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Aurélien Dinh, Luc Jaulmes, Agnès Dechartres, Clara Duran, Hélène Mascitti, Xavier Lescure, Youri Yordanov, Patrick Jourdain

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1 **Time to resolution of respiratory and systemic COVID-19 symptoms in community setting**

2 Aurélien Dinh <sup>1,2\*</sup>, Luc Jaulmes <sup>3</sup>, Agnès Dechartres <sup>4</sup>, Clara Duran <sup>1</sup>, Hélène Mascitti <sup>1</sup>, Xavier  
3 Lescure <sup>2,5</sup>, Yuri Yordanov <sup>6</sup>, Patrick Jourdain <sup>2,7</sup> on behalf of the AP-HP/Universities/INSERM  
4 COVID-19 research collaboration

5

6 <sup>1</sup> Infectious Disease department, University Hospital Raymond-Poincaré, Assistance

7 Publique-Hôpitaux de Paris, Paris Saclay University, Garches, France

8 <sup>2</sup> Covidom regional telemedicine platform, Assistance Publique-Hôpitaux de Paris, Paris,

9 France

10 <sup>3</sup> Clinical research and epidemiology department, University Hospital Pitié-Salpêtrière,

11 Assistance Publique-Hôpitaux de Paris, University of Paris, Paris, France

12 <sup>4</sup> Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique,

13 AP-HP. Sorbonne Université, Hôpital Pitié Salpêtrière, Département de Santé Publique,

14 F75013, Paris, France

15 <sup>5</sup> Infectious Disease department, University Hospital Bichat, Assistance Publique-Hôpitaux de

16 Paris, University of Paris, Paris, France

17 <sup>6</sup> Emergency department, University Hospital Saint Antoine, Assistance Publique-Hôpitaux de

18 Paris, Paris, France

19 <sup>7</sup> Cardiology department, University Hospital of Bicêtre, Assistance Publique-Hôpitaux de

20 Paris, Kremlin Bicêtre, France

21

22    **\* Corresponding author**

23    Aurélien Dinh

24    Infectious disease unit

25    Raymond-Poincaré University Hospital

26    AP-HP Paris Saclay University

27    104 Bd Raymond Poincaré, 92380 Garches

28    Tel: +33147104432 / Fax: +33147107790

29    Mail: aurelien.dinh@aphp.fr

30 **Abstract (242/250)**

31 **Objectives**

32 During the Coronavirus disease 2019 (COVID-19), symptom course among outpatients is not  
33 well known. Our aim was to assess the time to resolution of respiratory and systemic  
34 symptoms and their associated factors.

35 **Methods**

36 Cohort study including adult outpatients, managed with Covidom, a telesurveillance  
37 solution, with RT-PCR confirmed diagnosis, from March 9<sup>th</sup> 2020 until February 23<sup>rd</sup> 2021.  
38 Follow-up was 30 days after symptom onset.

39 **Results**

40 Among the 9,667 patients included, mean age was 43.2±14.0 years, and 67.5% were female  
41 (n=6,522). Median body mass index (BMI) (IQR) was 25.0 kg/m<sup>2</sup> (22.1-28.8). Main  
42 comorbidities were: hypertension (12.9%; n=1247), asthma (11.0%; n=1063), and diabetes  
43 mellitus (5.5%; n=527). The most frequent symptom during follow-up was dyspnea (65.1%;  
44 n=6,296), followed by tachypnea (49.9%; n=4,821), shivers (45.6%; n=4,410), and fever  
45 (36.7%; n=3,550). Median time to resolution of systemic and respiratory symptoms were 3  
46 days (95% CI: 2–4) and 7 days (95% CI: 6–8), respectively. Ultimately, 17.2% (95% CI:  
47 15.7%–18.8%) still presented respiratory symptoms at day 30. Longer time to respiratory  
48 symptom resolution was associated with older age, increased BMI, chronic obstructive  
49 pulmonary disease (COPD), coronary artery disease, asthma, and heart failure. Regarding  
50 systemic symptoms, coronary artery disease, asthma, age above 40 years, and elevated BMI  
51 were associated with longer time to resolution.

