times for diagnosis and treatment were calculated. **Result:** Patient characteristics are shown in Table 1. Median wait times for investigation and treatment are shown in Table 2. There were variations between centres and regions. **Conclusion:** To our knowledge, this is the largest multicentre review of wait times for diagnosis and treatment of lung cancer with detailed characteristics of patients. Data will be completed and updated prior to the meeting, to try to identify specific factors associated with longer wait times. **Keywords:** diagnosis, treatment, wait times

Characteristic	No (%)
Age, years, mean (range)	68.5 (20-94)
Male sex	585 (48)
Smoking status Former or current smoker Never smoker Unknown	1120 (92) 60 (5) 37 (3)
ECOG performance status 0 1 ≥2 Missing	416 (34) 358 (30) 393 (32) 50 (4)
Histology	
Adenocarcinoma	631 (52)
Squamous cell carcinoma	284 (23)
NSCLC NOS	70 (6)
SCLC	178 (15)
Other	54 (4)
TNM stage	
I	213 (18)
II	114 (9)
III	227 (19)
IV	475 (39)
Limited SCLC	40 (3)
Extensive SCLC	138 (11)
Missing	10 (1)
Known positive *EGFR* mutation status (n=395 tested) Known positive *ALK* translocation status (n=387 tested) PD-L1 TPS (n=386 tested) <1% 1-49% ≥50% Number of investigations per patient, median (IQR)	28 (7) 6 (2) 85 (22) 151 (39) 150 (39) 7 (6, 8)
Tumor board review	194 (16)
Final diagnostic procedure	
Flexible bronchoscopy	338 (28)
EBUS/EUS	223 (18)
Transthoracic needle biopsy	301 (25)
Thoracoscopy	139 (11)
Biopsy of metastatic site	145 (12)
Sputum cytology	1 (0)
Thoracentesis	61 (5)
Mediastinoscopy Missing	2 (0) 7 (1)

ECOG = Eastern Cooperative Oncology Group; NSCLC = non-small cell lung cancer; NOS = not otherwise specified; SCLC = small cell lung cancer; EGFR = epidermal growth factor receptor; ALK = anaplastic lymphoma kinase; TPS = tumor proportion score; IQR = interquartile range; EBUS = endobronchial ultrasonography; EUS = endoscopic ultrasonography.

Table 2. Median wait times for investigation and treatment

Investigation or treatment interval	Pts (n)	Median wait, days (IQR)
Referral to first appointment with specialist	972	2 (0, 7)
First appointment to diagnosis	1152	18 (8, 43)
Diagnosis to first treatment	930	22 (5, 42)
Referral to first treatment	737	58 (28, 89)
Abnormal imaging to first treatment	902	72 (39, 111)
Surgery	268	109 (80, 142)
Radiation	362	59 (28, 98)
Systemic therapy	330	62 (35, 92)

P1.15-14
Pneumonia in Patients with Lung Cancer of South Korea: A Nationwide Population Based Study

H.W. Lee,[1] **J. Jung**,[2] **J. Heo**[3] [1]*Department of Hematology-Oncology, Ajou University School of Medicine, Suwon/KR,* [2]*Department of Thoracic and Cardiovascular Surgery, Ajou University School of Medicine, Suwon/KR,* [3]*Department of Radiation-Oncology, Ajou University School of Medicine, Suwon/KR*

Background: We analyzed the prevalence of pneumonia in lung cancer survivors using claims data from the Health Insurance Review and Assessment Service (HIRA) in South Korea. **Method:** We defined pneumonia among a nationwide cohort of 173,390 patients who were diagnosed with lung cancer and underwent surgery from January 1, 2010 to December 31, 2014, based on HIRA claim data. Descriptive statistics were calculated to estimate the frequency of pneumonia using diagnostic code and utilization pattern at medical institutions. **Result:** Thirty two thousand five hundred lung cancer survivors (19.8%) were diagnosed with pneumonia. The overall frequency of influenza increased from February (n=8089) and peaked in May (n=9,654). Over 59.06% (57,979) of claims for pneumonia treatment were in the clinic, whereas general hospitals accounted for 40.94% (40,184). Among 101,351 claims, admission rate increased as patients get older and the average length of hospitalization was 4.8 days. Elderly breast cancer survivors over 70 years old had the longest length of hospitalization at 6.2 days. **Conclusion:** Lung cancer survivors are more susceptible to pneumonia than non-cancer survivors. It is important not only to raise the vaccination rate among young cancer survivors, but also to quickly identify symptoms and begin treatment for pneumonia in elderly cancer survivors.

