

1 **SUPPLEMENTARY INFORMATION**

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3 **Practice patterns for chronic respiratory diseases in the Asia-Pacific region: a cross-**
4 **sectional observational study**

5 ***Running head:*** Asia-Pacific practice patterns for chronic respiratory diseases

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22

23 SUPPLEMENTARY RESULTS

24 Physician survey results

25 Most visits for allergic rhinitis (AR), asthma, and chronic obstructive pulmonary disease
26 (COPD) were for an existing diagnosis, while for rhinosinusitis almost half (44%) of all visits
27 were for a new diagnosis, particularly visits to general practitioners (GPs; 54% new). Overall,
28 many of the new diagnoses were made by GPs, including 67%, 53%, 57%, and 42% of new
29 AR, asthma, COPD, and rhinosinusitis diagnoses. The reasons for the visits across all four
30 respiratory conditions were most commonly the presence of symptoms and/or for therapy
31 (there could be multiple reasons). The visits attributed to the presence of symptoms were
32 common in general practice, including almost all visits for a diagnosis of rhinosinusitis (97%;
33 Table 2 in the main manuscript; Supplementary Tables S3–S8).

34 The visits for therapeutic reasons were of similar frequency in both settings for AR,
35 more commonly to a specialist for asthma and COPD, and more commonly to a general
36 practitioner (GP) for rhinosinusitis (Table 2 in the main manuscript). A family history was
37 seen more commonly in AR (46% overall) and asthma (45%) than in COPD (15%) and
38 rhinosinusitis (34%). Referrals were infrequent, and those for diagnoses of asthma, COPD,
39 and rhinosinusitis were made most commonly by GPs; referrals for AR were made at a
40 similar rate in the two practice settings.

41 The physician survey results for each condition varied substantially across countries
42 and by practice setting, particularly for patients seen by GPs (Supplementary Tables S3–S8).
43 However, a few patterns were evident. For AR, the majority of patients seen by a specialist
44 had an existing diagnosis (69–96%) and reported therapeutic reasons for the visit (60–92%),
45 whereas the findings in primary care were more variable (37–84% and 14–98%,
46 respectively). For asthma, most patients had an existing diagnosis, including $\geq 82\%$ in
47 primary care and $\geq 97\%$ in specialist care, except in India (65%). From 63% to 99% of
48 patients in the specialist setting were reported as attending for therapeutic reasons, as
49 compared with 40% to 100% in primary care. For COPD, across all countries, most patients
50 in both settings had an existing diagnosis ($\geq 69\%$) and attended for therapeutic reasons
51 ($\geq 55\%$). For rhinosinusitis, most patients were seen in primary care in India, Korea,
52 Malaysia, and Singapore and in specialist care in Taiwan and Thailand. The presence of
53 rhinosinusitis symptoms was reported as the reason for attending primary care for $\geq 92\%$ of
54 patients in all countries, and most patients in India, Korea, and Malaysia presented with a
55 new diagnosis (64–74%; but 30% in Singapore). Findings greatly varied across countries for
56 other measures (Supplementary Tables S3–S8).

57

58 **Environmental exposures**

59 From 51% (asthma) to 65% (rhinosinusitis) patients reported one or more environmental
60 exposures at work, and from 60% (COPD) to 70% (asthma) reported one or more
61 environmental exposures at home (Supplementary Table S9). The types of environmental
62 exposures reported by $\geq 30\%$ of patients in any given category were to smoke at home by
63 patients with COPD (30%), to dust at home by patients with each respiratory condition (from
64 31% with COPD to 38% with asthma), and to pollution at work and to animals at home by
65 those with rhinosinusitis (31% and 30%, respectively).

66 The proportions of current and former smokers were greatest among patients with
67 COPD, as previously reported,¹ including a greater percentage of patients seen by GPs vs.
68 specialists (23% vs. 13%; Supplementary Table S10).

69

70 **Health-related impairment and generic quality of life**

71 The mean SF-12 scores pooled for all patients by disease and physician category were mostly
72 < 50 , thus less (i.e., worse) than the score representing the average health-related QoL for the
73 general population; only two mean scores for each respiratory condition (7/8 of them in the
74 vitality domain) were ≥ 50 (Supplementary Table S11). The mean scores were numerically
75 similar for AR, asthma, and rhinosinusitis, both among these conditions and between GP and
76 specialist visits. For AR, individual mean (SD) scores ranged from 40.3 (9.5) for general
77 health in primary care to 52.3 (10.1) for vitality in specialist care. For asthma, mean scores
78 ranged from 40.8 (10.2) for general health in primary care to 51.1 (10.6) for vitality in
79 specialist care. For rhinosinusitis, mean scores ranged from 39.0 (9.4) for general health in
80 specialist care to 50.6 (9.7) for vitality in specialist care.

81 For patients with COPD, mean SF-12 scores for each domain were numerically lower
82 in GP than in specialist care; and most mean scores were numerically lower than the
83 corresponding scores for AR, asthma, and rhinosinusitis (Supplementary Table S11).

84 The patterns of mean SF-12 scores varied in individual countries, while reported
85 mean work productivity losses and activity impairment tended to be numerically greatest in
86 patients seen by GPs for all four respiratory conditions (Supplementary Tables S12–S17).

87

88 **Costs related to work impairment and healthcare use**

89 In individual countries, work loss in the form of presenteeism and work productivity loss
90 presented the highest mean costs for each respiratory condition (Supplementary Tables S24–

91 S29) with the exception of asthma and COPD in Thailand, where few affected patients were
92 employed and medication costs were relatively high for these two conditions (Supplementary
93 Table S29).

94

95 **Reference**

- 96 1. Cho SH, Lin HC, Ghoshal AG, Bin Abdul Muttalif AR, Thanaviratananich S, Bagga
97 S, Faruqi R, Sajjan S, Brnabic AJ, Dehle FC, Wang de Y. Respiratory disease in the
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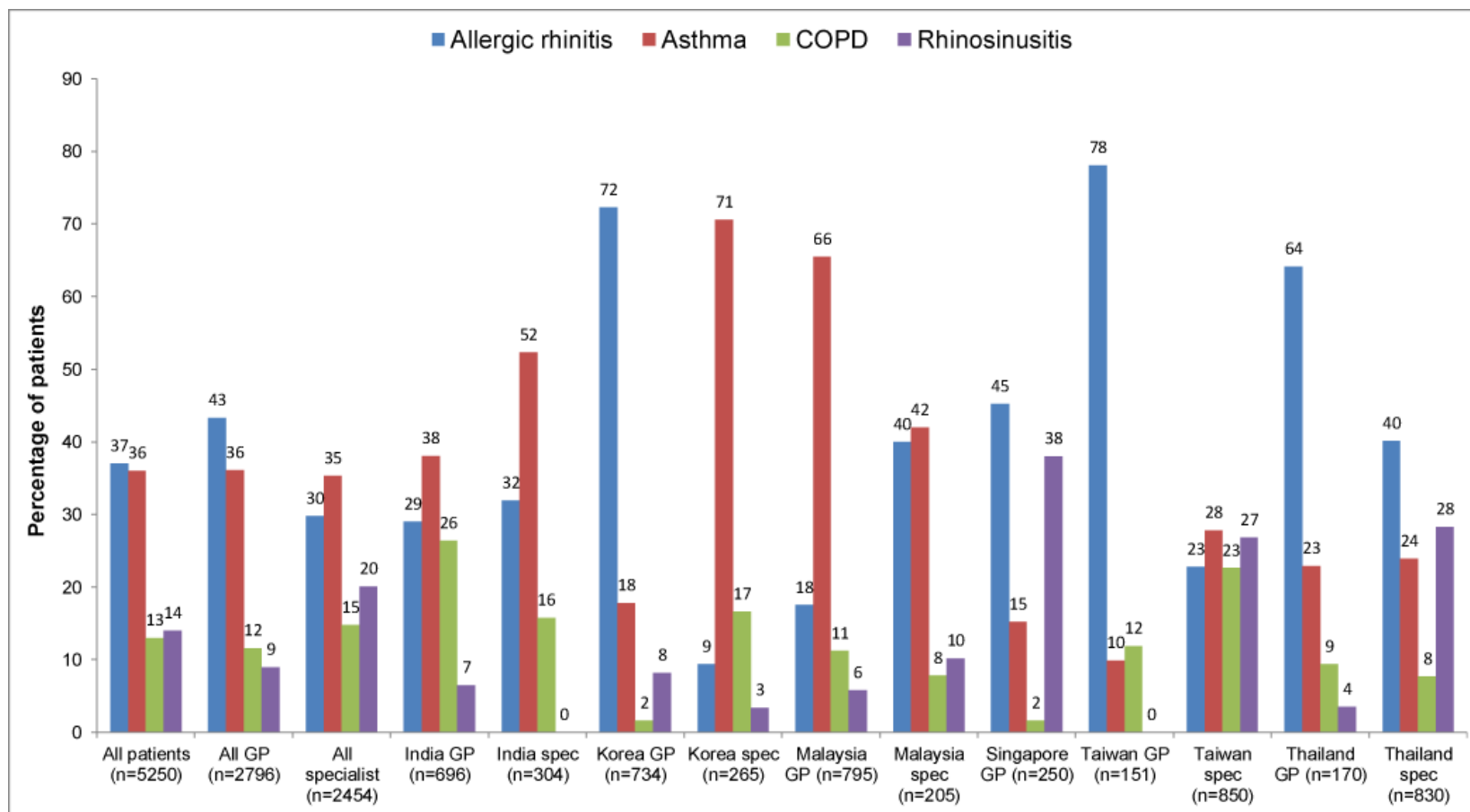
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104 **Fig. S1.** Percentages of patients, overall and by country, included in the study and seen by general practitioners (GP) or specialists (spec) for a primary
 105 diagnosis of allergic rhinitis, asthma, chronic obstructive pulmonary disease (COPD), or rhinosinusitis.
 106 Percentages represent the proportion of patients in each practice setting.