52 **Conclusions**

53 Time to symptom resolution among outpatients with COVID-19 seemed shorter for systemic  
54 than respiratory symptoms. Prolonged respiratory symptoms were common at day 30. Risk  
55 factors associated with later resolution included age, cardiovascular and pulmonary  
56 diseases.

57

58 **Key words:** COVID-19; symptom duration; dyspnea; sequelae; community setting;  
59 telemedicine

60

## 61 **Introduction**

62 The clinical manifestations in COVID-19 patients range from asymptomatic to severe forms  
63 requiring critical care, and the duration of symptoms can vary widely [1,2]. Most studies  
64 described the clinical course of hospitalized severe cases [3–5]. However, most patients  
65 present with milder forms of COVID-19 [6], and are therefore managed as outpatients. Data  
66 on this population is scarce, but describing the symptom course of outpatients with COVID-  
67 19 and factors associated with symptom duration may help provide adequate follow-up  
68 [2,7–9].

69 Our study aimed to evaluate the time to resolution of COVID-19 respiratory and systemic  
70 symptoms, and factors associated with a longer duration in a large cohort of outpatients.

71

## 72 **Material and methods**

73 This study included adult ( $\geq 18$  years) patients, initially managed as outpatients, from March  
74 9<sup>th</sup> 2020 to February 23<sup>rd</sup> 2021 by Covidom, a telesurveillance solution for home monitoring  
75 of patients with COVID-19 in the greater Paris area [10]. Covidom outpatients were  
76 registered by a physician after consulting for COVID-related symptoms and agreeing to the  
77 monitoring. We included patients with a RT-PCR confirmed diagnosis, having answered at  
78 least one monitoring questionnaire, and who provided medical background at inclusion.

79 Available data for each patient included age, gender, date of first symptoms, weight, height,  
80 and comorbidities.

81 When included in Covidom, the patients completed, on a daily basis, one or two self-  
82 administered questionnaires on symptoms until 30 days after symptoms onset. Self-reported  
83 data were: respiratory rate (tachypnea defined as  $>20$  breaths per minute), heart rate

84 (tachycardia defined as >100 beats per minute), temperature (fever and hypothermia  
85 defined by temperature >38.5°C and <35.5°C, respectively), dyspnea (on a 1-to-5 modified  
86 Borg scale [11], slight dyspnea defined by a rating  $\geq 2$ , and moderate dyspnea  $\geq 3$ ), oxygen  
87 saturation (desaturation defined by <95%), dizziness, and shivers.

88 Two main groups of symptoms were defined:

- 89 - Systemic symptoms: fever or hypothermia, dizziness, tachycardia, shivers.
- 90 - Respiratory symptoms: dyspnea, tachypnea, low oxygen saturation.

91 Kaplan-Meier estimators were used to evaluate time to resolution of symptoms. Patients  
92 were considered at risk from the date of first symptom onset (declared at inclusion) until the  
93 last occurrence of each symptom in daily questionnaires. Regarding symptom groups,  
94 patients were considered at risk until the last day of any symptom occurrence of the group.  
95 Patients were censored at the end of their follow-up (30 days or earlier in case of premature  
96 ending). Factors independently associated with longer time to resolution of systemic and  
97 respiratory symptoms were evaluated separately on complete cases using multivariate Cox  
98 models and inversed hazard ratios as the event of interest was initially resolution of  
99 symptoms. Alpha risk was set at 5%.

100 Patients provided electronic consent for the Covidom telesurveillance program and were  
101 informed of the use of their anonymized data for research. This study was approved by the  
102 scientific and ethical committee of APHP (IRB00011591).

103

## 104 **Results**

105 Among the 62,993 patients included in the Covidom cohort as outpatients, 15,086 (23.9%)  
106 had a COVID-19 RT-PCR confirmed diagnosis, 14,965 (23.8%) were adult patients, 11,984

107 (19.0%) answered at least one monitoring questionnaire, and 9,667 (15.3%) provided  
108 medical background at inclusion and thus were included in this study (patients  
109 characteristics presented in Table S1 in Supplementary appendix).

