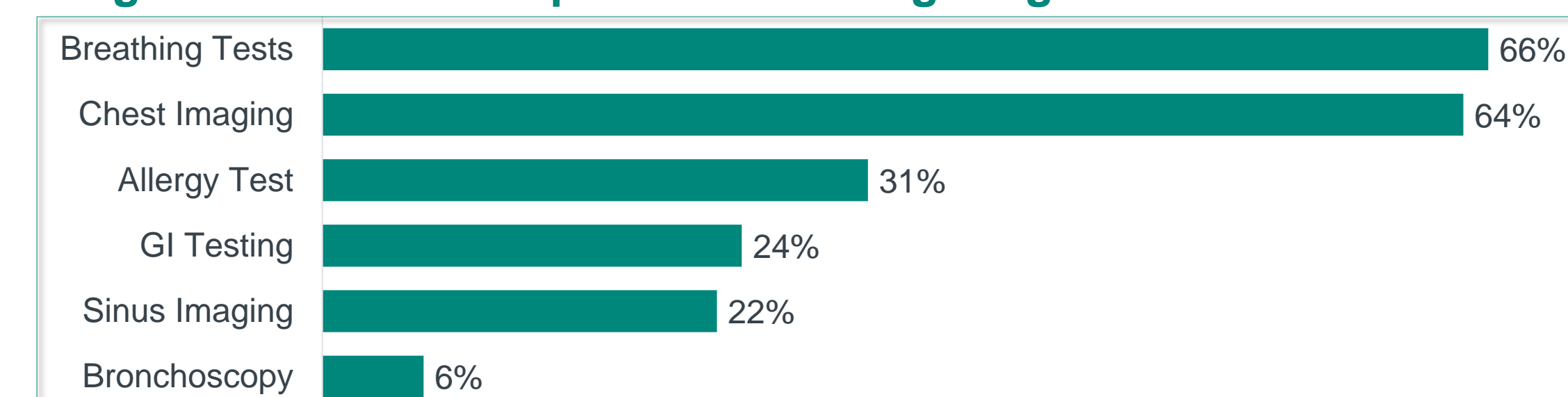


- In the preceding 2 weeks, 38.5% experienced Anxiety symptoms and of the 58.4% experiencing Depression symptoms, 19.7% reported moderately-severe to extremely severe (score 15-27) levels.

Health Care Provider (HCP) Interactions

- 91.9% of respondents visited HCPs in prior 6 months, a mean of 6.87 times, primarily to General/Family practitioners (72.0%, 1.54 mean visits) and Dentists (45.3%, 0.73 mean visits).
- 86.5% visited at least 1 HCP to evaluate their CC; most frequently PCPs (90.2%), ENTs (27.7%), and Lung specialists (26.6%).
- 71.6% knew which diagnostic tests have been completed as part of their CC evaluations (Fig 3), with a mean of 2.1 of these tests performed.

Figure 3. Percent Respondents Getting Diagnostic Tests



- Although 76.4% believe their HCP is somewhat/extremely knowledgeable in evaluating and treating CC, 23.6% believe they had no/little knowledge.
 - 39.5% also feel their HCP does not understand the impact of CC on their life.
 - 70.9% feel not enough tests were ordered.
 - 43.9% feel they were not referred to enough / the right specialists.
 - 43.6% stopped seeking medical care due to lack of success in treating their chronic cough.

CONSIDERATIONS

- A strength of this study is evaluating CC characteristics at the general population level rather than through referral clinics.
- Although the NHWS is sampled to be nationally representative, participation in the CC Questionnaire was optional and required meeting inclusion criteria; results may not be generalizable.
- Causal conclusions cannot be drawn from this cross-sectional questionnaire.

CONCLUSIONS

- This survey highlights the general characteristics and impairment of quality of life of those suffering with chronic cough (CC).
- CC is a long-lasting and burdensome condition frequently evaluated and managed in primary care.
- There are a variety of CC triggers, associated diagnoses, and assessments.
- Many CC patients feel that additional actions should be taken to help resolve or reduce their burden.

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