Supplementary Online Content

Hohl CM, Hau JP, Vaillancourt S, et al; CCEDRRN investigators for the Network of Canadian Emergency Researchers and the Canadian Critical Care Trials Group. Sensitivity and diagnostic yield of the first SARS-CoV-2 nucleic acid amplification test performed for patients presenting to the hospital. *JAMA Netw Open*. 2022;5(10):e2236288. doi:10.1001/jamanetworkopen.2022.36288

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This supplementary material has been provided by the authors to give readers additional information about their work.
### eTable 1. Patient Enrollment Across Participating Sites

| Site Name                             | Province            | Start Date    | End Date     | Number of patients |
|---------------------------------------|---------------------|---------------|--------------|--------------------|
| Abbotsford Regional Hospital          | British Columbia    | 2020-03-20    | 2021-05-31   | 2,294              |
| Eagle Ridge Hospital                  | British Columbia    | 2020-03-01    | 2021-05-30   | 902                |
| Kelowna General Hospital              | British Columbia    | 2020-03-20    | 2021-05-31   | 560                |
| Lions Gate Hospital                   | British Columbia    | 2020-03-01    | 2021-05-31   | 1,288              |
| Mount Saint Joseph's Hospital         | British Columbia    | 2020-03-01    | 2021-12-31   | 725                |
| Royal Columbian Hospital              | British Columbia    | 2020-03-01    | 2021-05-31   | 1,974              |
| Royal Inland Hospital                 | British Columbia    | 2020-03-16    | 2021-05-30   | 272                |
| Saint Paul's Hospital                 | British Columbia    | 2020-03-01    | 2021-09-30   | 10,216             |
| Surrey Memorial Hospital              | British Columbia    | 2020-03-19    | 2021-12-03   | 6,030              |
| Vancouver General Hospital            | British Columbia    | 2020-03-01    | 2021-08-31   | 12,531             |
| Foothills Medical Centre              | Alberta             | 2020-03-01    | 2021-11-30   | 2,528              |
| Northeast Community Health Centre     | Alberta             | 2020-03-23    | 2021-01-29   | 407                |
| Peter Lougheed Centre                 | Alberta             | 2020-03-01    | 2021-11-30   | 14,604             |
| Rockyview General Hospital            | Alberta             | 2020-03-01    | 2021-11-30   | 2,291              |
| Royal Alexandra Hospital              | Alberta             | 2020-03-16    | 2020-12-31   | 840                |
| South Health Campus Medical Centre    | Alberta             | 2020-03-01    | 2021-11-30   | 11,561             |
| University of Alberta Hospital        | Alberta             | 2020-03-23    | 2021-01-26   | 73                 |
| Royal University Hospital             | Saskatchewan        | 2020-03-17    | 2021-12-31   | 7,473              |
| Saskatoon City Hospital               | Saskatchewan        | 2020-03-01    | 2021-02-25   | 184                |
| St Paul’s Hospital                    | Saskatchewan        | 2020-03-06    | 2021-12-27   | 686                |
| Hamilton General Hospital             | Ontario             | 2020-03-20    | 2020-12-30   | 204                |
| Health Science North Hospital         | Ontario             | 2020-05-14    | 2021-07-31   | 8124               |
| Hotel Dieu Hospital                   | Ontario             | 2020-03-14    | 2021-11-30   | 290                |
| Juravinski Hospital                   | Ontario             | 2020-03-09    | 2020-12-31   | 249                |
| Kingston General Hospital             | Ontario             | 2020-03-12    | 2021-11-30   | 1,619              |
| London Health Sciences Center         | Ontario             | 2020-03-01    | 2021-05-31   | 638                |
| North York General Hospital           | Ontario             | 2020-05-14    | 2020-06-04   | 1,006              |
| Sunnybrook Health Sciences Centre     | Ontario             | 2020-05-14    | 2021-12-26   | 13,042             |