110 Mean age was 43.2 years old (SD 14.0) and 67.5% were female (n=6,522). Median body mass  
111 index (BMI) (IQR) was 25.0 kg/m<sup>2</sup> (22.1-28.8). Main comorbidities were hypertension (12.9%;  
112 n=1247), asthma (11.0%; n=1,063), and diabetes mellitus (5.5%; n=527). Other comorbidities  
113 were reported by less than 1.5% of patients. Weight (and BMI) was missing for 121 patients,  
114 and gender for 18 patients.

115 The last answer to a daily questionnaire occurred at a median time of 28 days after symptom  
116 onset (IQR 17–30 days), with a median Covidom monitoring duration of 19 days (IQR 11–24  
117 days). There were 65.1% of patients (n=7,805) missing at least one daily monitoring  
118 questionnaire, and the median number of skipped questionnaires per patient was 2 (IQR  
119 0–5).

120 The most common symptom was dyspnea in 65.1% of patients (n=6,296), with 2,802  
121 patients (29.0%) rating their dyspnea as moderate or higher. Tachypnea, shivers, and fever  
122 were reported by 49.9% (n=4,821), 45.6% (n=4,410), and 36.7% (n=3,550) of patients,  
123 respectively. A total of 2,590 (26.8%) patients reported tachycardia, 1,197 (12.4%) reported  
124 dizziness, and 582 (25.1%) of 2,319 patients with an oximeter reported desaturation at least  
125 once.

126 Considering time to symptom resolution (Figure 1), the longest symptoms were desaturation  
127 with a median (95% Confidence Interval (CI)) of 10 days (8–12), and slight dyspnea with 9  
128 days (7–10). Median time to resolution of moderate dyspnea was 4 days (2–5). Symptoms  
129 with shorter time to resolution included shivers, tachypnea and tachycardia, with median



130 durations (95% CI) respectively of 1 day (1–2), 2 days (1–2) and 2 days (1–2). The probability  
131 of slight dyspnea lasting until 30 days after first symptoms onset was 18.3% (95% CI  
132 16.6%–20.0%), while the systemic symptom with highest probability at day 30 was dizziness  
133 with 1.1% (0.5%–2.2%).

134 Age above 30 years (hazard ratios (HR) 1.27 [95%CI 1.16–1.38]), 40 years (1.50 [1.37–1.65]),  
135 50 years (1.68 [1.53–1.85]), and 60 years (1.64[1.45–1.84]), as well as increased BMI (both  
136 obesity and overweight, 1.13 [1.15–1.21] and 1.18 [1.09–1.28], respectively), chronic  
137 obstructive pulmonary disease (COPD) (2.00 [1.41–2.83]), coronary artery disease (1.55  
138 [1.14–2.11]), asthma (1.43 [1.30–1.58]), heart failure (1.42 [1.08–1.86]), and hypertension  
139 (1.12 [1.01–1.23]) were associated with longer time to resolution of respiratory symptoms  
140 (Figure 2). No variable appeared associated with a shorter time to resolution.

141 For systemic symptoms, coronary artery disease (1.53 [1.18–1.98]), as well as age above 40  
142 years (1.12 [1.02–1.22], 1.16 [1.06–1.26] and 1.20 [1.08–1.34] respectively for ages >40, >50  
143 and >60) and increased BMI (1.09 [1.03–1.16] for BMI >25kg/m<sup>2</sup>, 1.10 [1.03–1.18] for BMI  
144 >30kg/m<sup>2</sup>) were associated with longer time to resolution (Figure 2). Male sex was  
145 associated with shorter time to resolution (0.92 [0.87–0.97]). Complete analysis results are  
146 presented in Table S2 in Supplementary appendix.

147 Lastly, the number and proportion of patients per monitoring question, answer, and day are  
148 described in Figure S1 in Supplementary appendix.