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108

109 **Table S1.** Numbers of patients screened and numbers (percentages) with a primary diagnosis of AR, asthma, COPD, or rhinosinusitis who were eligible and consenting to be
 110 in the study, by country and practice setting

	India			Korea			Malaysia			Singapore			Taiwan			Thailand		
	Screened (N=1337)	Participating (n = 1000)	%†	Screened (N=4439)	Participating (n = 999)	%†	Screened (N=2439)	Participating (n = 1000)	%†	Screened (N=970)	Participating (n =250)	%†	Screened (N=2722)	Participating (n = 1001)	%†	Screened (N=1995)	Participating (n = 1000)	%†
Total	N	n*	%†	N	n*	%†	N	n*	%†	N	n*	%†	N	n*	%†	N	n*	%†
Primary care, all	971	696	71.7	3239	734	22.7	2056	795	38.7	970	250	25.8	419	151	36.0	421	170	40.4
Allergic rhinitis	202	202	100	748	531	71.0	149	139	93.2	119	113	95.0	150	118	78.7	115	109	94.8
Asthma	282	265	94.0	233	131	56.2	696	521	74.9	45	38	84.4	19	15	78.9	40	39	97.5
COPD	197	184	93.4	16	12	75.0	116	89	76.7	7	4	57.1	30	18	60.0	20	16	80.0
Rhinosinusitis	47	45	95.7	194	60	30.9	56	46	82.1	104	95	91.3	0	0	0	10	6	60.0
Other respiratory	243	0	0	2048	0	0	1039	0	0	695	0	0	220	0	0	236	0	0
Specialist care, all	366	304	83.1	1200	265	22.1	383	205	53.5	0	0	0	2303	850	36.9	1574	830	52.7
Allergic rhinitis	97	97	100	86	25	29.1	84	82	97.6	0	0	0	396	194	49.0	393	333	84.7
Asthma	159	159	100	440	187	42.5	90	86	95.6	0	0	0	296	236	79.7	230	198	86.1
COPD	50	48	96.0	171	44	25.7	18	16	88.9	0	0	0	243	192	79.0	84	64	76.2
Rhinosinusitis	0	0	0	20	9	45.0	21	21	100	0	0	0	485	228	47.0	285	235	82.5
Other respiratory	60	0	0	483	0	0	170	0	0	0	0	0	883	0	0	582	830	0

111 *COPD*, chronic obstructive pulmonary disease.

112 *Number of eligible and consenting patients included in the study.

113 †Percentages represent the proportion of screened patients with each condition who were included in the study, by practice setting.

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116 **Table S2.** Participating patients in each country by primary diagnosis and setting of care

Practice site	India		Korea		Malaysia		Singapore		Taiwan		Thailand	
	(n = 1000)		(n = 999)		(n = 1000)		(n = 250)		(n = 1001)		(n = 1000)	
	n	%	n	%	n	%	n	%	n	%	n	%
Primary care, all	696	69.6	734	73.5	795	79.5	250	100	151	15.1	170	17.0
Allergic rhinitis	202	20.2	531	53.2	139	13.9	113	45.2	118	11.8	109	10.9
Asthma	265	26.5	131	13.1	521	52.1	38	15.2	15	1.5	39	3.9
COPD	184	18.4	12	1.2	89	8.9	4	1.6	18	1.8	16	1.6
Rhinosinusitis	45	4.5	60	6.0	46	4.6	95	38.0	0	0	6	0.6
Specialist care, all	304	30.4	265	26.5	205	20.5	0	0	850	84.9	830	83.0
Allergic rhinitis	97	9.7	25	2.5	82	8.2	0	0	194	19.4	333	33.3
Asthma	159	15.9	187	18.7	86	8.6	0	0	236	23.6	198	19.8
COPD	48	4.8	44	4.4	16	1.6	0	0	192	19.2	64	6.4
Rhinosinusitis	0	0	9	0.9	21	2.1	0	0	228	22.8	235	23.5

117 *COPD*, chronic obstructive pulmonary disease.

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120 **Table S3.** Physician survey results for India by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 299)				Asthma (N = 424)				COPD (N = 232)				Rhinosinusitis (N = 45)			
	GP (n = 202)		Specialist (n = 97)		GP (n = 265)		Specialist (n = 159)		GP (n = 184)		Specialist (n = 48)		GP (n = 45)		Specialist (n = 0)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary diagnosis																
New	127	62.9	25	25.8	36	13.6	56	35.2	16	8.7	12	25.0	29	64.4	0	0
Existing	75	37.1	72	74.2	229	86.4	103	64.8	168	91.3	36	75.0	16	35.6	0	0
Reason for visit*																
Symptoms (physical)	198	98.0	96	99.0	193	72.8	151	95.0	132	71.7	44	91.7	45	100	0	0
Diagnostic	142	70.3	67	69.1	115	43.4	127	79.9	68	37.0	39	81.3	25	55.6	0	0
Therapeutic	150	74.3	65	67.0	161	60.8	113	71.1	117	63.6	32	66.7	25	55.6	0	0
Nontherapeutic	21	10.4	3	3.1	32	12.1	3	1.9	25	13.6	3	6.3	7	15.6	0	0
Other	1	0.5	0	0	5	1.9	0	0	4	2.2	0	0	0	0	0	0
Disease combination	21	10.4	80	82.5	44	16.6	132	83.0	7	3.8	26	54.2	25	55.6	0	0
Symptoms to confirm new diagnosis	128	63.4	25	25.8	39	14.7	57	35.8	16	8.7	12	25.0	29	64.4	0	0
Family history†	24	11.9	22	22.7	39	14.7	32	20.1	5	2.7	9	18.8	5	11.1	0	0
Referral made	2	1.0	0	0	1	0.4	1	0.6	0	0	0	0	0	0	0	0

121 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

122 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

123 *There could be more than one reason for the visit.

124 †History of any of the four conditions in the immediate family.

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127 **Table S4.** Physician survey results for Korea by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 556)				Asthma (N = 318)				COPD (N = 56)				Rhinosinusitis (N = 69)			
	GP (n = 531)		Specialist (n = 25*)		GP (n = 131)		Specialist (n = 187)		GP (n = 12)		Specialist (n = 44)		GP (n = 60)		Specialist (n = 9)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary diagnosis																
New	84	15.8	1	4.0	23	17.6	4	2.1	0	0	4	9.1	42	70.0	5	55.6
Existing	447	84.2	24	96.0	108	82.4	183	97.9	12	100	40	90.9	18	30.0	4	44.4
Reason for visit†																
Symptoms (physical)	501	94.4	5	20.0	118	90.1	26	13.9	9	75.0	8	18.2	55	91.7	3	33.3
Diagnostic	337	63.5	2	8.0	102	77.9	9	4.8	8	66.7	7	15.9	46	76.7	4	44.4
Therapeutic	522	98.3	23	92.0	131	100	185	98.9	12	100	41	93.2	60	100	8	88.9
Nontherapeutic	3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	52	9.8	0	0	0	0	1	0.5	0	0	0	0	2	3.3	0	0
Disease combination	91	17.1	8	32.0	109	83.2	135	72.2	6	50.0	33	75.0	43	71.7	3	33.3
Symptoms to confirm new diagnosis	91	17.1	2	8.0	26	19.8	5	2.7	1	8.3	1	2.3	42	70.0	5	55.6
Family history‡	354	66.7	9	36.0	82	62.6	59	31.6	5	41.7	4	9.1	26	43.3	2	22.2
Referral made	1	0.2	0	0	0	0	3	1.6	1	8.3	1	2.3	0	0	0	0

128 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

129 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

130 *One specialist survey was missing for Korea.

131 †There could be more than one reason for the visit.

132 ‡History of any of the four conditions in the immediate family.

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134 **Table S5.** Physician survey results for Malaysia by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 221)				Asthma (N = 607)				COPD (N = 105)				Rhinosinusitis (N = 57)			
	GP (n = 139)		Specialist (n = 82)		GP (n = 521)		Specialist (n = 86)		GP (n = 89)		Specialist (n = 16)		GP (n = 46)		Specialist (n = 21)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary diagnosis																
New	82	59.0	9	11.0	17	3.3	1	1.2	18	20.2	0	0	34	73.9	1	4.8
Existing	57	41.0	73	89.0	504	96.7	85	98.8	71	79.8	16	100	12	26.1	20	95.2
Reason for visit*																
Symptoms (physical)	129	92.8	12	14.6	247	47.4	17	19.8	53	59.6	4	25.0	45	97.8	1	4.8
Diagnostic	21	15.1	7	8.5	131	25.1	15	17.4	17	19.1	2	12.5	8	17.4	1	4.8
Therapeutic	20	14.4	75	91.5	294	56.4	84	97.7	49	55.1	15	93.8	12	26.1	20	95.2
Nontherapeutic	1	0.7	0	0	4	0.8	4	4.7	7	7.9	1	6.3	0	0	1	4.8
Other	0	0	0	0	7	1.3	1	1.2	0	0	0	0	1	2.2	0	0
Disease combination	32	23.0	9	11.0	112	21.5	45	52.3	10	11.2	2	12.5	5	10.9	7	33.3
Symptoms to confirm new diagnosis	82	59.0	9	11.0	37	7.1	6	7.0	18	20.2	0	0	35	76.1	1	4.8
Family history†	82	59.0	53	64.6	348	66.8	54	62.8	23	25.8	6	37.5	17	37.0	11	52.4
Referral made	20	14.4	2	2.4	8	1.5	1	1.2	0	0	0	0	9	19.6	0	0

135 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

136 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

137 *There could be more than one reason for the visit.

138 †History of any of the four conditions in the immediate family.

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141 **Table S6.** Physician survey results for Singapore by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 113)		Asthma (N = 38)		COPD (N = 4)		Rhinosinusitis (N = 95)	
	n	%	n	%	n	%	n	%
Primary diagnosis								
New	19	16.8	4	10.5	2	50.0	28	29.5
Existing	94	83.2	34	89.5	2	50.0	67	70.5
Reason for visit*								
Symptoms (physical)	111	98.2	32	84.2	4	100	94	98.9
Diagnostic	3	2.7	2	5.3	2	50.0	5	5.3
Therapeutic	20	17.7	15	39.5	3	75.0	60	63.2
Nontherapeutic	0	0	0	0	0	0	0	0
Other	0	0	1	2.6	0	0	1	1.1
Disease combination	20	17.7	18	47.4	1	25.0	34	35.8
Symptoms to confirm new diagnosis	18	15.9	4	10.5	2	50.0	28	29.5
Family history†	59	52.2	20	52.6	1	25.0	39	41.1
Referral made	1	0.9	0	0	0	0	3	3.2

142 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

143 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

144 *There could be more than one reason for the visit.

145 †History of any of the four conditions in the immediate family.