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| Hospital Name                                      | Province       | Start Date  | End Date    | Cases |
|--------------------------------------------------|---------------|-------------|-------------|-------|
| The Ottawa Hospital - Civic Campus               | Ontario       | 2020-03-11  | 2021-05-27  | 985   |
| The Ottawa Hospital - General Campus            | Ontario       | 2020-03-05  | 2021-05-29  | 682   |
| Toronto Western Hospital                         | Ontario       | 2020-09-01  | 2021-07-28  | 9,259 |
| Centre Hospitalier de l'Université Laval        | Quebec        | 2020-03-12  | 2021-01-18  | 189   |
| Hôpital de l'Enfant-Jésus                       | Quebec        | 2020-05-04  | 2021-06-30  | 11,603|
| Hôpital du Sacré-Coeur                          | Quebec        | 2020-03-18  | 2021-11-04  | 2,062 |
| Hôpital du Saint-Sacrement                      | Quebec        | 2020-03-10  | 2021-01-17  | 115   |
| Hôpital Saint-François d'Assise                 | Quebec        | 2020-03-12  | 2021-01-18  | 307   |
| Hôtel-Dieu de Lévis                             | Quebec        | 2020-03-10  | 2021-12-31  | 1,102 |
| Hôtel-Dieu de Québec                            | Quebec        | 2020-03-28  | 2021-01-16  | 74    |
| Institut universitaire de cardiologie et de pneumologie de Québec | Quebec        | 2020-03-23  | 2021-01-14  | 540   |
| Jewish General Hospital                         | Quebec        | 2020-03-01  | 2021-09-30  | 19,036|
| L'hôpital Royal Victoria                       | Quebec        | 2020-03-12  | 2021-11-30  | 1,458 |
| Montréal General Hospital                       | Quebec        | 2020-03-17  | 2021-11-24  | 562   |
| Saint John Regional Hospital                    | New Brunswick | 2020-03-12  | 2021-10-25  | 314   |
| Cobequid Community Health Centre                | Nova Scotia   | 2020-03-01  | 2021-12-31  | 214   |
| Dartmouth General Hospital                      | Nova Scotia   | 2020-03-01  | 2021-12-31  | 337   |
| Halifax Infirmary                               | Nova Scotia   | 2020-03-01  | 2021-11-24  | 476   |
| Hants Community Hospital                        | Nova Scotia   | 2020-03-01  | 2021-12-28  | 129   |
**eTable 2. Patient Characteristics by Symptom Duration at the Time of Their First SARS-CoV-2 NAAT (1 to 7 Days)**

| Variables                     | Number of days between symptoms onset and first hospital COVID test |
|-------------------------------|---------------------------------------------------------------------|
|                               | 1 Day (n=3,341) Patients, No. (%) | 2 Days (n=1,730) Patients, No. (%) | 3 Days (n=1,745) Patients, No. (%) | 4 Days (n=1,129) Patients, No. (%) | 5 Days (n=902) Patients, No. (%) | 6 Days (n=533) Patients, No. (%) | 7 Days (n=1,506) Patients, No. (%) |
| Swab Method                   |                                                  |                                                  |                                                  |                                                  |                                                  |                                                  |                                                  |
| Nasopharyngeal Swab           | 2,868 (85.8)                                      | 1,572 (90.5)                                     | 1,605 (91.9)                                     | 1,030 (91.2)                                     | 816 (90.5)                                     | 474 (88.9)                                     | 1,350 (89.6)                                     |
| Mouth / Saliva                | 29 (0.8)                                          | 11 (0.6)                                          | 12 (0.7)                                           | 11 (0.9)                                           | < 5                                           | < 5                                           | 19 (1.3)                                          |
| Mid-Turbinate Swab            | 153 (4.6)                                         | 44 (2.5)                                          | 42 (2.4)                                           | 28 (2.5)                                           | 26 (2.9)                                       | 22 (4.1)                                       | 34 (2.3)                                          |
| Saline / Water Gargle         | 27 (0.8)                                          | 17 (1.0)                                          | 16 (0.9)                                           | 9 (0.8)                                            | 8 (0.9)                                        | < 5                                           | 6 (0.4)                                          |
| Sputum                        | -                                                 | < 5                                               | < 5                                               | -                                                 | -                                             | < 5                                           | < 5                                              |
| Brochialveolar Lavage         | -                                                 | < 5                                               | -                                                 | -                                                 | -                                             | -                                             | -                                                |
| Trachial Aspirate             | 16 (0.5)                                          | < 5                                               | -                                                 | < 5                                               | < 5                                           | < 5                                           | < 5                                              |
| Blood test                    | < 5                                               | -                                                 | -                                                 | < 5                                               | -                                             | -                                             | -                                                |
| Nasal wash                    | -                                                 | < 5                                               | -                                                 | < 5                                               | -                                             | -                                             | < 5                                              |
| Other                         | 243 (7.3)                                         | 79 (4.6)                                          | 66 (3.8)                                           | 46 (4.1)                                           | 44 (4.8)                                       | 28 (5.3)                                       | 86 (5.7)                                          |
| Missing                       | < 5                                               | < 5                                               | < 5                                               | < 5                                               | < 5                                           | -                                             | < 5                                              |
| Admitted                      | 1,288 (38.5)                                      | 507 (29.3)                                        | 558 (32.0)                                        | 392 (34.7)                                        | 297 (32.9)                                     | 180 (33.7)                                     | 577 (38.3)                                       |
| ICU Admission                  | 215 (6.4)                                         | 87 (5.0)                                          | 140 (8.0)                                          | 82 (7.3)                                          | 67 (7.4)                                       | 52 (9.7)                                       | 173 (11.5)                                       |
| Severe COVID-19               | 615 (18.4)                                        | 342 (19.8)                                        | 396 (22.7)                                        | 273 (24.1)                                        | 240 (26.6)                                     | 158 (29.6)                                     | 427 (28.4)                                       |
| Intubated                     | 130 (3.9)                                         | 58 (3.4)                                          | 81 (4.6)                                           | 42 (3.7)                                           | 33 (3.7)                                       | 29 (5.4)                                       | 92 (6.1)                                         |
| Steroids                      | 620 (18.6)                                        | 333 (19.3)                                        | 387 (22.2)                                        | 269 (23.8)                                        | 199 (22.1)                                     | 138 (25.9)                                     | 428 (28.4)                                       |
| Death                         | 246 (7.4)                                         | 106 (6.1)                                         | 116 (6.6)                                         | 61 (5.4)                                           | 38 (4.2)                                       | 22 (4.1)                                       | 91 (6.0)                                         |
eTable 3. Patient Characteristics by Symptom Duration at the Time of Their First SARS-CoV-2 NAAT (8 to 14 Days)