149

## 150 **Discussion**

151 Our study provides important inputs regarding time to resolution of respiratory and systemic  
152 symptoms over one month in ambulatory patients, which can help direct care [5,12–14].

153 Median time to resolution of symptoms was up to 10 days with wide variability, and 18.3%  
154 of slight dizziness symptoms still present at end of follow-up. Systemic symptoms were  
155 slightly less frequent than respiratory symptoms, and had shorter time to resolution. Factors  
156 associated with prolonged symptoms included age over 30, elevated BMI, and cardiovascular  
157 and pulmonary diseases.

158 The strength of our study includes the size of the cohort and the standardized questionnaire  
159 during the entire 30-day follow-up. Several studies showed, among hospitalized patients,  
160 that fever, cough, dyspnea, and gastrointestinal symptoms were the main clinical  
161 manifestations of COVID-19 [15]. In our cohort that included only non-hospitalized patients,  
162 those symptoms had a lower prevalence.

163 Our results corroborate that COVID-19 may cause prolonged symptoms, even among  
164 outpatients with mild disease [2], or in patients with or without few comorbidities.

#### 165 **Limits**

166 Our study relies on patients' self-reporting, resulting in possible recall bias. Furthermore, we  
167 focused on general and respiratory symptoms and did not evaluate the duration of other  
168 symptoms like smell and taste alteration. Secondly, non-respondents might have differed  
169 from respondents regarding their clinical course. Finally, our models do not take into  
170 account each symptom's onset delay, only the date until which each symptom lasts, starting  
171 from the onset of the first symptom. This describes the course of symptoms relative to the  
172 illness globally, but different factors may affect symptom onset delay and symptom  
173 duration.

174

#### 175 **Conclusion**

176 Time to symptom resolution in outpatients with COVID-19 varies widely with shorter  
177 systemic symptoms and longer respiratory symptoms. Prolonged respiratory symptoms,  
178 especially dyspnea, were common at day 30. Factors associated with later resolution were  
179 age over 30, elevated BMI, cardiovascular and pulmonary diseases.

180

### 181 **Transparency declaration**

182 The authors declare that they have no conflicts of interest. All authors have full control of all  
183 primary data and they agree to allow review of their data upon request.

184

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189

### 190 **Authors' contributions**

191 ADi, LJ, ADe, XL, and YY conceptualized the study. ADi, LJ, ADe, CD, HM, and YY collected,  
192 analysed and interpreted the data. LH conducted the statistical analysis. ADi, LJ, ADe, CD, and  
193 YY wrote the first draft of the manuscript. All authors revised the manuscript and approved  
194 the final version. ADi had full access to all of the data in the study and takes responsibility for  
195 the integrity of the data and the accuracy of the data analysis.

196

### 197 **References**

198 [1] Guan W, Ni Z, Hu Y, Liang W, Ou C, He J, et al. Clinical Characteristics of Coronavirus

- 199 Disease 2019 in China. *N Engl J Med* 2020;382:1708–20.  
200 <https://doi.org/10.1056/NEJMoa2002032>.
- 201 [2] Tenforde MW, Kim SS, Lindsell CJ, Billig Rose E, Shapiro NI, Files DC, et al. Symptom  
202 Duration and Risk Factors for Delayed Return to Usual Health Among Outpatients with  
203 COVID-19 in a Multistate Health Care Systems Network — United States, March–June  
204 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:993–8.  
205 <https://doi.org/10.15585/mmwr.mm6930e1>.
- 206 [3] Docherty AB, Harrison EM, Green CA, Hardwick HE, Pius R, Norman L, et al. Features  
207 of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical  
208 Characterisation Protocol: prospective observational cohort study. *BMJ* 2020:m1985.  
209 <https://doi.org/10.1136/bmj.m1985>.
- 210 [4] Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for  
211 mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort  
212 study. *Lancet (London, England)* 2020;395:1054–62. [https://doi.org/10.1016/S0140-](https://doi.org/10.1016/S0140-6736(20)30566-3)  
213 [6736\(20\)30566-3](https://doi.org/10.1016/S0140-6736(20)30566-3).
- 214 [5] Mizrahi B, Shilo S, Rossman H, Kalkstein N, Marcus K, Barer Y, et al. Longitudinal  
215 symptom dynamics of COVID-19 infection. *Nat Commun* 2020;11:6208.  
216 <https://doi.org/10.1038/s41467-020-20053-y>.
- 217 [6] Stokes EK, Zambrano LD, Anderson KN, Marder EP, Raz KM, El Burai Felix S, et al.  
218 Coronavirus Disease 2019 Case Surveillance — United States, January 22–May 30,  
219 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:759–65.  
220 <https://doi.org/10.15585/mmwr.mm6924e2>.
- 221 [7] Pullen MF, Skipper CP, Hullsiek KH, Bangdiwala AS, Pastick KA, Okafor EC, et al.