P1.15-15
Real-world Experience with Afatinib after Failure of First-Generation Epidermal Growth Factor Receptor-Tyrosine Kinase Inhibitor

C. Liam,[1] **G. Ho**,[2] **C. Chai**,[3] **A. Bt Alip**,[2] **Y. Pang**[1] [1]*Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur/MY,* [2]*Department of Oncology, Faculty of Medicine, University of Malaya, Kuala Lumpur/MY,* [3]*Department of Medicine, Faculty of Medicine and Health Science, University Malaysia Sarawak, Kota Samarahan/MY*

Background: Afatinib, a second-generation epidermal growth factor receptor (*EGFR*)-tyrosine kinase inhibitor (TKI) is the recommended first-line treatment for patients with advanced non-small cell lung cancer harbouring sensitizing *EGFR* mutations. The role of afatinib after failure of first-generation *EGFR*-TKIs is controversial. **Method:** A retrospective observational study of patients with *EGFR* mutant advanced NSCLC receiving second-line afatinib after failure of first-generation *EGFR*-TKI in University Malaya Medical Center from 1st December 2014 to 30th April 2018. **Result:** The demographic and clinical characteristics of 27 patients treated with afatinib after failure of first-generation *EGFR*-TKI are shown in Table 1. Twenty-three patients received gefitinib and 4 patients received erlotinib as first-line treatment. The mPFS with first-line treatment was 11.9 months. Fifteen patients had progression of disease (PD) following second-line afatinib with mPFS of 4.2 months and median time-to-treatment failure of 5.7 months. The mPFS2 conferred by first-line first-generation *EGFR*-TKI and second-line afatinib was 18.4 months. The overall response rate to second-line afatinib was 18.5% (5/27) while the disease control rate as 70.3% (19/27). Two patients who had PD on first-generation *EGFR*-TKI due to *T790M* mutation received second-line afatinib while waiting for compassionate access to osimertinib. Nine of the 15 patients (69.2%) with PD on afatinib underwent investigations for resistance mechanisms. Three patients had *T790M* mutation, one of whom had

concomitant small cell lung cancer transformation. *c-MET* amplification was detected in another 3 patients. One patient each had *EML4-ALK* rearrangement and epithelial mesenchymal transition. **Conclusion:** Afatinib conferred a modest mPFS benefit after failure of first-generation *EGFR*-TKI. The mPFS of sequential treatment with first-generation *EGFR*-TKI followed by afatinib seems longer than the mPFS of first-line afatinib in phase 3 randomised controlled trials. Apart from *T790M mutation,* the resistance mechanisms to second-line afatinib in our patients are more heterogenous. **Keywords:** afatinib, resistance mechanism, second line treatment

Table 1 Demographic and clinical characteristic of 27 patients on second-line afatinib

Demographic and clinical characteristics		
Age, years	Means ± SD	63.4 ± 9.6
Gender, No. (%)	Male	15 (55.6)
	Female	12 (44.4)
Smoking status, No. (%)	Never smoker	20 (74.1)
	Ex/current smoker	7 (25.9)
ECOG performance status, No. (%)	0-1	23 (85.2)
	2-4	4 (14.8)
Stage, No. (%)	IIIb	2 (7.5)
	IV	25 (92.5)
Symptomatic brain metastases, No. (%)	No	24 (88.9)
	Yes	3 (11.1)
EGFR mutation subtype, No. (%)	Exon 19 del	13 (48.1)
	Exon 21 L858R	11 (40.7)
	Rare/complex mutation	2 (7.4)
	Not tested*	1 (3.7)

*This was a patient in the IPASS study who was not tested for *EGFR* mutation but who had prolonged partial response to gefitinib with a PFS of 5 years suggesting that her tumor most likely harbored a sensitizing *EGFR* mutation

P1.15-16
ALKConnect: An Anaplastic Lymphoma Kinase Positive (ALK+) Non-Small Cell Lung Cancer (NSCLC) Patient Insights Network

H. Lin,[1] **X. Pan,**[1] **H. Huang,**[1] **G. Salvatore,**[1] **S. Clarke,**[2] **H. West**[3]
[1]*Millennium Pharmaceuticals, Inc., A Wholly Owned Subsidiary of Takeda Pharmaceutical Company Limited, Cambridge/MA/US,* [2]*Invitae Corporation, San Francisco/CA/US,* [3]*Thoracic Oncology Program, Swedish Cancer Institute, Seattle/WA/US*