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148 **Table S7.** Physician survey results for Taiwan by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 312)				Asthma (N = 251)				COPD (N = 210)				Rhinosinusitis (N = 228)			
	GP (n = 118)		Specialist (n = 194)		GP (n = 15)		Specialist (n = 236)		GP (n = 18)		Specialist (n = 192)		GP (n = 0)		Specialist (n = 228)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary diagnosis																
New	19	16.1	61	31.4	2	13.3	7	3.0	2	11.1	9	4.7	0	0	63	27.6
Existing	99	83.9	133	68.6	13	86.7	229	97.0	16	88.9	183	95.3	0	0	165	72.4
Reason for visit*																
Symptoms (physical)	48	40.7	24	12.4	4	26.7	31	13.1	5	27.8	41	21.4	0	0	16	7.0
Diagnostic	30	25.4	129	66.5	3	20.0	123	52.1	4	22.2	84	43.8	0	0	138	60.5
Therapeutic	56	47.5	117	60.3	10	66.7	148	62.7	11	61.1	135	70.3	0	0	107	46.9
Nontherapeutic	1	0.8	1	0.5	2	13.3	0	0	0	0	1	0.5	0	0	4	1.8
Other	1	0.8	0	0	0	0	0	0	0	0	1	0.5	0	0	0	0
Disease combination	13	11.0	42	21.6	5	33.3	100	42.4	0	0	29	15.1	0	0	61	26.8
Symptoms to confirm new diagnosis	19	16.1	63	32.5	2	13.3	7	3.0	2	11.1	9	4.7	0	0	63	27.6
Family history†	40	33.9	71	36.6	5	33.3	91	38.6	0	0	33	17.2	0	0	79	34.6
Referral made	0	0	0	0	0	0	0	0	0	0	1	0.5	0	0	0	0

149 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

150 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

151 *There could be more than one reason for the visit.

152 †History of any of the four conditions in the immediate family.

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155 **Table S8.** Physician survey results for Thailand by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 442)				Asthma (N = 237)				COPD (N = 80)				Rhinosinusitis (N = 241)			
	GP (n = 109)		Specialist (n = 333)		GP (n = 39)		Specialist (n = 198)		GP (n = 16)		Specialist (n = 64)		GP (n = 6)		Specialist (n = 235)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary diagnosis																
New	22	20.2	77	23.1	2	5.1	7	3.5	5	31.3	8	12.5	3	50.0	121	51.5
Existing	87	79.8	256	76.9	37	94.9	191	96.5	11	68.8	56	87.5	3	50.0	114	48.5
Reason for visit*																
Symptoms (physical)	54	49.5	166	49.8	12	30.8	19	9.6	9	56.3	12	18.8	6	100	132	56.2
Diagnostic	10	9.2	104	31.2	6	15.4	17	8.6	4	25.0	6	9.4	3	50.0	67	28.5
Therapeutic	65	59.6	230	69.1	32	82.1	178	89.9	11	68.8	51	79.7	2	33.3	131	55.7
Nontherapeutic	1	0.9	1	0.3	0	0	0	0	0	0	1	1.6	1	16.7	1	0.4
Other	2	1.8	1	0.3	1	2.6	0	0	2	12.5	0	0	0	0	1	0.4
Disease combination	3	2.8	58	17.4	15	38.5	140	70.7	2	12.5	12	18.8	1	16.7	85	36.2
Symptoms to confirm new diagnosis	22	20.2	78	23.4	2	5.1	10	5.1	5	31.3	8	12.5	3	50.0	121	51.5
Family history†	35	32.1	151	45.3	22	56.4	86	43.4	5	31.3	12	18.8	1	16.7	76	32.3
Referral made	0	0	17	5.1	4	10.3	1	0.5	5	31.3	0	0	2	33.3	13	5.5

156 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

157 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).

158 *There could be more than one reason for the visit.

159 †History of any of the four conditions in the immediate family.

160

161 **Table S9.** Environmental aerosol and allergen exposure, all patients by primary diagnosis

Environmental exposure*	Allergic Rhinitis (n =1943)		Asthma (n =1875)		COPD (N=687)		Rhinosinusitis (N=745)	
	N	%	N	%				
Smoke								
At work	469	24.1%	403	21.5%	164	23.9%	222	29.8%
At home	463	23.8%	549	29.3%	208	30.3%	174	23.4%
Chemicals								
At work	323	16.6%	216	11.5%	41	6.0%	195	26.2%
At home	565	29.1%	478	25.5%	102	14.8%	158	21.2%
Dust								
At work	479	24.7%	429	22.9%	120	17.5%	206	27.7%
At home	722	37.2%	728	38.8%	214	31.1%	247	33.2%
Pollution								
At work	540	27.8%	433	23.1%	131	19.1%	229	30.7%
At home	331	17.0%	431	23.0%	150	21.8%	132	17.7%
Animals								
At work	100	5.1%	80	4.3%	21	3.1%	34	4.6%
At home	524	27.0%	472	25.2%	145	21.1%	225	30.2%
No exposure								
At work	690	35.5%	922	49.2%	332	48.3%	258	34.6%
At home	594	30.6%	567	30.2%	273	39.7%	262	35.2%

162 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care)

163 *Environmental exposures were categorized as smoke (eg, cigarettes, wood/charcoal, dung), chemicals (eg, cleaning solvents), dust (eg, flour, cotton, saw/wood dust),
164 pollution (eg, diesel car fumes), animals (eg, cats, dogs, birds), and no exposure to any of the listed.

165

166 **Table S10.** Smoking status by primary diagnosis and setting of care

Smoking status	Allergic rhinitis (N=1943)				Asthma (N=1875)				COPD (N=687)				Rhinosinusitis (N=745)			
	GP (n=1212)		Specialist (n=731)		GP (n=1009)		Specialist (n=866)		GP (n=323)		Specialist (n=364)		GP (n=252)		Specialist (n=493)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Current smoker	122	10.2	56	7.7	87	8.6	52	6.0	74	23.0	45	12.5	31	12.4	40	8.2
Former smoker	149	12.5	96	13.2	124	12.3	146	16.9	142	44.1	250	69.6	36	14.3	102	20.8
Never smoked	923	77.3	576	79.1	795	79.0	664	77.0	106	32.9	64	17.8	184	73.3	348	70.6
Missing	18		3		3		4		1		5		1		3	

167 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care).

168 The percentage data represent the percentages of patients who had available smoking data within each practice setting (GP vs. specialist).

169

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171

172 **Table S11.** Generic health-related quality of life and work productivity by primary diagnosis and physician category: all patients

Variable	Allergic Rhinitis (N=1943)				Asthma (N=1875)				COPD (N=687)				Rhinosinusitis (N=745)			
	GP (n=1212)		Specialist (n=731)		GP (n=1009)		Specialist (n=866)		GP (n=323)		Specialist (n=364)		GP (n=252)		Specialist (n=493)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	1211	40.3 (9.46)	731	42.6 (9.63)	1009	40.8 (10.23)	866	40.9 (9.33)	323	37.3 (9.37)	364	38.2 (9.56)	252	42.3 (9.86)	493	39.0 (9.44)
Physical functioning	1212	48.3 (8.39)	731	49.0 (8.84)	1009	43.2 (9.44)	866	44.5 (10.09)	322	39.9 (8.48)	364	42.3 (10.27)	252	47.0 (9.20)	493	48.8 (8.90)
Role-physical	1212	47.5 (8.11)	731	47.4 (7.96)	1008	45.3 (8.74)	865	46.6 (9.22)	323	41.6 (8.63)	364	45.2 (10.67)	252	46.4 (7.53)	492	47.1 (8.86)
Bodily pain	1212	46.9 (9.03)	730	48.1 (9.01)	1009	44.2 (9.45)	865	48.0 (9.48)	323	41.6 (9.45)	364	49.2 (9.75)	252	45.5 (8.96)	493	47.9 (10.17)
Vitality	1211	50.3 (10.02)	731	52.3 (10.11)	1007	50.7 (10.28)	862	51.1 (10.60)	323	49.5 (9.06)	364	51.0 (11.32)	252	50.0 (9.61)	493	50.6 (9.73)
Social functioning	1212	47.9 (8.65)	731	48.3 (8.47)	1008	46.4 (9.36)	863	48.4 (9.27)	323	42.9 (9.36)	363	48.1 (10.10)	252	46.6 (8.81)	493	47.5 (9.51)
Mental health	1212	47.4 (9.29)	731	49.6 (8.58)	1008	46.8 (9.47)	863	49.5 (9.72)	323	45.6 (9.19)	364	50.4 (9.93)	252	46.9 (9.19)	493	49.1 (9.35)
Role-emotional	1212	44.2 (10.28)	731	44.4 (9.43)	1009	42.6 (10.63)	865	43.9 (10.93)	323	38.4 (10.72)	364	44.0 (12.10)	252	44.4 (9.99)	493	43.7 (10.50)
Mental health component	1212	46.9 (9.38)	731	48.3 (8.37)	1008	47.3 (8.95)	862	48.9 (9.03)	323	45.1 (8.72)	364	49.9 (10.07)	252	46.8 (9.59)	493	47.3 (9.37)
Physical health component	1212	46.7 (7.36)	731	47.5 (7.59)	1008	43.5 (7.90)	862	44.9 (8.13)	322	40.2 (7.38)	364	43.0 (8.61)	252	45.9 (7.34)	493	46.5 (7.56)
WPAI, %†																
Absenteeism	690	4.3 (12.82)	419	2.7 (9.83)	485	6.5 (15.83)	340	3.0 (12.50)	99	7.5 (19.46)	69	4.5 (13.25)	157	7.9 (19.18)	310	7.9 (19.66)
Presenteeism	692	38.9 (27.23)	421	30.5 (24.84)	484	34.2 (27.69)	341	24.3 (24.74)	97	40.9 (24.41)	70	20.4 (22.81)	157	41.9 (27.15)	309	34.6 (29.76)
Work productivity loss	688	40.7 (27.72)	417	31.7 (25.49)	482	37.1 (29.36)	339	25.5 (26.20)	97	42.8 (26.31)	69	23.0 (25.52)	155	44.9 (27.83)	303	37.6 (30.38)
Activity impairment	1212	38.4 (26.37)	730	32.6 (26.46)	1009	36.0 (27.92)	865	29.1 (26.07)	323	49.7 (25.92)	364	30.2 (28.18)	252	42.8 (25.65)	493	36.9 (30.17)

173 COPD, chronic obstructive pulmonary disease; GP, general practitioner; SF-12, 12-item Short Form Health Survey; WPAI, work productivity and activity impairment-
 174 specific health problem questionnaire.

175 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa; recall period,
 176 4 weeks.

