**Supplemental Figure 1. Identification of a patient cohort using EHRs reporting stage I–III NSCLC and a genetic test for *EGFR* status.**

*EGFR*: gene encoding the epidermal growth factor receptor; EHR: electronic health record; NSCLC: non-small cell lung cancer.

**Supplemental Table 1. Treatment definitions used in this study.**

|  |  |
| --- | --- |
| Category | Definition |
| Resection only | The EHR reports a surgery within 16 weeks of the initial NSCLC diagnosis, but does not explicitly state surgery with resection purpose; therefore, for the purposes of this research surgery is defined as the first resection |
| Resection plus neoadjuvant therapy | The EHR reports resection and a systemic treatment and/or radiotherapy started and finished between the initial NSCLC diagnosis and the surgery |
| Resection plus adjuvant therapy | The EHR reports resection and a systemic treatment and/or radiotherapy started no later than 26 weeks after the surgery |
| Surgery for disease recurrence or metastasis | The EHR does not report surgery with resection purpose but does report a surgery more than 16 weeks after the initial diagnosis with or without systemic therapy or radiotherapy |
| Systemic therapy, radiotherapy, chemoradiotherapy, targeted therapy, immunotherapy | Therapies were assigned to each category as defined by NCCN guidelines (NCCN Guidelines) [6]. |

EHR: electronic health record; NCCN: National Comprehensive Cancer Network; NSCLC: non-small cell lung cancer.

**Supplemental Table 2. Demographics of patients diagnosed with stage I–III NSCLC and a documented *EGFR* test.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Stage I–III (n = 3,121) | Stage I  (n = 1,034) | Stage II  (n = 560) | Stage III  (n = 1,527) |
| Age at diagnosis, year;  median (IQR) | 68 (60–75) | 70 (62–76) | 69 (61–76) | 67 (60–74) |
| Age at diagnosis group; n (%) |  |  |  |  |
| <65 years | 1,175 (37.6) | 325 (31.4) | 194 (34.6) | 656 (43.0) |
| ≥65 years | 1,946 (62.4) | 709 (68.6) | 366 (65.4) | 871 (57.0) |
| Gender, female; n (%) | 1,736 (55.6) | 642 (62.1) | 304 (54.3) | 790 (51.7) |
| Race; n (%) |  |  |  |  |
| White | 2,276 (72.9) | 782 (75.6) | 401 (71.6) | 1,093 (71.6) |
| Black or African American | 377 (12.1) | 118 (11.4) | 69 (12.3) | 190 (12.4) |
| Asian | 153 (4.9) | 49 (4.7) | 33 (5.9) | 71 (4.6) |
| Others | 255 (8.2) | 76 (7.4) | 44 (7.9) | 135 (8.8) |
| Unknown/ not documented | 60 (1.9) | 9 (0.9) | 13 (2.3) | 38 (2.5) |
| Histology at diagnosis; n (%) |  |  |  |  |
| Non-squamous cell carcinoma | 2,672 (85.6) | 927 (89.7) | 470 (83.9) | 1,275 (83.5) |
| Squamous cell carcinoma | 440 (14.1) | 106 (10.3) | 88 (15.7) | 246 (16.1) |
| NSCLC histology NOS | 9 (0.3) | 1 (0.1) | 2 (0.4) | 6 (0.4) |
| ECOG PS at diagnosis; n (%) |  |  |  |  |
| 0–1 | 1,315 (42.1) | 353 (34.1) | 232 (41.4) | 730 (47.8) |
| ≥2 | 254 (8.1) | 80 (7.7) | 36 (6.4) | 138 (9.0) |
| Not recorded | 1,552 (49.7) | 601 (58.1) | 292 (52.1) | 659 (43.2) |

ECOG PS, Eastern Cooperative Oncology Group Performance Score; *EGFR*: gene encoding the epidermal growth factor receptor; inter-quartile range; NSCLC: non-small cell lung cancer; NOS: not otherwise specified.

**Supplemental Table 3. Demographics of patients diagnosed with stage I–III NSCLC based on *EGFR* test record.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | All  (N = 14,452) | *EGFR* test recorded  (n = 3,121) | *EGFR* test not recorded  (n = 11,331) |
| Year of initial diagnosis, n (%) |  |  |  |
| 2014 | 3,129 (100) | 657 (21.0) | 2,472 (79.0) |
| 2015 | 3,523 (100) | 745 (21.1) | 2,778 (78.9) |
| 2016 | 3,334 (100) | 763 (22.9) | 2,571 (77.1) |
| 2017 | 2,632 (100) | 600 (22.8) | 2,032 (77.2) |
| 2018 | 1,834 (100) | 356 (19.4) | 1,478 (80.6) |
| Age at diagnosis, year; median (IQR) | 69 (62–76) | 68 (60–75) | 69 (62–76) |
| Age at diagnosis group; n (%) |  |  |  |
| <65 years | 4,835 (100) | 1,175 (24.3) | 3,660 (75.7) |
| ≥65 years | 9,617 (100) | 1,946 (20.2) | 7,671 (79.8) |
| Sex |  |  |  |
| Female | 7,180 (100) | 1,736 (24.2) | 5,444 (75.8) |
| Male | 7,263 (100) | 1,383 (19.0) | 5,880 (81.0) |
| Unknown / not documented | 9 (100) | 2 (22.2) | 7 (77.8) |
| Race; n (%) |  |  |  |
| White | 10,862 (100) | 2,276 (21.0) | 8,586 (79.0) |
| Black or African American | 1,733 (100) | 377 (21.8) | 1,356 (78.2) |
| Asian | 387 (100) | 153 (39.5) | 234 (60.5) |
| Others | 1,174 (100) | 255 (21.7) | 919 (78.3) |
| Unknown / not documented | 296 (100) | 60 (20.3) | 236 (79.7) |

Percentages may not total 100 due to rounding.

*EGFR*: gene encoding the epidermal growth factor receptor; IQR: inter-quartile range; NSCLC: non-small cell lung cancer.

**Supplemental Table 4. *EGFR* mutation status based on timing of test (within 60 days vs after 60 days).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| n (%) | Stage I–III (n = 3,121) | Stage I  (n = 1,034) | Stage II (n = 560) | Stage III (n = 1,527) |
| Tested within 60 days of index | 2,044 (65.5) | 649 (62.8) | 360 (64.3) | 1,035 (67.8) |
| *EGFR*m NSCLC | 316 (15.5) | 134 (20.6) | 47 (13.1) | 135 (13.0) |
| *EGFR*wt NSCLC | 1,647 (80.6) | 481 (74.1) | 300 (83.3) | 866 (83.7) |
| Unsuccessful/indeterminate | 81 (4.0) | 34 (5.2) | 13 (3.6) | 34 (3.3) |
| Tested >60 days after index | 1,077 (34.5) | 385 (37.2) | 200 (35.7) | 492 (32.2) |
| *EGFR*m NSCLC | 177 (16.4) | 72 (18.7) | 27 (13.5) | 78 (15.9) |
| *EGFR*wt NSCLC | 819 (76.0) | 282 (73.2) | 157 (78.5) | 380 (77.2) |
| Unsuccessful/indeterminate | 81 (7.5) | 31 (8.1) | 16 (8.0) | 34 (6.9) |

*EGFR*: gene encoding the epidermal growth factor receptor; *EGFR*m: *EGFR* mutation-positive; *EGFR*wt: *EGFR* wild-type; NSCLC: non-small cell lung cancer.