**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.