177 †WPAI outcomes are expressed as mean (SD) impairment percentages, with higher percentages indicating greater impairment and less productivity; recall period, 7 days.
178

179 **Table S12.** Generic health-related quality of life and work productivity for all patients in India by primary diagnosis and setting of care

Variable	Allergic Rhinitis (N=299)				Asthma (N=424)				COPD (N=232)				Rhinosinusitis (N=45)			
	GP (n=202)		Specialist (n=97)		GP (n=265)		Specialist (n=159)		GP (n=184)		Specialist (n=48)		GP (n=45)		Specialist (n=0)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	202	34.7 (7.89)	97	45.0 (8.53)	265	39.3 (10.62)	159	40.1 (7.86)	184	35.9 (9.16)	48	37.1 (7.44)	45	35.0 (7.62)	0	--
Physical functioning	202	47.7 (6.95)	97	47.1 (8.23)	265	42.4 (8.66)	159	42.1 (8.80)	184	39.2 (7.58)	48	38.4 (8.22)	45	46.0 (7.58)	0	--
Role-physical	202	45.9 (7.51)	97	45.7 (7.52)	265	43.3 (7.75)	159	42.0 (6.06)	184	40.9 (7.60)	48	40.0 (7.34)	45	43.2 (7.06)	0	--
Bodily pain	202	47.3 (8.00)	97	47.7 (7.58)	265	41.8 (7.96)	159	41.5 (7.85)	184	39.3 (8.08)	48	39.9 (8.00)	45	45.1 (7.55)	0	--
Vitality	202	50.5 (8.82)	97	54.5 (9.73)	265	50.1 (9.24)	158	50.3 (8.58)	184	48.8 (8.69)	48	47.4 (8.45)	45	47.8 (7.73)	0	--
Social functioning	202	49.2 (6.80)	97	48.3 (7.75)	265	43.7 (7.55)	158	43.9 (8.56)	184	40.9 (7.95)	48	40.2 (8.53)	45	45.4 (7.96)	0	--
Mental health	202	48.0 (7.20)	97	50.3 (8.95)	265	45.1 (7.42)	158	46.0 (7.56)	184	42.9 (7.35)	48	44.5 (8.53)	45	45.9 (6.98)	0	--
Role-emotional	202	46.8 (8.79)	97	41.3 (9.20)	265	40.5 (8.69)	158	37.4 (7.15)	184	36.9 (9.54)	48	36.6 (8.51)	45	43.9 (8.31)	0	--
Mental health component	202	49.0 (7.21)	97	48.5 (7.57)	265	45.4 (7.08)	158	44.8 (6.81)	184	43.0 (7.11)	48	43.4 (6.66)	45	46.1 (7.60)	0	--
Physical health component	202	44.0 (6.11)	97	47.0 (6.65)	265	42.1 (7.47)	158	42.0 (6.79)	184	39.4 (6.32)	48	38.9 (6.34)	45	42.7 (5.37)	0	--
WPAI, %†																
Absenteeism	106	9.4 (20.30)	41	1.3 (4.59)	135	8.3 (19.56)	60	2.3 (6.86)	59	8.7 (20.67)	16	7.8 (15.18)	18	14.0 (24.00)	0	--
Presenteeism	106	44.6 (20.34)	41	19.3 (15.87)	134	46.3 (23.67)	62	29.8 (15.09)	58	48.6 (20.13)	16	31.9 (19.40)	18	54.4 (25.02)	0	--
Work productivity loss	106	47.7 (21.36)	41	20.2 (16.47)	134	49.5 (25.58)	60	31.2 (16.19)	58	50.8 (22.26)	16	35.7 (22.89)	18	57.9 (24.54)	0	--
Activity impairment	202	46.1 (19.03)	97	22.4 (18.01)	265	49.3 (22.40)	158	36.3 (19.60)	184	58.6 (18.90)	48	43.8 (22.94)	45	49.1 (18.93)	0	--

180 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *SF-12*, 12-item Short Form Health Survey; *WPAI*, work productivity and activity
181 impairment-specific health problem questionnaire.

182 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

183 †WPAI outcomes are expressed as impairment percentages.

184

185 **Table S13.** Generic health-related quality of life and work productivity for all patients in Korea by primary diagnosis and setting of care

Variable	Allergic Rhinitis (N=556)				Asthma (N=318)				COPD (N=56)				Rhinosinusitis (N=69)			
	GP (n=531)		Specialist (n=25)		GP (n=131)		Specialist (n=187)		GP (n=12)		Specialist (n=44)		GP (n=60)		Specialist (n=9)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	531	41.4 (9.21)	25	42.2 (9.37)	131	36.9 (9.85)	187	42.1 (9.36)	12	40.8 (7.26)	44	44.2 (8.08)	60	41.4 (11.01)	9	38.5 (6.95)
Physical functioning	531	48.2 (8.71)	25	48.2 (10.73)	131	42.9 (10.30)	187	44.7 (11.22)	12	43.9 (9.69)	44	46.0 (10.23)	60	47.4 (8.74)	9	42.2 (8.30)
Role-physical	531	48.6 (8.37)	25	49.5 (9.64)	131	46.4 (9.77)	187	50.1 (9.45)	12	50.4 (8.53)	44	50.2 (10.67)	60	49.4 (7.29)	9	35.4 (10.74)
Bodily pain	531	46.6 (9.02)	25	48.7 (11.05)	131	44.7 (9.50)	187	50.2 (9.19)	12	48.0 (11.19)	44	52.6 (9.21)	60	46.9 (8.44)	9	48.7 (9.02)
Vitality	531	48.4 (10.88)	25	49.9 (12.67)	131	45.5 (10.93)	186	46.2 (12.74)	12	48.2 (9.80)	44	40.6 (12.66)	60	48.9 (11.38)	9	34.9 (11.12)
Social functioning	531	48.1 (8.97)	25	49.8 (8.52)	131	47.3 (11.18)	186	51.1 (8.43)	12	48.7 (10.36)	44	52.0 (9.09)	60	47.3 (9.73)	9	44.1 (14.14)
Mental health	531	46.0 (10.14)	25	48.1 (10.73)	131	44.5 (11.61)	186	48.9 (11.59)	12	48.4 (9.51)	44	49.1 (10.65)	60	44.7 (10.73)	9	44.5 (10.38)
Role-emotional	531	43.0 (10.91)	25	49.8 (8.52)	131	41.8 (12.68)	187	48.7 (10.19)	12	42.9 (12.03)	44	49.4 (10.26)	60	44.9 (10.24)	9	41.8 (15.76)
Mental health component	531	45.2 (9.90)	25	49.6 (7.61)	131	44.8 (11.07)	186	49.6 (9.93)	12	47.1 (9.39)	44	48.4 (10.44)	60	45.4 (10.73)	9	42.5 (14.53)
Physical health component	531	47.7 (7.33)	25	47.2 (9.18)	131	43.4 (7.71)	186	46.2 (9.37)	12	46.3 (8.99)	44	47.8 (8.39)	60	47.7 (7.93)	9	40.7 (6.08)
WPAI, %†																
Absenteeism	290	2.4 (9.70)	12	2.0 (4.45)	58	1.8 (5.91)	73	2.2 (7.89)	7	2.4 (6.30)	16	0.0 (0.00)	35	1.7 (5.17)	4	50.0 (57.74)
Presenteeism	292	38.8 (28.47)	12	32.5 (28.32)	58	39.0 (27.51)	73	26.4 (29.83)	7	34.3 (28.78)	16	6.9 (13.52)	35	37.1 (27.82)	2	55.0 (49.50)
Work productivity loss	289	39.8 (28.75)	12	33.4 (29.05)	58	39.4 (27.93)	73	27.2 (30.74)	7	35.0 (29.86)	16	6.9 (13.52)	35	37.8 (28.24)	2	55.0 (49.50)
Activity impairment	531	38.7 (27.15)	25	48.4 (27.03)	131	40.2 (28.13)	187	30.9 (29.50)	12	50.0 (26.29)	44	19.8 (27.41)	60	38.0 (27.11)	9	48.9 (41.37)

186 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *SF-12*, 12-item Short Form Health Survey; *WPAI*, work productivity and activity
187 impairment-specific health problem questionnaire.

188 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

189 †WPAI outcomes are expressed as impairment percentages.

190 **Table S14.** Generic health-related quality of life and work productivity for all patients in Malaysia by primary diagnosis and setting of care

	Allergic rhinitis (N=221)				Asthma (N=607)				COPD (N=105)				Rhinosinusitis (N=67)			
	GP (n=139)		Specialist (n=82)		GP (n=521)		Specialist (n=86)		GP (n=89)		Specialist (n=16)		GP (n=46)		Specialist (n=21)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	139	40.9 (9.48)	82	44.6 (10.07)	521	42.5 (9.78)	86	40.0 (8.88)	89	40.1 (9.13)	16	39.9 (9.08)	46	42.2 (9.74)	21	39.1 (6.92)
Physical functioning	139	46.9 (8.49)	82	47.1 (8.75)	521	43.5 (9.42)	86	39.3 (7.75)	88	40.8 (9.61)	16	40.8 (11.30)	46	43.5 (10.45)	21	44.3 (8.79)
Role-physical	139	47.2 (7.78)	82	46.9 (7.96)	520	46.3 (8.71)	86	43.1 (6.81)	89	42.8 (9.09)	16	42.4 (10.25)	46	46.4 (7.75)	21	42.4 (8.31)
Bodily pain	139	44.9 (9.53)	82	47.4 (9.52)	521	45.3 (9.84)	86	43.4 (8.68)	89	44.5 (9.91)	16	43.1 (9.81)	46	43.6 (9.63)	21	44.8 (10.51)
Vitality	139	53.9 (9.20)	82	51.9 (10.31)	519	52.7 (10.03)	86	50.8 (7.57)	89	51.1 (9.52)	16	50.3 (7.93)	46	52.9 (10.67)	21	51.9 (8.87)
Social functioning	139	47.5 (8.94)	82	48.7 (8.82)	520	47.6 (9.55)	86	45.5 (8.81)	89	45.8 (10.15)	16	46.9 (11.65)	46	47.0 (9.04)	21	44.6 (9.10)
Mental health	139	49.3 (8.59)	82	47.6 (8.49)	520	48.3 (9.57)	86	46.3 (8.57)	89	49.4 (10.04)	16	52.4 (8.75)	46	47.7 (10.45)	21	48.4 (10.25)
Role-emotional	139	44.8 (9.58)	82	44.2 (9.83)	521	44.1 (10.66)	86	41.6 (9.54)	89	40.5 (11.84)	16	45.2 (10.55)	46	43.4 (11.64)	21	37.7 (11.10)
Mental health component	139	49.3 (8.96)	82	47.8 (8.22)	520	49.1 (8.78)	86	47.6 (8.30)	89	48.4 (9.25)	16	52.2 (9.09)	46	48.6 (11.32)	21	45.8 (9.78)
Physical health component	139	45.1 (7.23)	82	47.2 (7.62)	520	44.2 (7.92)	86	40.9 (6.27)	88	41.3 (7.65)	16	39.1 (8.80)	46	43.9 (7.30)	21	43.4 (7.72)
WPAI, %†																
Absenteeism	87	5.0 (11.32)	42	2.9 (7.42)	241	6.4 (15.16)	32	6.5 (19.70)	24	8.7 (22.14)	4	1.3 (2.50)	30	8.7 (16.02)	7	11.7 (16.96)
Presenteeism	88	34.7 (29.04)	42	24.8 (22.11)	241	26.7 (27.65)	32	33.4 (24.84)	23	27.8 (26.28)	4	37.5 (26.30)	32	40.9 (30.52)	7	42.9 (32.00)
Work productivity loss	87	38.1 (29.22)	42	26.0 (23.61)	239	29.6 (29.66)	32	37.0 (28.15)	23	29.8 (28.72)	4	38.3 (26.44)	30	46.6 (30.01)	7	47.9 (34.91)
Activity impairment	139	32.1 (26.85)	82	26.6 (25.20)	521	27.7 (27.26)	86	36.9 (25.26)	89	36.9 (30.36)	16	40.0 (23.94)	46	38.3 (27.59)	21	35.7 (30.91)

191 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *SF-12*, 12-item Short Form Health Survey; *WPAI*, work productivity and activity
 192 impairment-specific health problem questionnaire.