- 222 Symptoms of COVID-19 Outpatients in the United States. *Open Forum Infect Dis*  
223 2020;7. <https://doi.org/10.1093/ofid/ofaa271>.
- 224 [8] Lapostolle F, Schneider E, Vianu I, Dollet G, Roche B, Berdah J, et al. Clinical features of  
225 1487 COVID-19 patients with outpatient management in the Greater Paris: the COVID-  
226 call study. *Intern Emerg Med* 2020;15:813–7. <https://doi.org/10.1007/s11739-020-02379-z>.
- 228 [9] Kim G-U, Kim M-J, Ra SH, Lee J, Bae S, Jung J, et al. Clinical characteristics of  
229 asymptomatic and symptomatic patients with mild COVID-19. *Clin Microbiol Infect*  
230 2020;26:948.e1-948.e3. <https://doi.org/10.1016/j.cmi.2020.04.040>.
- 231 [10] Yordanov Y, Dechartres A, Lescure X, Apra C, Villie P, Marchand-Arvier J, et al.  
232 Covidom, a Telesurveillance Solution for Home Monitoring Patients With COVID-19. *J*  
233 *Med Internet Res* 2020;22. <https://doi.org/10.2196/20748>.
- 234 [11] Muza SR, Silverman MT, Gilmore GC, Hellerstein HK, Kelsen SG. Comparison of Scales  
235 Used to Quantitate the Sense of Effort to Breathe in Patients with Chronic Obstructive  
236 Pulmonary Disease. *Am Rev Respir Dis* 1990;141:909–13.  
237 [https://doi.org/10.1164/ajrccm/141.4\\_Pt\\_1.909](https://doi.org/10.1164/ajrccm/141.4_Pt_1.909).
- 238 [12] The Lancet. Facing up to long COVID. *Lancet* 2020;396:1861.  
239 [https://doi.org/10.1016/S0140-6736\(20\)32662-3](https://doi.org/10.1016/S0140-6736(20)32662-3).
- 240 [13] Davido B, Seang S, Tubiana R, de Truchis P. Post-COVID-19 chronic symptoms: a  
241 postinfectious entity? *Clin Microbiol Infect* 2020;26:1448–9.  
242 <https://doi.org/10.1016/j.cmi.2020.07.028>.
- 243 [14] Nehme M, Braillard O, Alcoba G, Aebischer Perone S, Courvoisier D, Chappuis F, et al.  
244 COVID-19 Symptoms: Longitudinal Evolution and Persistence in Outpatient Settings.

245 Ann Intern Med 2021;174:723–5. <https://doi.org/10.7326/M20-5926>.

246 [15] Jiang F, Deng L, Zhang L, Cai Y, Cheung CW, Xia Z. Review of the Clinical Characteristics

247 of Coronavirus Disease 2019 (COVID-19). J Gen Intern Med 2020;35:1545–9.

248 <https://doi.org/10.1007/s11606-020-05762-w>.