| Variables                        | 8 Days (n=408) Patients, No. (%) | 9 Days (n=222) Patients, No. (%) | 10 Days (n=385) Patients, No. (%) | 11 Days (n=156) Patients, No. (%) | 12 Days (n=93) Patients, No. (%) | 13 Days (n=93) Patients, No. (%) | 14 Days (n=478) Patients, No. (%) |
|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|
| **Swab Method**                  |                                  |                                  |                                   |                                   |                                  |                                   |                                   |
| Nasopharyngeal Swab              | 364 (89.2)                       | 201 (90.5)                       | 174 (45.2)                        | 141 (90.3)                        | 93 (94.9)                        | 82 (88.2)                        | 431 (90.2)                       |
| Mouth / Saliva                   | < 5                              | < 5                              | < 5                               | < 5                               | -                                | -                                 | < 5                              |
| Mid-Turbinate Swab               | 18 (4.4)                         | 8 (3.6)                          | 16 (4.2)                          | 5 (3.2)                           | < 5                              | < 5                              | 18 (3.6)                         |
| Saline / Water Gargle            | < 5                              | < 5                              | < 5                               | < 5                               | -                                | -                                 | < 5                              |
| Sputum                           | -                                | -                                | -                                 | -                                 | -                                | -                                 | -                                |
| Brochialveolar Lavage            | -                                | -                                | < 5                               | < 5                               | -                                | -                                 | -                                |
| Trachial Aspirate                | -                                | < 5                              | < 5                               | < 5                               | -                                | < 5                              | < 5                              |
| Blood test                       | -                                | -                                | -                                 | -                                 | -                                | -                                 | -                                |
| Nasal wash                       | -                                | < 5                              | -                                 | -                                 | -                                | -                                 | < 5                              |
| Other                            | 19 (4.6)                         | 9 (4.0)                          | 18 (4.7)                          | 7 (.5)                            | < 5                              | 7 (7.5)                          | 22 (4.6)                         |
| **Admitted**                     |                                  |                                  |                                   |                                   |                                  |                                   |                                   |
| ICU Admission                    | 177 (43.4)                       | 99 (44.6)                        | 174 (45.2)                        | 70 (55.1)                         | 52 (53.1)                        | 52 (55.9)                        | 238 (50.2)                       |
| Severe COVID-19                  | 132 (32.3)                       | 66 (29.7)                        | 154 (40.0)                        | 61 (39.1)                         | 40 (40.8)                        | 37 (39.8)                        | 165 (34.5)                       |
| Intubated                        | 22 (5.4)                         | 9 (4.0)                          | 23 (6.0)                          | 7 (4.5)                           | < 5                              | < 5                              | 28 (5.9)                         |
| Steroids                         | 135 (33.1)                       | 73 (32.8)                        | 137 (35.8)                        | 46 (29.5)                         | 39 (39.8)                        | 39 (41.9)                        | 165 (34.5)                       |
| Death                            | 23 (5.6)                         | 11 (4.9)                         | 18 (4.7)                          | < 5                               | < 5                              | 5 (5.4)                          | 35 (7.3)                         |