193 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

194 †WPAI outcomes are expressed as impairment percentages.

195

Table S15. Generic health-related quality of life and work productivity for all patients in Singapore by primary diagnosis, all seen in primary care

Variable	Allergic Rhinitis (N=113)		Asthma (N=38)		COPD (N=4)		Rhinosinusitis (N=95)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*								
General health	112	46.8 (9.12)	38	44.5 (9.67)	4	33.8 (0)	95	46.6 (7.94)
Physical functioning	113	52.3 (7.25)	38	48.4 (9.65)	4	43.3 (7.53)	95	49.2 (9.11)
Role-physical	113	47.5 (7.30)	38	45.0 (8.52)	4	42.7 (4.23)	95	46.1 (7.13)
Bodily pain	113	50.5 (8.76)	38	46.1 (10.04)	4	46.5 (8.64)	95	46.1 (9.38)
Vitality	113	51.2 (7.71)	38	46.7 (10.83)	4	49.1 (8.03)	95	50.5 (7.85)
Social functioning	113	46.8 (7.84)	38	46.6 (8.90)	4	41.3 (11.19)	95	46.5 (8.47)
Mental health	113	48.5 (8.35)	38	45.6 (10.11)	4	47.0 (8.11)	95	48.4 (7.75)
Role-emotional	113	45.4 (10.67)	38	44.7 (10.14)	4	44.6 (8.88)	95	44.7 (9.87)
Mental health component	113	46.4 (9.70)	38	45.3 (9.53)	4	46.7 (9.72)	95	47.2 (8.39)
Physical health component	113	50.7 (7.14)	38	46.8 (8.44)	4	41.2 (3.59)	95	47.6 (7.09)
WPAI, %†								
Absenteeism	64	4.7 (13.82)	24	7.2 (14.40)	3	0 (0)	69	8.6 (22.19)
Presenteeism	63	40.8 (29.09)	24	30.8 (22.05)	3	16.7 (5.77)	67	40.7 (24.27)
Work productivity loss	63	42.3 (29.21)	24	35.0 (23.79)	3	16.7 (5.77)	67	43.6 (25.53)
Activity impairment	113	42.7 (27.10)	38	36.1 (29.37)	4	42.5 (18.93)	95	44.7 (25.38)

197 COPD, chronic obstructive pulmonary disease; GP, general practitioner; SF-12, 12-item Short Form Health Survey; WPAI, work productivity and activity impairment-
198 specific health problem questionnaire.

199 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

200 †WPAI outcomes are expressed as impairment percentages.

201

202 **Table S16.** Generic health-related quality of life and work productivity for all patients in Taiwan by primary diagnosis and setting of care

Variable	Allergic Rhinitis (N=312)				Asthma (N=251)				COPD (N=210)				Rhinosinusitis (N=228)			
	GP (n=118)		Specialist (n=194)		GP (n=15)		Specialist (n=236)		GP (n=18)		Specialist (n=192)		GP (n=0)		Specialist (n=228)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	118	38.0 (9.37)	194	40.1 (9.22)	15	35.6 (8.56)	236	38.2 (10.03)	18	33.9 (10.64)	192	35.3 (9.12)	0	--	228	38.0 (9.96)
Physical functioning	118	48.1 (8.99)	194	50.2 (8.84)	15	41.8 (10.07)	236	44.7 (10.31)	18	37.4 (9.45)	192	41.9 (10.07)	0	--	228	50.9 (8.08)
Role-physical	118	46.8 (8.81)	194	47.3 (8.49)	15	39.7 (10.63)	236	46.9 (9.84)	18	37.5 (11.86)	192	45.0 (10.85)	0	--	228	49.4 (9.05)
Bodily pain	118	48.4 (8.58)	194	49.6 (9.04)	15	46.3 (10.49)	236	52.0 (7.36)	18	43.7 (11.25)	192	51.5 (8.03)	0	--	228	51.8 (8.44)
Vitality	118	51.5 (10.20)	194	50.5 (8.90)	15	50.4 (8.20)	235	53.0 (9.59)	18	46.9 (8.64)	192	53.6 (9.96)	0	--	228	50.9 (8.81)
Social functioning	118	47.8 (10.10)	194	47.9 (8.68)	15	46.8 (9.43)	235	49.4 (9.20)	18	42.1 (11.82)	192	49.1 (9.51)	0	--	228	48.9 (9.40)
Mental health	118	48.5 (9.67)	194	49.2 (8.92)	15	46.2 (8.91)	235	50.9 (9.69)	18	47.0 (10.22)	192	51.8 (9.97)	0	--	228	49.2 (9.63)
Role-emotional	118	44.0 (10.19)	194	44.5 (9.71)	15	35.8 (12.65)	236	44.6 (11.71)	18	35.5 (13.70)	192	45.2 (12.11)	0	--	228	44.4 (10.59)
Mental health component	118	47.6 (9.83)	194	47.3 (9.17)	15	45.0 (9.58)	235	50.2 (9.67)	18	44.7 (12.99)	192	51.9 (10.38)	0	--	228	47.0 (9.28)
Physical health component	118	46.1 (7.60)	194	47.8 (7.57)	15	41.7 (10.10)	235	45.3 (7.81)	18	37.7 (11.43)	192	42.3 (8.19)	0	--	228	49.0 (6.82)
WPAI, %†																
Absenteeism	67	4.2 (12.17)	121	4.5 (15.14)	8	1.1 (3.21)	89	5.1 (18.60)	5	0 (0)	22	5.8 (16.36)	0	--	148	7.6 (18.69)
Presenteeism	67	38.8 (27.00)	119	38.7 (26.38)	8	18.8 (20.31)	88	26.1 (27.48)	5	42.0 (29.50)	22	22.3 (24.87)	0	--	145	28.6 (29.12)
Work productivity loss	67	40.1 (28.31)	119	39.9 (26.86)	8	19.7 (20.54)	88	27.6 (29.34)	5	42.0 (29.50)	22	25.3 (27.35)	0	--	145	31.2 (29.48)
Activity impairment	118	33.8 (28.10)	194	41.6 (28.08)	15	38.0 (30.05)	236	28.7 (26.89)	18	35.0 (32.22)	192	29.8 (28.41)	0	--	228	36.4 (31.04)

203 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *SF-12*, 12-item Short Form Health Survey; *WPAI*, work productivity and activity
 204 impairment-specific health problem questionnaire.

205 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

206 †WPAI outcomes are expressed as impairment percentages.

207

208 **Table S17.** Generic health-related quality of life and work productivity for all patients in Thailand by primary diagnosis and setting of care

Variable	Allergic Rhinitis (N=442)				Asthma (N=237)				COPD (N=80)				Rhinosinusitis (N=241)			
	GP (n=109)		Specialist (n=333)		GP (n=39)		Specialist (n=198)		GP (n=16)		Specialist (n=64)		GP (n=6)		Specialist (n=235)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
SF-12 v2 scores*																
General health	109	40.4 (7.86)	333	43.0 (9.79)	39	38.3 (9.66)	198	43.7 (8.79)	16	40.3 (9.94)	64	43.2 (9.60)	6	40.8 (7.62)	235	40.0 (9.13)
Physical functioning	109	47.6 (8.47)	333	49.4 (8.76)	39	41.3 (9.89)	198	48.4 (9.02)	16	42.3 (9.03)	64	44.4 (11.01)	6	41.3 (7.04)	235	47.3 (9.18)
Role-physical	109	46.3 (7.72)	333	47.9 (7.58)	39	43.9 (8.36)	197	48.1 (9.38)	16	41.3 (9.80)	64	47.0 (10.61)	6	44.8 (8.88)	234	45.8 (7.84)
Bodily pain	109	45.4 (9.79)	332	47.4 (9.02)	39	42.7 (9.56)	197	48.6 (10.06)	16	43.1 (11.82)	64	48.6 (11.07)	6	41.2 (10.54)	235	44.4 (10.42)
Vitality	108	52.8 (8.68)	333	53.1 (10.45)	39	49.3 (10.70)	197	54.2 (10.45)	16	52.8 (10.08)	64	53.1 (12.23)	6	47.4 (15.76)	235	50.9 (10.15)
Social functioning	109	46.5 (8.69)	333	48.4 (8.49)	39	45.5 (8.15)	198	49.4 (9.36)	16	45.2 (10.63)	63	48.9 (10.44)	6	45.0 (10.77)	235	46.5 (9.29)
Mental health	109	48.9 (8.86)	333	50.3 (8.04)	39	46.6 (9.06)	198	52.8 (8.43)	16	51.3 (12.30)	64	51.0 (9.07)	6	47.0 (14.96)	235	49.2 (8.95)
Role-emotional	109	43.7 (9.39)	333	44.8 (9.08)	39	40.7 (10.67)	198	44.6 (11.13)	16	42.0 (9.77)	64	42.0 (13.26)	6	45.0 (10.09)	235	43.6 (10.00)
Mental health component	109	48.0 (8.41)	333	48.9 (8.16)	39	46.6 (9.00)	197	50.7 (8.18)	16	50.2 (9.54)	64	49.4 (9.05)	6	48.1 (14.47)	235	47.9 (9.17)
Physical health component	109	45.4 (7.21)	333	47.5 (7.75)	39	41.5 (7.71)	197	47.1 (7.77)	16	40.4 (8.76)	64	45.8 (9.24)	6	41.0 (5.41)	235	44.6 (7.52)
WPAI, %†																
Absenteeism	76	2.9 (9.03)	203	1.9 (6.67)	19	10.7 (17.88)	86	0.8 (4.85)	1	0.0	11	4.5 (15.08)	5	13.3 (29.81)	151	6.9 (18.08)
Presenteeism	76	34.9 (26.46)	207	29.0 (24.42)	19	40.5 (31.35)	86	13.1 (18.61)	1	10.0	12	14.2 (22.75)	5	52.0 (38.99)	155	39.5 (29.27)
Work productivity loss	76	36.5 (27.11)	203	30.3 (25.07)	19	46.0 (32.93)	86	13.8 (18.97)	1	10.0	11	17.7 (27.87)	5	56.0 (42.19)	149	43.1 (29.86)
Activity impairment	109	30.6 (26.43)	332	30.6 (25.87)	39	43.1 (29.03)	198	18.6 (23.10)	16	36.3 (21.87)	64	26.1 (28.76)	6	48.3 (36.01)	235	37.1 (28.87)

209 COPD, chronic obstructive pulmonary disease; GP, general practice (primary care); SF-12, 12-item Short Form Health Survey; WPAI, work productivity and activity
 210 impairment-specific health problem questionnaire.