249

## 250 **Figure legends**

**Figure 1:** Time to resolution of respiratory and systemic symptoms (in days) modeled using Kaplan-Meier estimators

251 **Figure 2:** Risk factors associated with longer time to resolution of clinical symptoms

252

253 **AP-HP / Universities / Inserm COVID-19 research collaboration members**

254 Writing committee: Aurélien Dinh <sup>1,2</sup>, Luc Jaulmes <sup>3</sup>, Agnès Dechartres <sup>4</sup>, Clara Duran <sup>1</sup>,

255 Hélène Mascitti <sup>1</sup>, Xavier Lescure <sup>2,5</sup>, Youri Yordanov <sup>6</sup>, Patrick Jourdain <sup>2,7</sup>

256 <sup>1</sup> Infectious Disease department, University Hospital Raymond-Poincaré, Assistance Publique-Hôpitaux de Paris, Paris Saclay  
257 University, Garches, France

258 <sup>2</sup> Covidom regional telemedicine platform, Assistance Publique-Hôpitaux de Paris, Paris, France

259 <sup>3</sup> Clinical research and epidemiology department, University Hospital Pitié-Salpêtrière, Assistance Publique-Hôpitaux de  
260 Paris, University of Paris, Paris, France

261 <sup>4</sup> Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique, AP-HP. Sorbonne Université,  
262 Hôpital Pitié Salpêtrière, Département de Santé Publique, F75013, Paris, France

263 <sup>5</sup> Infectious Disease department, University Hospital Bichat, Assistance Publique-Hôpitaux de Paris, University of Paris, Paris,  
264 France

265 <sup>6</sup> Emergency department, University Hospital Saint Antoine, Assistance Publique-Hôpitaux de Paris, Paris, France

266 <sup>7</sup> Cardiology department, University Hospital of Bicêtre, Assistance Publique-Hôpitaux de Paris, Kremlin Bicêtre, France

267

268 Data-sciences committee: APRA Caroline (AC), JAULMES Luc (JL), MENSCH Arthur (MA)

269 AC is affiliated with the Sorbonne Université, AP-HP, Hôpital Pitié Salpêtrière, Service de Neurochirurgie, Paris, France

270 JL is affiliated with Centre de Pharmaco-épidémiologie (Cephepi), Pitié Salpêtrière Hospital, Paris, France

271 MA is affiliated with Ecole Normale Supérieure, PSL University, CNRS, Département de Mathématiques et Applications,  
272 75005 Paris, France

