**Supplementary Table S1. Criteria Groups for Incrementally Restrictive RCT-Like RWD Populations.**

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| **Restriction criteria group** **rules** | **IMpower150-WT****n=163** | **IMpower130-WT****n=187** | **IMpower131****n=187** | **IMpower132****n=672** |
| **Chemotherapy regimen** | Carboplatin, bevacizumab, paclitaxel | Carboplatin, nab-paclitaxel | Carboplatin, nab-paclitaxel | Platinum, pemetrexed |
| **Group 1, n*** Includes patients with advanced disease
* Histology
 | 152 | 48 | 121 | 630 |
| **Group 2, n*** Restriction criteria group 1+
* Age ≥18 years
* Excludes prior anti-neoplastic and experimental drugs
* Excludes patients without a visit within 90 days
* Includes confirmation by administration
 | 128 | 41 | 117 | 576 |
| **Group 3, n*** Restriction criteria group 1-2 +
* Includes patients with ECOG PS <2 or missing
* Includes only patients with normal lab values
 | 95 | 21 | 88 | 353 |
| **Group 4, n*** Restriction criteria group 1-3 +
* Study period restriction
* Start of first line therapy ≥6 months before study end date
* Excludes EGFR/ALK+ patients
 | 61 | 15 | 57 | 281 |

ECOG PS, Eastern Cooperative Oncology Group performance status; EGFR/ALK, epidermal growth factor receptor/anaplastic lymphoma kinase; RCT, randomized controlled trial; RWD, real-world data; WT, wild type.