211 *The SF-12 is scored from 0 (lowest) to 100 (highest), with scores >50 indicating better health-related quality of life than the general population and vice-versa.

212 †WPAI outcomes are expressed as impairment percentages.

213 **Table S18.** Prescribing patterns for antibiotics, antihistamines, and corticosteroids in India by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 299)				Asthma (N = 424)				COPD (N = 232)				Rhinosinusitis (N = 45)			
	GP (n = 202)		Specialist (n = 97)		GP (n = 265)		Specialist (n = 159)		GP (n = 184)		Specialist (n = 48)		GP (n = 45)		Specialist (n = 0)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	10	5.0%	39	40.2%	26	9.8%	60	37.7%	27	14.7%	20	41.7%	8	17.8%	0	0
Prescribed at visit	63	31.2%	42	43.3%	71	26.8%	79	49.7%	86	46.7%	29	60.4%	37	82.2%	0	0
None*	134	66.3%	38	39.2%	185	69.8%	56	35.2%	81	44.0%	14	29.2%	6	13.3%	0	0
Antihistamine within 4 wk	90	44.6%	63	64.9%	45	17.0%	63	39.6%	14	7.6%	20	41.7%	22	48.9%	0	0
Prescribed at visit	187	92.6%	76	78.4%	93	35.1%	96	60.4%	38	20.7%	25	52.1%	44	97.8%	0	0
None*	14	6.9%	16	16.5%	164	61.9%	54	34.0%	142	77.2%	19	39.6%	1	2.2%	0	0
Corticosteroid within 4 wk	7	3.5%	69	71.1%	134	50.6%	83	52.2%	114	62.0%	30	62.5%	1	2.2%	0	0
Oral steroid	0	0	5	5.2%	6	2.3%	9	5.7%	4	2.2%	7	14.6%	0	0	0	0
Nasal steroid spray	3	1.5%	59	60.8%	3	1.1%	59	37.1%	0	0	13	27.1%	1	2.2%	0	0
Intravenous steroid	0	0	0	0	0	0	0	0	2	1.1%	0	0	0	0	0	0
Inhaled steroid	1	0.5%	21	21.6%	32	12.1%	24	15.1%	25	13.6%	13	27.1%	0	0	0	0
FDC ICS/LABA	3	1.5%	20	20.6%	110	41.5%	41	25.8%	85	46.2%	16	33.3%	0	0	0	0
Nebulized steroid	0	0	0	0	2	0.8%	2	1.3%	7	3.8%	0	0	0	0	0	0
Corticosteroid at visit	25	12.4%	87	89.7%	214	80.8%	139	87.4%	145	78.8%	40	83.3%	10	22.2%	0	0
Oral steroid	4	2.0%	3	3.1%	24	9.1%	9	5.7%	13	7.1%	6	12.5%	4	8.9%	0	0
Nasal steroid spray	12	5.9%	73	75.3%	4	1.5%	107	67.3%	0	0	21	43.8%	6	13.3%	0	0
Intravenous steroid	0	0	0	0	6	2.3%	0	0	7	3.8%	0	0.0%	0	0	0	0
Inhaled steroid	2	1.0%	26	26.8%	42	15.8%	39	24.5%	32	17.4%	17	35.4%	0	0	0	0
FDC ICS/LABA	8	4.0%	24	24.7%	171	64.5%	62	39.0%	113	61.4%	25	52.1%	1	2.2%	0	0
Nebulized steroid	0	0	1	1.0%	13	4.9%	4	2.5%	25	13.6%	1	2.1%	0	0	0	0
No steroid in 4 wk or at visit	177	87.6%	5	5.2%	45	17.0%	17	10.7%	34	18.5%	6	12.5%	35	77.8%	0	0

214 *COPD*, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *GP*, general practice (primary care);
215 *steroid*, corticosteroid; *wk*, weeks.
216 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
217 *None signifies no prescription within 4 weeks or at the study visit.

218 **Table S19.** Prescribing patterns for antibiotics, antihistamines, and corticosteroids in Korea by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 556)				Asthma (N = 318)				COPD (N = 56)				Rhinosinusitis (N = 69)			
	GP (n = 531)		Specialist (n = 25*)		GP (n = 131)		Specialist (n = 187)		GP (n = 12)		Specialist (n = 44)		GP (n = 60)		Specialist (n = 9)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	85	16.0%	1	4.0%	27	20.6%	9	4.8%	3	25.0%	5	11.4%	26	43.3%	2	22.2%
Prescribed at visit	160	30.1%	1	4.0%	54	41.2%	23	12.3%	4	33.3%	4	9.1%	50	83.3%	5	55.6%
None*	334	62.9%	23	92.0%	72	55.0%	159	85.0%	8	66.7%	37	84.1%	6	10.0%	4	44.4%
Antihistamine within 4 wk	264	49.7%	18	72.0%	52	39.7%	88	47.1%	4	33.3%	9	20.5%	25	41.7%	6	66.7%
Prescribed at visit	468	88.1%	21	84.0%	89	67.9%	111	59.4%	6	50.0%	10	22.7%	43	71.7%	7	77.8%
None*	40	7.5%	4	16.0%	37	28.2%	70	37.4%	6	50.0%	32	72.7%	16	26.7%	1	11.1%
Corticosteroid within 4 wk	158	29.8%	16	64.0%	74	56.5%	151	80.7%	4	33.3%	26	59.1%	14	23.3%	5	55.6%
Oral steroid	37	7.0%	0	0	24	18.3%	17	9.1%	3	25.0%	0	0	5	8.3%	2	22.2%
Nasal steroid spray	127	23.9%	13	52.0%	9	6.9%	52	27.8%	0	0	2	4.5%	7	11.7%	2	22.2%
Intravenous steroid	3	0.6%	0	0	0	0	3	1.6%	0	0	0	0	0	0	0	0
Inhaled steroid	2	0.4%	4	16.0%	10	7.6%	26	13.9%	1	8.3%	6	13.6%	1	1.7%	0	0
FDC ICS/LABA	3	0.6%	2	8.0%	43	32.8%	121	64.7%	0	0	20	45.5%	1	1.7%	1	11.1%
Nebulized steroid	0	0	0	0	0	0	1	0.5%	0	0	0	0	0	0	0	0
Corticosteroid at visit	228	42.9%	19	76.0%	91	69.5%	173	92.5%	5	41.7%	29	65.9%	33	55.0%	6	66.7%
Oral steroid	87	16.4%	2	8.0%	43	32.8%	27	14.4%	3	25.0%	2	4.5%	15	25.0%	1	11.1%
Nasal steroid spray	144	27.1%	14	56.0%	10	7.6%	56	29.9%	0	0	2	4.5%	21	35.0%	4	44.4%
Intravenous steroid	12	2.3%	0	0	2	1.5%	1	0.5%	1	8.3%	0	0	0	0	0	0
Inhaled steroid	1	0.2%	6	24.0%	13	9.9%	37	19.8%	0	0	10	22.7%	0	0	1	11.1%
FDC ICS/LABA	2	0.4%	2	8.0%	38	29.0%	134	71.7%	2	16.7%	20	45.5%	1	1.7%	1	11.1%
Nebulized steroid	0	0	0	0	0	0	1	0.5%	0	0	0	0	0	0	0	0
No steroid in 4 wk or at visit	224	42.2%	6	24.0%	28	21.4%	10	5.3%	7	58.3%	12	27.3%	19	31.7%	3	33.3%

219 *COPD*, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *GP*, general practice (primary care);
220 *steroid*, corticosteroid; *wk*, weeks.
221 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
222 *None signifies no prescription within 4 weeks or at the study visit.

