

ONLINE REPOSITORY

TABLE E1. Definition of symptoms/diseases and outcomes

Symptom/disease	Questions/criteria
Asthma ^{E1}	<ul style="list-style-type: none"> Self-reported asthma: “Did you ever suffer from asthma or ‘asthmatic bronchitis?’” <p>OR</p> <ul style="list-style-type: none"> Physician-based asthma: “Has a doctor ever told you that you have asthma or ‘asthmatic bronchitis?’”
Current asthma ^{E1}	<ul style="list-style-type: none"> Self-reported or physician-based asthma <p>AND</p> <ul style="list-style-type: none"> “Have you had wheezing or whistling sounds in your chest apart from colds in the last 12 mo?” <p>OR</p> <ul style="list-style-type: none"> “Are you currently taking any medication for asthma?”
WRA	<ul style="list-style-type: none"> Current asthma <p>AND</p> <ul style="list-style-type: none"> At least 2 asthma symptoms at work: “When you are at work or during the following hours, do you experience wheezing, chest tightness, shortness of breath, or cough?”
OA	<ul style="list-style-type: none"> Current asthma <p>AND</p> <ul style="list-style-type: none"> Onset of asthma <i>during</i> exposure to the current job <p>AND</p> <ul style="list-style-type: none"> At least 2 asthma symptoms at work: “When you are at work or during the following hours, do you experience wheezing, chest tightness, shortness of breath, or cough?”
WEA	<ul style="list-style-type: none"> Current asthma <p>AND</p> <ul style="list-style-type: none"> Onset of asthma <i>before</i> the current job <p>AND</p> <ul style="list-style-type: none"> At least 2 asthma symptoms at work: “When you are at work or during the following hours, do you experience wheezing, chest tightness, shortness of breath, or cough?”
Current rhinitis ^{E2}	<ul style="list-style-type: none"> At least 2 nasal symptoms: “In the last 12 mo (when you did not have a cold or the flu), have you regularly had any of the following symptoms: stuffy nose, runny nose, or episodes of sneezing?”
Allergic rhinitis	<ul style="list-style-type: none"> Self-reported or physician-based allergic rhinitis
WRR ^{E3,E4}	<ul style="list-style-type: none"> Current rhinitis <p>AND</p> <ul style="list-style-type: none"> At least 2 nasal symptoms at work: “When you are at work or during the following hours, do you notice the onset or worsening of stuffy nose, runny nose, or episodes of sneezing?”
Work-related conjunctivitis	Itchy and red eyes at work
QoL	<ul style="list-style-type: none"> Asthma-specific: AQLQ^{E5} Generic: Medical Outcome Study SF-8^{E6,E7}
General health—related work productivity impairment	<ul style="list-style-type: none"> WPAI-GH^{E7,E8}
Respiratory-related work disability	<ul style="list-style-type: none"> Respiratory-related work disability: “Have you ever had to change your job or task or reduce your working time because of respiratory symptoms?”^{E9} Number of work days missed because of respiratory symptoms during the last 12 mo Respiratory-related sickness absence: At least 1 self-reported work day missed because of respiratory symptoms in the last 12 mo^{E10}

TABLE E2. Multivariable analysis for work productivity (WPAI-GH) in asthmatic subjects

Characteristics	P value	Odds ratio	95% CI
Age (y)	.731	1.009	0.957-1.064
Sex: female	.058	2.813	0.965-8.196
BMI \geq 25 kg/m ²	.568	0.735	0.256-2.114
Smoker	.095	2.410	0.859-6.759
Education level \leq 12 y	.893	1.077	0.367-3.155
Current job duration \geq 5 y	.766	0.836	0.257-2.718
ACT score \leq 19	.190	2.068	0.698-6.125
WRA	.180	0.499	0.180-1.380
Depression, physician-based	.935	0.941	0.218-4.062
Nonrespiratory, nondepression comorbidity	.698	1.249	0.405-3.848

BMI, Body mass index.

REFERENCES

- E1. Burney PG, Laitinen LA, Perdriest S, Huckauf H, Tattersfield AE, Chinn S, et al. Validity and repeatability of the IUATLD (1984) Bronchial Symptoms Questionnaire: an international comparison. *Eur Respir J* 1989;2:940-5.
- E2. Asher MI, Keil U, Anderson HR, Beasley R, Crane J, Martinez F, et al. International Study of Asthma and Allergies in Childhood (ISAAC): rationale and methods. *Eur Respir J* 1995;8:483-91.
- E3. Vandenplas O, Delwiche JP, Evrard G, Aimont P, van der Brempt X, Jamart J, et al. Prevalence of occupational asthma due to latex among hospital personnel. *Am J Respir Crit Care Med* 1995;151:54-60.
- E4. Storaas T, Steinsvag SK, Florvaag E, Irgens A, Aasen TB. Occupational rhinitis: diagnostic criteria, relation to lower airway symptoms and IgE sensitization in bakery workers. *Acta Otolaryngol* 2005;125:1211-7.
- E5. Juniper EF, Guyatt GH, Epstein RS, Ferrie PJ, Jaeschke R, Hiller TK. Evaluation of impairment of health related quality of life in asthma: development of a questionnaire for use in clinical trials. *Thorax* 1992;47:76-83.
- E6. QualityMetric. The standard in patient-reported outcomes. Accessed January 7, 2008. <https://www.qualitymetric.com/>
- E7. Vandenplas O, Suarthana E, Riffart C, Lemiere C, Le Moual N, Bousquet J. The impact of work-related rhinitis on quality of life and work productivity: a general workforce-based survey. *J Allergy Clin Immunol Pract* 2020;8:1583-1591.e5.
- E8. Reilly Associates. Health outcomes research. Accessed January 7, 2008. <http://www.reillyassociates.net/>
- E9. Blanc PD, Ellbjar S, Janson C, Norback D, Norrman E, Plaschke P, et al. Asthma-related work disability in Sweden. The impact of workplace exposures. *Am J Respir Crit Care Med* 1999;160:2028-33.
- E10. Kim JL, Blanc PD, Villani S, Olivieri M, Urrutia I, van Sprundel M, et al. Predictors of respiratory sickness absence: an international population-based study. *Am J Ind Med* 2013;56:541-9.