Background: ALK+ NSCLC is a subset of NSCLC present in ~3-5% of NSCLC patients. Little is known about ALK+ NSCLC patients' unique journeys, their perspectives on the burden of disease, and their 'real-world' treatment experiences. Online patient networks provide opportunities to gain valuable insights into outcomes meaningful to patients, directly from patients. The objective of this study is to develop an ALK+ NSCLC patient network to facilitate patient interaction and to conduct patient-centered research including understanding unmet needs, patient preferences, health-related quality of life (HRQoL), and product differentiation. **Method:** The ALKConnect Patient Insights Network (www.alkconnect.com) will be a patient-focused registry that directly collects information from patients living with ALK+ NSCLC. Patients meeting study criteria will be enrolled in the online survey over a 2-year period. Inclusion criteria are US, adult, English-speaking patients with ALK+ NSCLC providing written, informed consent, internet access, and willing to answer regular e-surveys. Retrospective and cross-sectional 'real-world' data that will be collected include demographics, clinical characteristics including ALK+ NSCLC disease history and status, comorbidities, past and present treatment experiences and outcomes, quality of life, patient preferences, healthcare resource use, and work productivity. Supplementary data may be collected through uploading of electronic medical records. **Result:** The ALKConnect Patient Insights Network will systematically characterize the natural history of ALK+ NSCLC and its treatment and the overall impact on patients. The data collected will be reported descriptively for the population overall and by subgroups of interest (e.g., age, sex) where sample sizes permit. The associations between treatment history/disease status and patient-reported outcomes including symptom severity, HRQoL (e.g., responses to the MD Anderson Symptom Inventory lung cancer module [MDASI-LC]), healthcare resource use, and work productivity will be analyzed. Longitudinal trends will be evaluated to enable a better understanding of the impact of ALK+ NSCLC over time. All de-identified information gathered from ALKConnect will be shared with the ALK+ NSCLC community, including patients, caregivers, healthcare professionals, advocacy organizations, and fellow researchers. **Conclusion:** We present ALKConnect, an online ALK+ NSCLC patient insights network directly from patients. ALKConnect will provide patients with ALK+ NSCLC opportunities to share their treatment experiences, disease burden, HRQoL, and preferences. Through dissemination to scientific and medical communities, researchers will gain first-hand insights into ALK+ NSCLC patients' experiences of care, and into opportunities for addressing patients' unmet needs. **Keywords:** Patient-reported outcomes, Real-world treatment, ALKConnect

P1.15-17
Risk Factors of Local Recurrence in EGFR-Mutant Stage III-pN2 Adenocarcinoma After Complete Resection: A Multi-Center Real-World Cohort Study

Q. Li,[1] **B. Qiu,**[1] **W. Liang,**[2] **J. Wang,**[3] **W. Hu,**[4] **S. Xu,**[5] **S.H. Lin,**[6] **J. López,**[7] **N. Chen,**[1] **T. Zhang,**[8] **M. Guo,**[9] **Y. Zhao,**[10] **S. Liu,**[11] **Q. Liu,**[3] **J. Guo,**[1] **L. Cai,**[1] **S. Wang,**[3] **X. Wang,**[3] **L. Zhang,**[3] **T. Rong,**[3] **Z. Yu,**[12] **J. Yun,**[4] **G. Wu,**[5] **L. Zhang,**[13] **V. Fang,**[14] **H. Long,**[3] **Q. Pang,**[8] **H. Liu**[1]
[1]*Department of Radiation Oncology, Sun Yat-Sen University Cancer Center, Guangzhou/CN,* [2]*Department of Thoracic Surgery and Oncology, The First Affiliated Hospital of Guangzhou Medical University, Guangzhou/CN,* [3]*Department of Thoracic Surgery, Sun Yat-Sen University Cancer Center, Guangzhou/CN,* [4]*Department of Pathology, Sun Yat-Sen University Cancer Center, Guangzhou/CN,* [5]*Union Hospital Cancer Center, Tongji Medical College, Huazhong University of Science and Technology, Wuhan/CN,* [6]*MD Anderson Cancer Center, Houston/US,* [7]*Department of Pathology, Cruces University Hospital, Barakaldo/ES,* [8]*Department of Radiation Oncology, Tianjin Medical University Cancer Institute and Hospital, Tianjin/CN,* [9]*Thoracic Surgery and Oncology, The First Affiliated Hospital of Guangzhou Medical University, China State Key Laboratory of Respiratory Disease and National Clinical Research Center for Respiratory Disease, Guangzhou/CN,* [10]*Thoracic Surgery and Oncology, The First Affiliated Hospital of Guangzhou Medical University; Guangzhou Institute of Respiratory Disease and China State Key Laboratory of Respiratory Disease. Guangzhou, China., Guangzhou/CN,* [11]*Depaerment of Pathology, Sun Yat-Sen University Cancer Center, Guangzhou/CN,* [12]*Department of Esophageal Cancer, Tianjin Medical University Cancer Institute and Hospital, National Clinical Research Center of Cancer, Tianjin/CN,* [13]*Department of Medical Oncology, Sun Yat-Sen University Cancer Center, Guangzhou/CN,* [14]*Department of Thoracic Surgery, Shanghai Chest Hospital, Shanghai/CN*

Background: Postoperative radiotherapy (PORT) of complete resected stage IIIA non-small cell lung cancer with N2 nodal