223 **Table S20.** Prescribing patterns for antibiotics, antihistamines, and corticosteroids in Malaysia by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 221)				Asthma (N = 607)				COPD (N = 105)				Rhinosinusitis (N = 57)			
	GP (n = 139)		Specialist (n = 82)		GP (n = 521)		Specialist (n = 86)		GP (n = 89)		Specialist (n = 16)		GP (n = 46)		Specialist (n = 21)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	1	0.7%	6	7.3%	33	6.3%	4	4.7%	5	5.6%	0	0	4	8.7%	8	38.1%
Prescribed at visit	18	12.9%	1	1.2%	32	6.1%	4	4.7%	2	2.2%	0	0	21	45.7%	5	23.8%
None*	120	86.3%	76	92.7%	459	88.1%	79	91.9%	83	93.3%	16	100%	23	50.0%	10	47.6%
Antihistamine within 4 wk	67	48.2%	74	90.2%	53	10.2%	12	14.0%	5	5.6%	1	6.3%	14	30.4%	17	81.0%
Prescribed at visit	125	89.9%	78	95.1%	117	22.5%	7	8.1%	11	12.4%	1	6.3%	36	78.3%	19	90.5%
None*	9	6.5%	3	3.7%	380	72.9%	72	83.7%	74	83.1%	15	93.8%	7	15.2%	2	9.5%
Corticosteroid within 4 wk	23	16.5%	68	82.9%	365	70.1%	80	93.0%	40	44.9%	11	68.8%	6	13.0%	17	81.0%
Oral steroid	1	0.7%	2	2.4%	23	4.4%	5	5.8%	6	6.7%	0	0	0	0	3	14.3%
Nasal steroid spray	16	11.5%	65	79.3%	13	2.5%	3	3.5%	0	0	0	0	6	13.0%	17	81.0%
Intravenous steroid	0	0.0%	0	0	3	0.6%	0	0	2	2.2%	0	0	0	0	0	0
Inhaled steroid	8	5.8%	3	3.7%	298	57.2%	41	47.7%	30	33.7%	5	31.3%	0	0	1	4.8%
FDC ICS/LABA	3	2.2%	0	0	59	11.3%	37	43.0%	7	7.9%	6	37.5%	0	0	0	0
Nebulized steroid	0	0	1	1.2%	0	0	0	0	0	0	0	0	0	0	0	0
Steroid prescribed at visit	36	25.9%	78	95.1%	396	76.0%	84	97.7%	32	36.0%	8	50.0%	7	15.2%	20	95.2%
Oral steroid	1	0.7%	0	0	44	8.4%	6	7.0%	6	6.7%	0	0	0	0	2	9.5%
Nasal steroid spray	27	19.4%	78	95.1%	6	1.2%	5	5.8%	0	0	0	0	7	15.2%	20	95.2%
Intravenous steroid	0	0	0	0	10	1.9%	0	0	2	2.2%	0	0	0	0	0	0
Inhaled steroid	7	5.0%	0	0	313	60.1%	45	52.3%	21	23.6%	3	18.8%	0	0	0	0
FDC ICS/LABA	3	2.2%	0	0	63	12.1%	38	44.2%	5	5.6%	5	31.3%	0	0	0	0
Nebulized steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No steroid in 4 wk or at visits	99	71.2%	4	4.9%	94	18.0%	1	1.2%	46	51.7%	5	31.3%	37	80.4%	1	4.8%

224 *COPD*, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *GP*, general practice (primary care);
225 *steroid*, corticosteroid; *wk*, weeks.
226 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
227 *None signifies no prescription within 4 weeks or at the study visit.
228

Table S21. Prescribing patterns for antibiotics, antihistamines, and corticosteroids in Singapore by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 113)		Asthma (N = 38)		COPD (N = 4)		Rhinosinusitis (N = 95)	
	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	7	6.2%	3	7.9%	0	0	18	18.9%
Prescribed at visit	5	4.4%	22	57.9%	4	100%	75	78.9%
None*	101	89.4%	16	42.1%	0	0	17	17.9%
Antihistamine within 4 wk	31	27.4%	7	18.4%	1	25.0%	33	34.7%
Prescribed at visit	73	64.6%	12	31.6%	2	50	70	73.7%
None*	33	29.2%	23	60.5%	1	25.0%	19	20.0%
Corticosteroid within 4 wk	28	24.8%	10	26.3%	1	25.0%	14	14.7%
Oral steroid	1	0.9%	0	0	0	0	5	5.3%
Nasal steroid spray	26	23.0%	0	0	0	0	10	10.5%
Intravenous steroid	0	0	0	0	0	0	0	0
Inhaled steroid	0	0	4	10.5%	0	0	0	0
FDC ICS/LABA	1	0.9%	6	15.8%	1	25.0%	0	0
Nebulized steroid	0	0	0	0	0	0	0	0
Steroid prescribed at visit	74	65.5%	26	68.4%	3	75.0%	43	45.3%
Oral steroid	3	2.7%	7	18.4%	3	75.0%	12	12.6%
Nasal steroid spray	70	61.9%	6	15.8%	0	0	35	36.8%
Intravenous steroid	0	0	0	0	0	0	0	0
Inhaled steroid	2	1.8%	9	23.7%	0	0	0	0
FDC ICS/LABA	2	1.8%	10	26.3%	2	50.0%	0	0
Nebulized steroid	0	0	0	0	0	0	0	0
No steroid in 4 wk or at visit	34	30.1%	11	28.9%	1	25.0%	47	49.5%

COPD, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *steroid*, corticosteroid; *wk*, weeks.

231 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
232 *None signifies no prescription within 4 weeks or at the study visit.
233

234 **Table S22.** Prescribing patterns for antibiotics, antihistamines, and corticosteroids in Taiwan by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 312)				Asthma (N = 251)				COPD (N = 210)				Rhinosinusitis (N = 228)			
	GP (n = 118)		Specialist (n = 194)		GP (n = 15)		Specialist (n = 236)		GP (n = 18)		Specialist (n = 192)		GP (n = 0)		Specialist (n = 228)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	4	3.4%	20	10.3%	0	0	17	7.2%	0	0	15	7.8%	0	0	49	21.5%
Prescribed at visit	3	2.5%	16	8.2%	0	0	9	3.8%	0	0	12	6.3%	0	0	90	39.5%
None*	113	95.8%	164	84.5%	15	100%	219	92.8%	18	100%	173	90.1%	0	0	119	52.2%
Antihistamine within 4 wk	40	33.9%	97	50	4	26.7%	73	30.9%	2	11.1%	23	12.0%	0	0	38	16.7%
Prescribed at visit	90	76.3%	145	74.7%	5	33.3%	88	37.3%	3	16.7%	29	15.1%	0	0	52	22.8%
None*	21	17.8%	36	18.6%	10	66.7%	144	61.0%	15	83.3%	158	82.3%	0	0	160	70.2%
Corticosteroid within 4 wk	6	5.1%	87	44.8%	7	46.7%	195	82.6%	3	16.7%	102	53.1%	0	0	76	33.3%
Oral steroid	0	0	10	5.2%	0	0	74	31.4%	0	0	35	18.2%	0	0	9	3.9%
Nasal steroid spray	5	4.2%	70	36.1%	1	6.7%	24	10.2%	0	0	11	5.7%	0	0	63	27.6%
Intravenous steroid	1	0.8%	1	0.5%	0	0	0	0	0	0	0	0	0	0	0	0
Inhaled steroid	0	0	9	4.6%	4	26.7%	67	28.4%	3	16.7%	28	14.6%	0	0	9	3.9%
FDC ICS/LABA	0	0	6	3.1%	3	20	102	43.2%	0	0	45	23.4%	0	0	0	0
Nebulized steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corticosteroid at visit	21	17.8%	142	73.2%	8	53.3%	206	87.3%	4	22.2%	103	53.6%	0	0	134	58.8%
Oral steroid	0	0	14	7.2%	0	0	81	34.3%	0	0	36	18.8%	0	0	19	8.3%
Nasal steroid spray	16	13.6%	122	62.9%	0	0	27	11.4%	0	0	10	5.2%	0	0	119	52.2%
Intravenous steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inhaled steroid	5	4.2%	14	7.2%	5	33.3%	68	28.8%	3	16.7%	28	14.6%	0	0	13	5.7%
FDC ICS/LABA	0	0	5	2.6%	3	20.0%	105	44.5%	1	5.6%	47	24.5%	0	0	1	0.4%
Nebulized steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No steroid in 4 wk or at visit	93	78.8%	47	24.2%	6	40	21	8.9%	14	77.8%	75	39.1%	0	0	85	37.3%

235 *COPD*, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *GP*, general practice (primary care);
236 *steroid*, corticosteroid; *wk*, weeks.
237 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
238 *None signifies no prescription within 4 weeks or at the study visit.
239

240 **Table S23.** Prescribing patterns for antibiotics, antihistamines, and corticosteroids in Thailand by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 442)				Asthma (N = 237)				COPD (N = 80)				Rhinosinusitis (N = 241)			
	GP (n = 109)		Specialist (n = 333)		GP (n = 39)		Specialist (n = 198)		GP (n = 16)		Specialist (n = 64)		GP (n = 6)		Specialist (n = 235)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Antibiotic within 4 wk	10	9.2%	20	6.0%	4	10.3%	4	2.0%	3	18.8%	1	1.6%	5	83.3%	90	38.3%
Prescribed at visit	6	5.5%	27	8.1%	6	15.4%	7	3.5%	3	18.8%	2	3.1%	4	66.7%	160	68.1%
None*	94	86.2%	292	87.7%	32	82.1%	188	94.9%	11	68.8%	61	95.3%	0	0	56	23.8%
Antihistamine within 4 wk	74	67.9%	234	70.3%	17	43.6%	106	53.5%	2	12.5%	8	12.5%	5	83.3%	129	54.9%
Prescribed at visit	85	78.0%	283	85.0%	14	35.9%	113	57.1%	1	6.3%	8	12.5%	4	66.7%	144	61.3%
None*	14	12.8%	33	9.9%	19	48.7%	81	40.9%	13	81.3%	56	87.5%	1	16.7%	54	23.0%
Corticosteroid within 4 wk	21	19.3%	192	57.7%	16	41.0%	186	93.9%	11	68.8%	50	78.1%	2	33.3%	129	54.9%
Oral steroid	0	0	2	0.6%	4	10.3%	4	2.0%	1	6.3%	0	0	0	0	11	4.7%
Nasal steroid spray	19	17.4%	187	56.2%	2	5.1%	102	51.5%	0	0	5	7.8%	2	33.3%	125	53.2%
Intravenous steroid	1	0.9%	1	0.3%	0	0	1	0.5%	0	0	0	0	0	0	0	0
Inhaled steroid	1	0.9%	4	1.2%	12	30.8%	38	19.2%	7	43.8%	2	3.1%	0	0	4	1.7%
FDC ICS/LABA	0	0	20	6.0%	3	7.7%	145	73.2%	3	18.8%	47	73.4%	0	0	4	1.7%
Nebulized steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corticosteroid at visit	44	40.4%	244	73.3%	24	61.5%	192	97.0%	11	68.8%	52	81.3%	2	33.3%	170	72.3%
Oral steroid	0	0	16	4.8%	4	10.3%	4	2.0%	2	12.5%	0	0	0	0	18	7.7%
Nasal steroid spray	42	38.5%	237	71.2%	2	5.1%	106	53.5%	0	0	6	9.4%	2	33.3%	165	70.2%
Intravenous steroid	0	0	1	0.3%	0	0	2	1.0%	0	0	0	0	0	0	0	0
Inhaled steroid	2	1.8%	4	1.2%	19	48.7%	39	19.7%	10	62.5%	1	1.6%	0	0	4	1.7%
FDC ICS/LABA	0	0	19	5.7%	5	12.8%	152	76.8%	2	12.5%	51	79.7%	0	0	2	0.9%
Nebulized steroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No steroid in 4 wk or at visit	59	54.1%	72	21.6%	13	33.3%	4	2.0%	3	18.8%	9	14.1%	3	50.0%	44	18.7%

241 *COPD*, chronic obstructive pulmonary disease; *FDC ICS/LABA*, fixed-dose combination inhaled corticosteroid/long-acting β 2-agonist; *GP*, general practice (primary care);
242 *steroid*, corticosteroid; *wk*, weeks.
243 The percentage data represent the percentages of patients within each practice setting (GP vs. specialist).
244 *None signifies no prescription within 4 weeks or at the study visit.

