# Cancer cell therapies: the clinical trial landscape

Jia Xin Yu, Samik Upadhaya, Revati Tatake, Fern Barkalow and Vanessa M. Hubbard-Lucey

Dataset and analysis

The data on cell therapy agents were collected from GlobalData's Pharma Intelligence Center and subsequently curated by Cancer Research Institute (CRI) based on CRI IO Analytics definition of different cell therapy types and drug target information. Cell therapies were classified into seven categories based on the different mechanisms of action: (1) CAR-T, (2) T cell receptor (TCR), (3) autologous circulating T cells targeting an unspecified tumour-associated antigen (TAA) or a tumour-specific antigen (TSA), (4) tumour-infiltrating T cells (TIL), (5) T cell therapies based on new technologies (such as induced pluripotent stem cells (iPSCs), CRISPR or γδT cells), (6) cell therapies derived from natural killer (NK) or NKT cells, and (7) therapies derived from other cell types (other cell therapies, such as macrophages or stem cells). The cell therapies that qualify as cancer vaccines were excluded from this analysis. The clinical trial data were obtained from GlobalData's clinical trials database (globaldata.com), curated from over 50,000 sources, including over 190 clinical trial registries worldwide, scientific conferences, company press releases, investor presentations, SEC filings, published reports and many more sources. In previous reports, clinical trials information derived from solely clinicaltrials.gov. The trials investigating cell therapies consistent with CRI IO Analytics definition were subsequently analysed. March 31, 2020 cut off point was used for drugs and clinical trials, and the analyses were done by using PostgreSQL and Tableau.
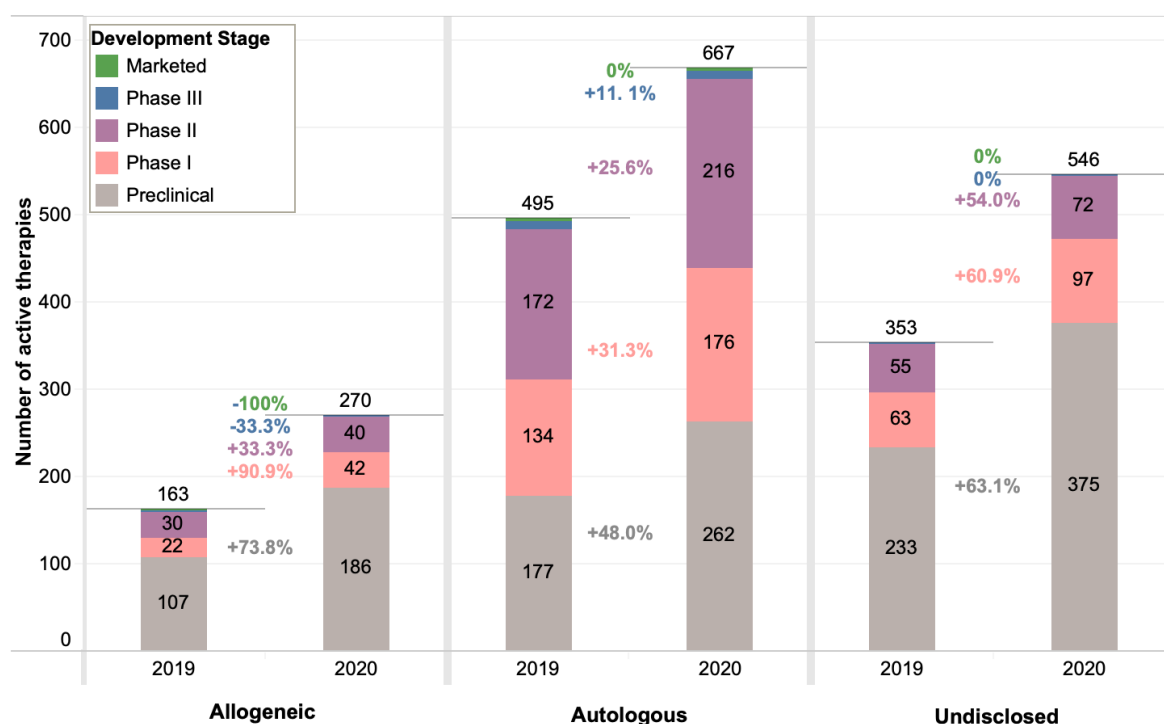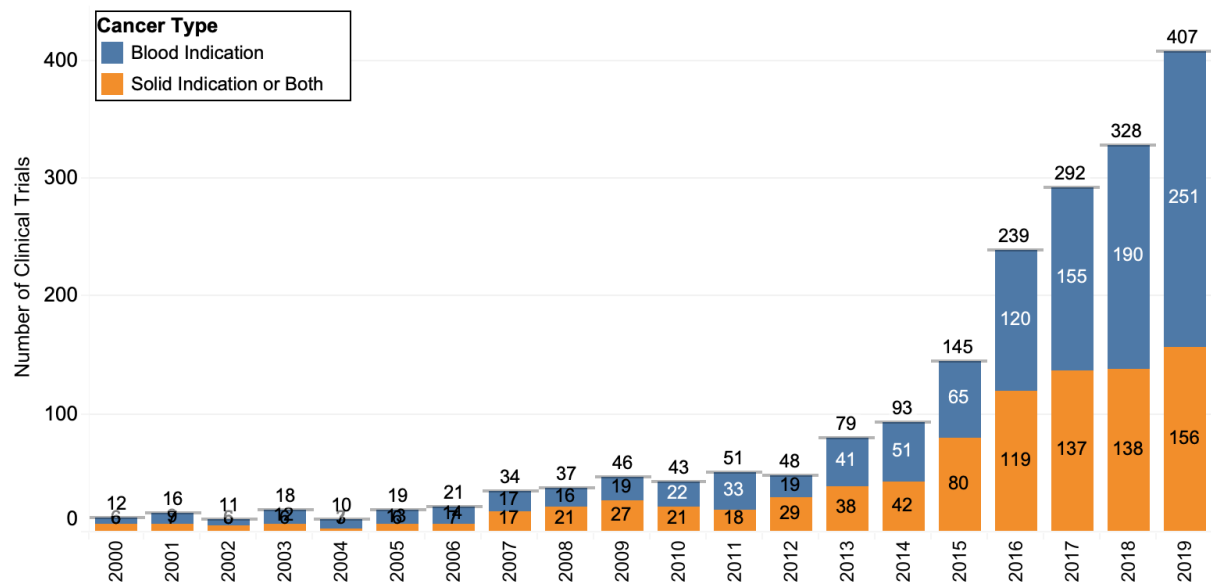