ICU=Intensive Care Unit; SARS-CoV-2=Severe acute respiratory syndrome coronavirus 2; NAAT=nucleic acid amplification testing
eFigure. Treatments and Outcomes Among Patients by Symptom Duration at the Time of Their First SARS-CoV-2 NAAT Among 96,232 Patients Who Reported a Date of Symptom Onset

SARS-CoV-2=Severe acute respiratory syndrome coronavirus 2; NAAT=nucleic acid amplification testing
**eTable 4.** Sensitivity of SARS-CoV-2 NAATs, by Symptom Duration Among 12,726 SARS-CoV-2 Positive Patients Who Reported a Date of Symptom Onset

| Time   | True Positive, No. | False Negative, No. | Number of Tests, No. | Sensitivity, % (95% CI) |
|--------|---------------------|----------------------|----------------------|-------------------------|
| <24h   | 3,238               | 142                  | 3,380                | 95.8 (95.0-96.4)        |
| 2 days | 1,710               | 41                   | 1,751                | 97.7 (96.8-98.3)        |
| 3 days | 1,725               | 49                   | 1,774                | 97.2 (96.4-97.9)        |
| 4 days | 1,129               | 27                   | 1,156                | 97.7 (96.6-98.5)        |
| 5 days | 905                 | 28                   | 933                  | 97.0 (95.7-98.0)        |
| 6 days | 540                 | 27                   | 567                  | 95.2 (93.1-96.8)        |
| 7 days | 1,492               | 51                   | 1,543                | 96.7 (95.7-97.5)        |
| 8 days | 419                 | 19                   | 438                  | 95.7 (93.3-97.3)        |
| 9 days | 241                 | 18                   | 259                  | 93.1 (89.2-95.8)        |
| 10 days| 397                 | 22                   | 419                  | 94.7 (92.2-96.7)        |
| 11 days| 170                 | 18                   | 188                  | 90.4 (85.3-94.2)        |
| 12 days| 125                 | 6                    | 131                  | 95.4 (90.3-98.3)        |
| 13 days| 112                 | 5                    | 117                  | 95.7 (90.3-98.5)        |
| 14 days| 479                 | 17                   | 496                  | 96.6 (94.6-98.0)        |

SARS-CoV-2=Severe acute respiratory syndrome coronavirus 2; NAAT=nucleic acid amplification testing

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**eTable 5.** Diagnostic Yield by Symptom Duration at the Time of the First SARS-CoV-2 NAAT Among 96,232 Patients Who Reported a Date of Symptom Onset

| Time   | COVID Positive, No. | COVID Negative, No. | Number of Swabs, No. | Diagnostic Yield, % (95% CI) |
|--------|---------------------|---------------------|----------------------|-----------------------------|
| < 24h  | 1,686               | 19033               | 20,719               | 8.1 (7.7-8.5)               |
| 2 days | 1,763               | 11097               | 12,860               | 13.7 (13.1-14.3)            |
| 3 days | 1,784               | 9930                | 11,714               | 15.2 (14.6-15.9)            |
| 4 days | 1,171               | 6276                | 7,447                | 15.7 (14.9-16.6)            |
| 5 days | 952                 | 4286                | 5,238                | 18.2 (17.1-19.2)            |
| 6 days | 595                 | 2708                | 3,303                | 18.0 (16.7-19.3)            |
| 7 days | 1559                | 6456                | 8,015                | 19.5 (18.5-20.3)            |
| 8 days | 482                 | 2420                | 2,902                | 16.6 (15.2-18.0)            |
| 9 days | 286                 | 1245                | 1,531                | 18.7 (16.7-20.6)            |
| 10 days| 445                 | 1784                | 2,229                | 20.0 (18.3-21.6)            |
| 11 days| 220                 | 1119                | 1,339                | 16.4 (14.4-18.4)            |
| 12 days| 183                 | 899                 | 1,082                | 16.9 (14.7-19.2)            |
| 13 days| 160                 | 964                 | 1,124                | 14.2 (12.2-16.3)            |
| 14 days| 546                 | 3656                | 4,202                | 13.0 (11.9-14.0)            |

SARS-CoV-2=Severe acute respiratory syndrome coronavirus 2; NAAT=nucleic acid amplification testing