245 **Table S24.** Costs in India in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 299)				Asthma (N = 424)				COPD (N = 232)				Rhinosinusitis (N = 45)			
	GP (n = 202)		Specialist (n = 97)		GP (n = 265)		Specialist (n = 159)		GP (n = 184)		Specialist (n = 48)		GP (n = 45)		Specialist (n = 0)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity																
Absenteeism	106	9.8 (21.29)	41	1.3 (4.81)	135	8.7 (20.51)	60	2.5 (7.19)	59	9.1 (21.68)	16	8.1 (15.92)	18	14.7 (25.16)	0	--
Presenteeism	106	46.8 (21.33)	41	20.2 (16.64)	134	48.6 (24.82)	62	31.3 (15.83)	58	51.0 (21.10)	16	33.4 (20.34)	18	57.1 (26.24)	0	--
Work productivity loss	106	50.1 (22.39)	41	21.2 (17.27)	134	51.9 (26.82)	60	32.8 (16.98)	58	53.3 (23.34)	16	37.5 (24.01)	18	60.7 (25.74)	0	--
Medications	107	19.5 (44.80)	76	15.1 (15.39)	220	23.4 (59.09)	102	16.1 (15.12)	170	46.2 (86.59)	37	18.7 (17.52)	27	22.7 (50.05)	0	--
Hospital visits	0	--	0	--	4	137.6 (137.64)	3	114.7 (79.47)	7	78.7 (26.01)	4	103.2 (68.82)	0	--	0	--
ED visits	0	--	0	--	1	180.2	0	--	3	120.2 (55.07)	0	--	0	--	0	--

246 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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250 **Table S25.** Costs in **Korea** in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 556)				Asthma (N = 318)				COPD (N = 56)				Rhinosinusitis (N = 69)			
	GP (n = 531)		Specialist (n = 25)		GP (n = 131)		Specialist (n = 187)		GP (n = 12)		Specialist (n = 44)		GP (n = 60)		Specialist (n = 9)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity																
Absenteeism	290	76.5 (303.88)	12	63.3 (139.31)	58	56.8 (185.17)	73	67.9 (247.32)	7	74.6 (197.41)	16	0 (0)	35	54.7 (162.07)	4	1566.9 (1809.31)
Presenteeism	292	1216.0 (892.22)	12	1018.5 (887.64)	58	1221.1 (862.12)	73	828.5 (934.86)	7	1074.5 (902.07)	16	215.5 (423.84)	35	1164.0 (871.83)	2	1723.6 (1551.16)
Work productivity loss	289	1245.7 (901.06)	12	1047.5 (910.42)	58	1236.0 (875.39)	73	851.3 (963.23)	7	1096.8 (935.78)	16	215.5 (423.84)	35	1183.0 (885.00)	2	1723.6 (1551.16)
Medications	332	64.3 (64.38)	21	72.0 (59.74)	92	106.2 (83.65)	163	101.0 (60.96)	10	91.2 (75.09)	39	69.9 (45.35)	36	116.7 (70.97)	7	113.1 (77.91)
Hospital visits	1	600.3	0	--	1	600.3	0	--	0	--	0	--	0	--	0	--
ED visits	1	0	0	--	2	0 (0)	2	0 (0)	0	--	0	--	0	--	1	0

251 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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254 **Table S26.** Costs in **Malaysia** in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N = 221)				Asthma (N = 607)				COPD (N = 105)				Rhinosinusitis (N = 67)			
	GP (n = 139)		Specialist (n = 82)		GP (n = 521)		Specialist (n = 86)		GP (n = 89)		Specialist (n = 16)		GP (n = 46)		Specialist (n = 21)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity																
Absenteeism	87	39.7 (89.15)	42	22.9 (58.44)	241	50.2 (119.43)	32	51.0 (155.14)	24	68.5 (174.34)	4	9.8 (19.69)	30	68.8 (126.19)	7	92.4 (133.56)
Presenteeism	88	273.0 (228.76)	42	195.0 (174.16)	241	210.5 (217.79)	32	263.4 (195.62)	23	219.2 (206.97)	4	295.4 (207.14)	32	322.4 (240.37)	7	337.6 (252.02)
Work productivity loss	87	300.4 (230.15)	42	204.8 (185.99)	239	233.3 (233.64)	32	291.3 (221.75)	23	234.7 (226.20)	4	301.3 (208.22)	30	367.0 (236.36)	7	377.4 (274.99)
Medications	85	4.8 (8.68)	80	15.2 (30.80)	475	22.6 (38.19)	85	40.1 (40.91)	80	47.4 (57.34)	16	38.7 (32.21)	22	9.3 (28.99)	19	25.9 (59.87)
Hospital visits (public)	0	--	4	3.7 (0)	4	3.7 (0)	2	3.7 (0)	1	3.7	1	3.7	0	--	2	3.7 (0)
Hospital visits (private low)	0	--	4	6236.1 (0)	4	6236.1 (0)	2	6236.1 (0)	1	6236.1	1	6236.1	0	--	2	6236.1 (0)
Hospital visits (private high)	0	--	4	12472.2 (0)	4	12472.2 (0)	2	12472.2 (0)	1	12472.2	1	12472.2	0	--	2	12472.2 (0)
ED visits (public)	1	0.6	2	0.5 (0.22)	20	0.4 (0.13)	4	0.4 (0.16)	3	0.4 (0.18)	2	0.3 (0)	0	--	0	--
ED visits (private low)	1	62.4	2	46.8 (22.05)	20	37.4 (12.80)	4	39.0 (15.59)	3	41.6 (18.00)	2	31.2 (0)	0	--	0	--
ED visits (private high)	1	187.1	2	140.3 (66.14)	20	112.3 (38.39)	4	116.9 (46.77)	3	124.7 (54.01)	2	93.5 (0)	0	--	0	--

255 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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258 **Table S27.** Costs in **Singapore** in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N=113)		Asthma (N=38)		COPD (N=4)		Rhinosinusitis (N=95)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity								
Absenteeism	64	171.2 (502.87)	24	260.4 (523.99)	3	0 (0)	69	311.6 (807.27)
Presenteeism	63	1484.4 (1058.44)	24	1121.9 (802.36)	3	606.4 (210.08)	67	1482.6 (882.96)
Work productivity loss	63	1537.5 (1062.90)	24	1275.0 (865.66)	3	606.4 (210.08)	67	1587.9 (929.01)
Medications	65	61.5 (73.95)	27	42.9 (53.63)	3	27.5 (17.02)	54	128.5 (116.30)
Hospital visits	0	--	0	--	0	--	0	--
ED visits	0	--	0	--	0	--	1	82.9

259 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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262 **Table S28.** Costs in Taiwan in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N=312)				Asthma (N=251)				COPD (N=210)				Rhinosinusitis (N=228)			
	GP (n=118)		Specialist (n=194)		GP (n=15)		Specialist (n=236)		GP (n=18)		Specialist (n=192)		GP (n=0)		Specialist (n=228)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity																
Absenteeism	67	65.3 (191.33)	121	70.8 (237.98)	8	17.9 (50.53)	89	80.6 (292.45)	5	0 (0)	22	91.9 (257.22)	0	--	148	119.0 (293.91)
Presenteeism	67	610.1 (424.47)	119	609.1 (414.75)	8	294.8 (319.33)	88	410.9 (432.02)	5	660.4 (463.75)	22	350.2 (390.98)	0	--	145	450.0 (457.87)
Work productivity loss	67	631.1 (445.10)	119	627.9 (422.34)	8	309.1 (322.87)	88	434.3 (461.30)	5	660.4 (463.75)	22	398.5 (430.04)	0	--	145	489.8 (463.44)
Medications	48	56.7 (106.52)	122	53.2 (97.06)	12	88.1 (114.33)	221	127.9 (212.97)	16	142.1 (128.96)	173	163.8 (132.94)	0	--	120	47.6 (96.94)
Hospital visits	0	--	2	156.7 (0)	0	--	1	156.7	0	--	3	156.7 (0.00)	0	--	3	156.7 (0.00)
ED visits	0	--	2	30.9 (0)	3	30.9 (0)	6	30.9 (0)	0	--	3	41.2 (17.84)	0	--	5	30.9 (0.00)

263 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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267 **Table S29.** Costs in **Thailand** in 2014 US dollars by primary diagnosis and setting of care

Variable	Allergic rhinitis (N=442)				Asthma (N=237)				COPD (N=80)				Rhinosinusitis (N=241)			
	GP (n=109)		Specialist (n=333)		GP (n=39)		Specialist (n=198)		GP (n=16)		Specialist (n=64)		GP (n=6)		Specialist (n=235)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
Work productivity																
Absenteeism	76	9.5 (29.78)	203	6.3 (21.99)	19	35.2 (58.95)	86	2.8 (15.98)	1	0.0	11	15.0 (49.71)	5	44.0 (98.31)	151	22.9 (59.61)
Presenteeism	76	115.0 (87.24)	207	95.6 (80.54)	19	133.6 (103.39)	86	43.3 (61.38)	1	33.0	12	46.7 (75.01)	5	171.5 (128.56)	155	130.2 (96.52)
Work productivity loss	76	120.4 (89.41)	203	100.0 (82.65)	19	151.7 (108.58)	86	45.6 (62.54)	1	33.0	11	58.5 (91.90)	5	184.7 (139.12)	149	142.2 (98.47)
Medications	88	9.6 (21.72)	284	19.7 (23.86)	36	58.8 (66.73)	192	111.8 (396.19)	14	66.6 (73.72)	56	118.4 (415.22)	6	13.2 (11.94)	196	18.8 (23.03)
Hospital visits	0	--	3	650.8 (0.00)	0	--	0	--	1	650.8	4	976.1 (650.75)	0	--	4	650.8 (0.00)
ED visits	0	--	2	108.5 (0.00)	2	108.5 (0.00)	1	108.5	1	216.9	5	260.3 (181.49)	0	--	7	154.9 (85.33)

268 *COPD*, chronic obstructive pulmonary disease; *GP*, general practice (primary care); *ED*, emergency department

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