REAL-WORLD EFFICACY AND COST DATA ON PATIENTS WITH METASTATIC NON-SMALL CELL LUNG CANCER TREATED WITH CHECKPOINT INHIBITORS IN AN ITALIAN UNIVERSITY HOSPITAL IN SEPTEMBER 2016-2020

M. VERALDI1, S. ESPOSITO1, C. ZITO1, C. MONOPOLO1, M.D. NATURALE2, A.E. DE FRANCESCO1.

1AZIENDA OSPEDALiero-UNIVERSITARIA MATER DOMINI, HOSPITAL PHARMACY, CZ- CATANZARO CALABRIA, ITALY.
2UNIVERSITA DEGLI STUDI MAGNA GRAECIA, SCUOLA DI SPECIALIZZAZIONE, CZ- CATANZARO CALABRIA, ITALY.

BACKGROUND AND IMPORTANCE
Non-small-cell lung carcinoma (NSCLC) accounts for 85–90% of all forms of lung cancer. In recent years, the development of immune checkpoint inhibitors has completely changed the therapeutic landscape of NSCLC and changed treatment standards. Immunology is a promising therapeutic option based on the use of synthetic antibodies, as nivolumab and pembrolizumab, able to improve both the survival of patients. All this represents a valid new approach but the high cost requires a specific evaluation of health outcomes.

AIM AND OBJECTIVES
The main aim of this retrospective observational study is to analyze the characteristics of NSCLC patients, the treatment outcomes and costs of patients with advanced stage NSCLC treated with nivolumab and pembrolizumab in in an Italian Teaching Hospital on a cohort of 102 selected patients.

MATERIAL AND METHODS
A retrospective, observational analysis was conducted on patients treated with immune checkpoint inhibitors from September 2016 to September 2020 at University Hospital “Mater Domini” in Catanzaro, Italy. Data sources were medical records, internal prescription cards and reports of adverse reactions.

RESULTS
One hundred and two patients (89,2% male) were diagnosed with advanced NSCLC, 69,6% characterized by a non-squamous histology, 30,4% squamous. First-line treatment with pembrolizumab was administered to 53 patients for an average of 11.5 months, 9 of which are in innovative treatment with pembrolizumab + pemetrexed at the first line with an average annual patient cost of € 4,915,78, while 49 patients were treated with nivolumab for an average of 16.5 months with an average annual patient cost of € 11,306,08. Data showed a survival rate of 64,8% after 12 months, 57,9% after 24 months and 48,1% after 36 months. Most patients received immunotherapy as a first-line and others as subsequent treatment.

CONCLUSION AND RELEVANCE
Nowadays there are numerous clinical studies in NSCLC but there is no study comparing immunotherapy treatments. From this study, based on real world data, it emerged that the impact on budget is greater for nivolumab which has a higher survival value than pembrolizumab. This analysis was a first step in assessing the impact of introducing a significant new class of treatments, immunotherapy, comparing two drugs that have totally changed the prognosis of NSCLC patients.