273

274 Scientific committee: AIME-EUSEBI Amélie, APRA Caroline, BLEIBTREU Alexandre, DEBUC Erwan,

275 DECHARTRES Agnes, DECONINCK Laurène, DINH Aurélien, JOURDAIN Patrick, KATLAMA Christine,

276 LEBEL Josselin, LESCURE François-Xavier, YORDANOV Youri

277

278 Covidom regional center steering committee: ARTIGOU Yves, BANZET Amélie, BOUCHERON Elodie,

279 BOUDIER Christiane, BUZENAC Edouard, CHAPRON Marie-Claire, CHEKAOUI Dalhia, DE BASTARD

280 Laurent, DEBUC Erwan, DINH Aurélien, GRENIER Alexandre, HAAS Pierre-Etienne, HODY Julien,

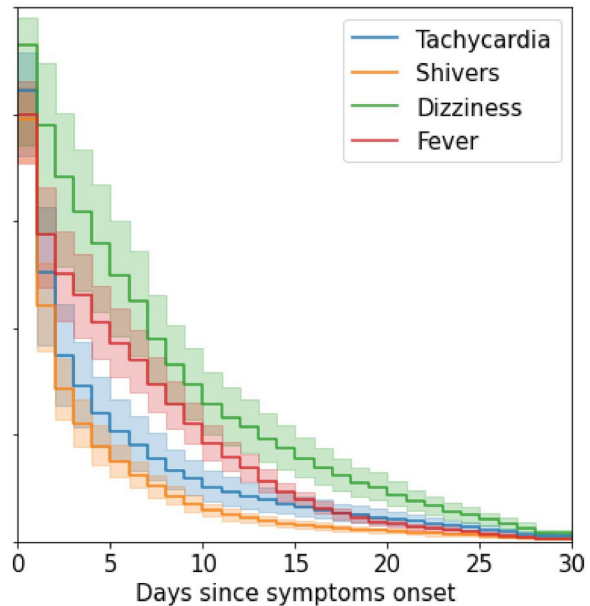
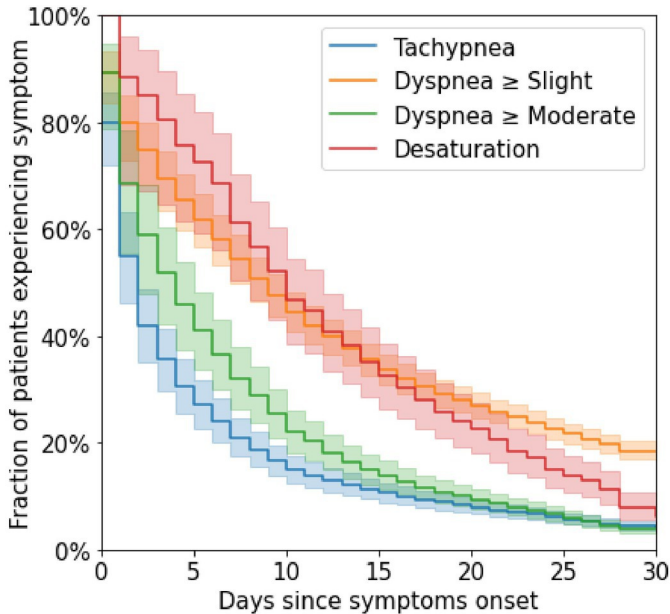
281 JARRAYA Michèle, JOURDAIN Patrick, LACAILLE Louis, LE GUERN Aurélie, LECLERT Jeremy, MALE

282 Fanny, MARCHAND-ARVIER Jérôme, MARTIN-BLONDET Emmanuel, NASSOUR Apolonne, OURAHOU

283 Oussama, PENN Thomas, RIBARDIERE Ambre, ROBIN Nicolas, ROUGE Camille, SCHMIDT Nicolas,

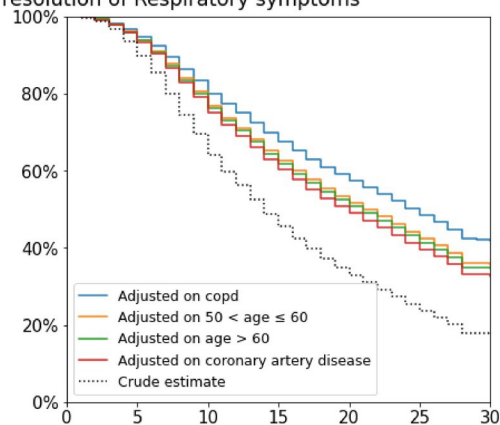
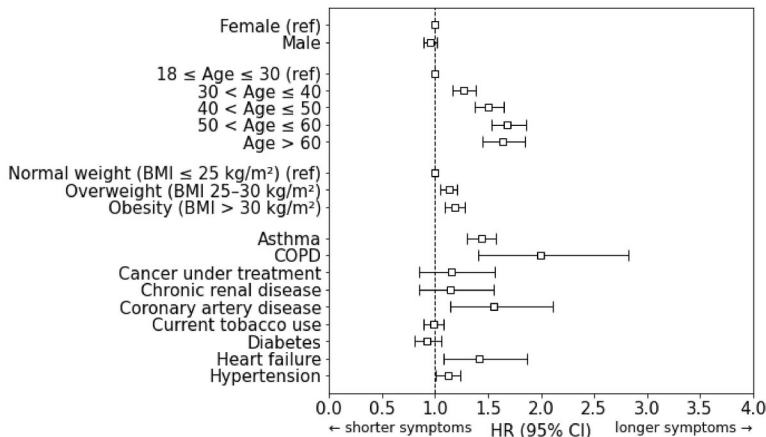
284 VILLIE Pascaline

# Kaplan-Meier modelisation of time to symptom resolution





## Factors associated with time to resolution of Respiratory symptoms



## Factors associated with time to resolution of Systemic symptoms