Supplementary Fig. 1 | Comparison of active cell therapies based on 'Allogeneic' and 'Autologous' in origin or 'Undisclosed' where the origin is not disclosed.
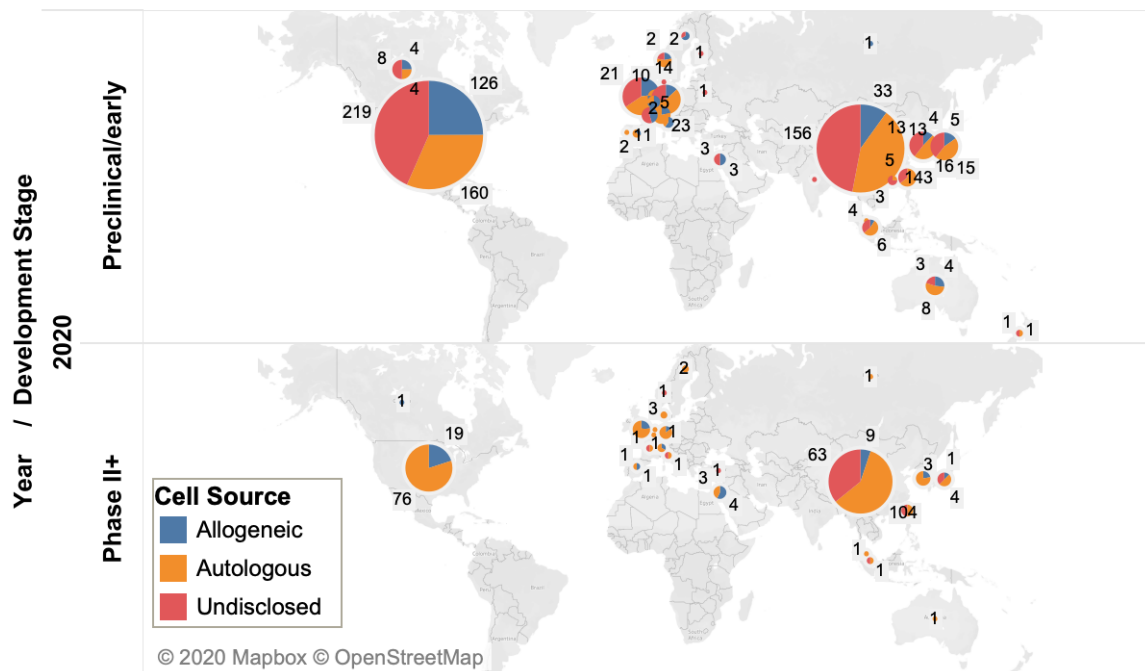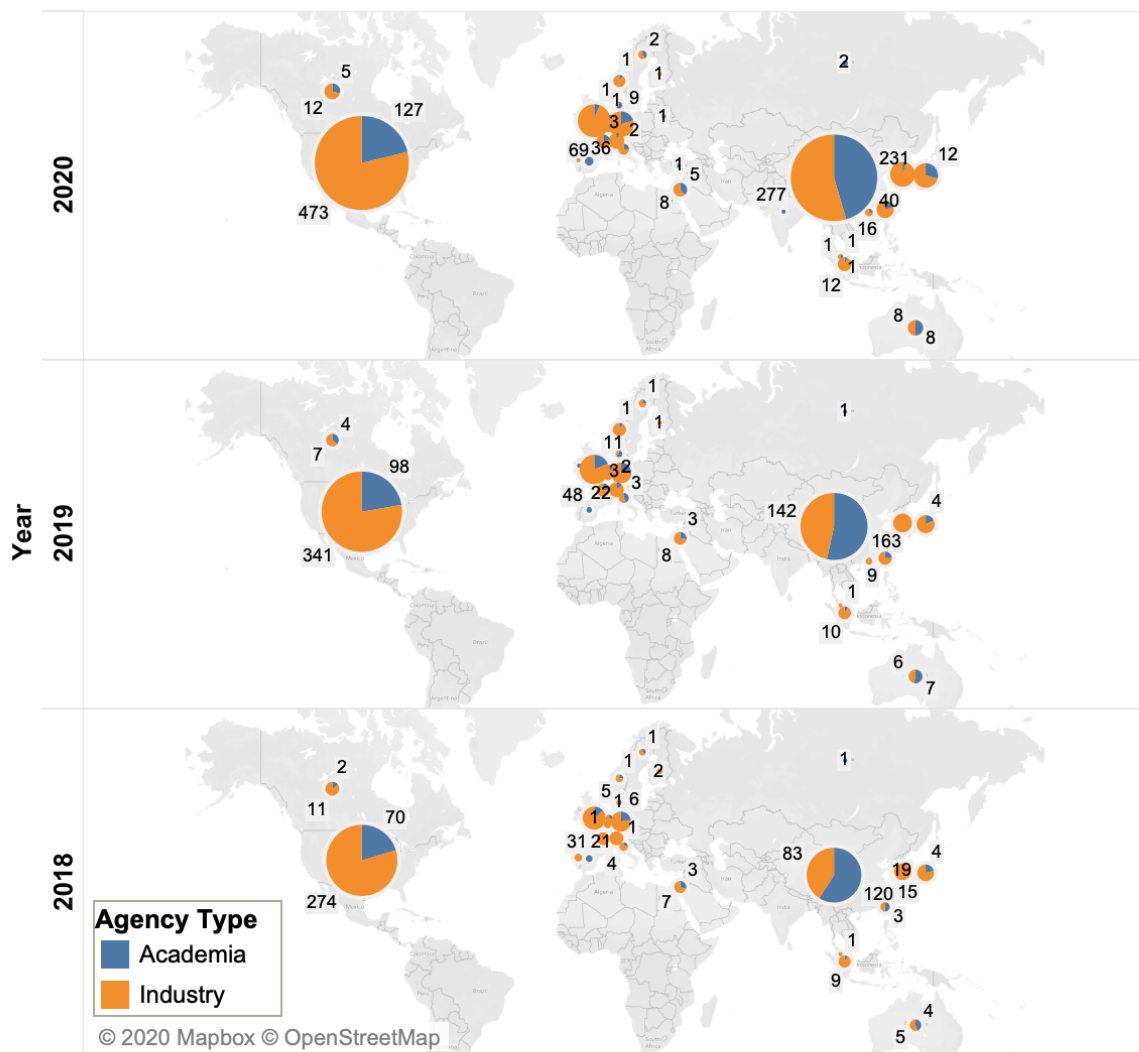
Supplementary Fig. 2 | Landscape of cancer cell therapies pipeline from 2020 updated by country of origin and development stage. Source: CRI IO Analytics and GlobalData
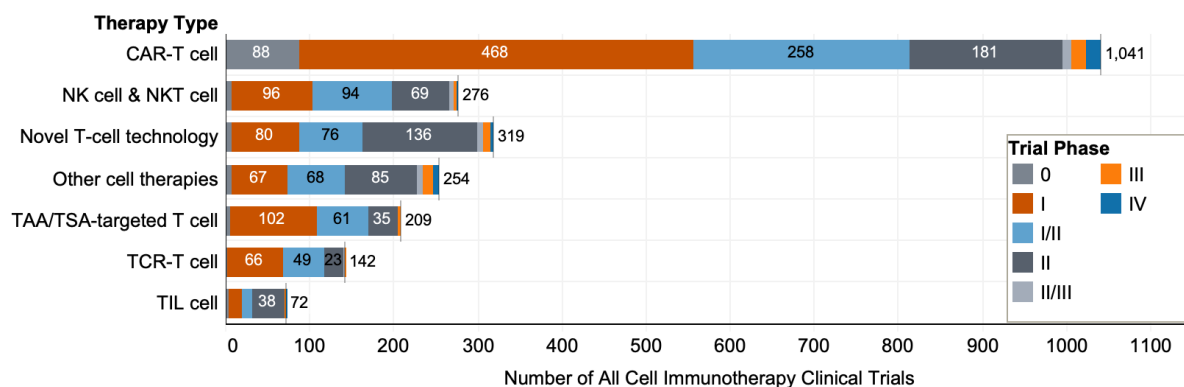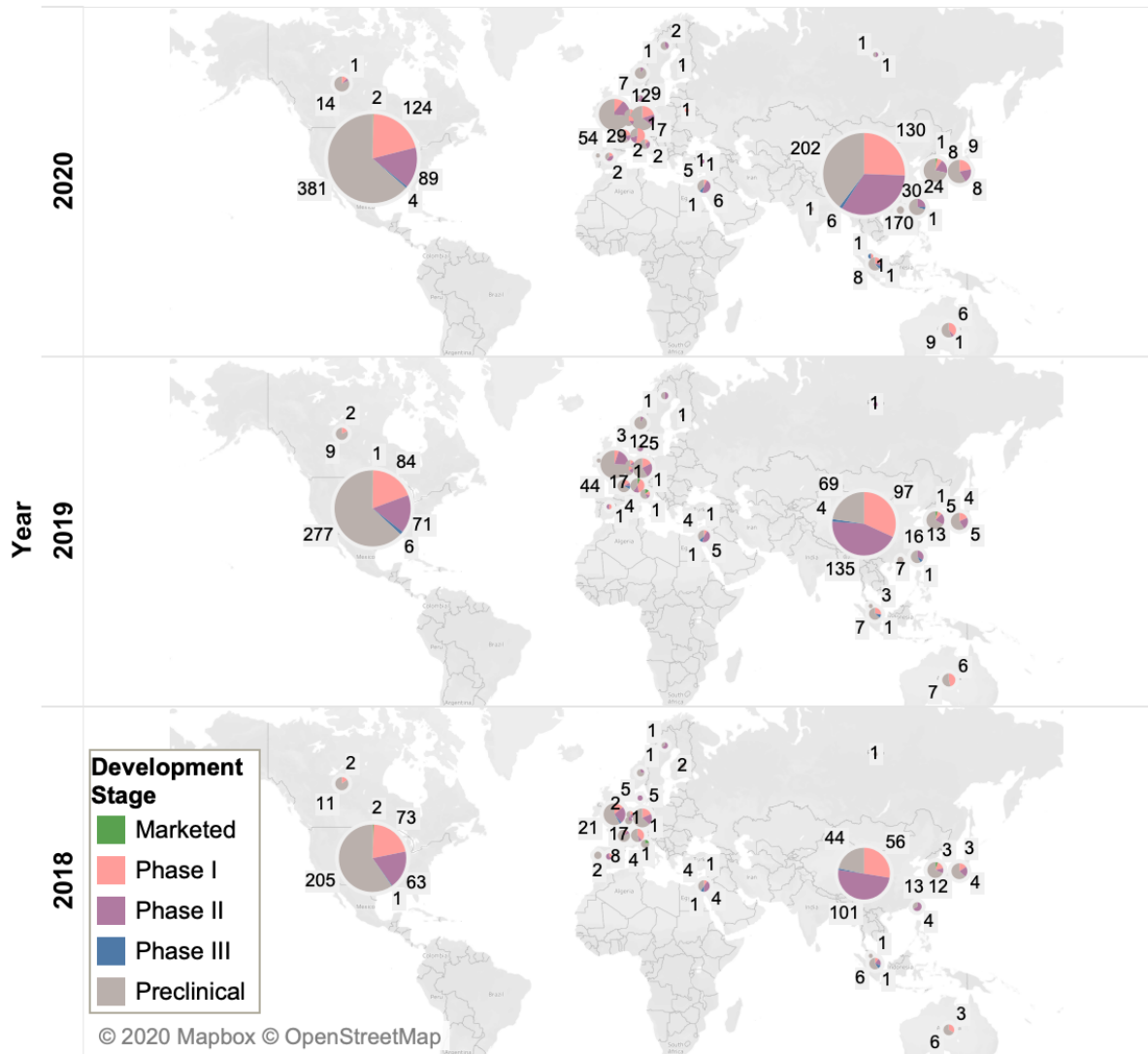

Supplementary Fig. 3 | Landscape of all cancer cell therapy trials extracted from GlobalData's clinical trials database (data cut off point March 31,2020) based on trial phase and therapy type.
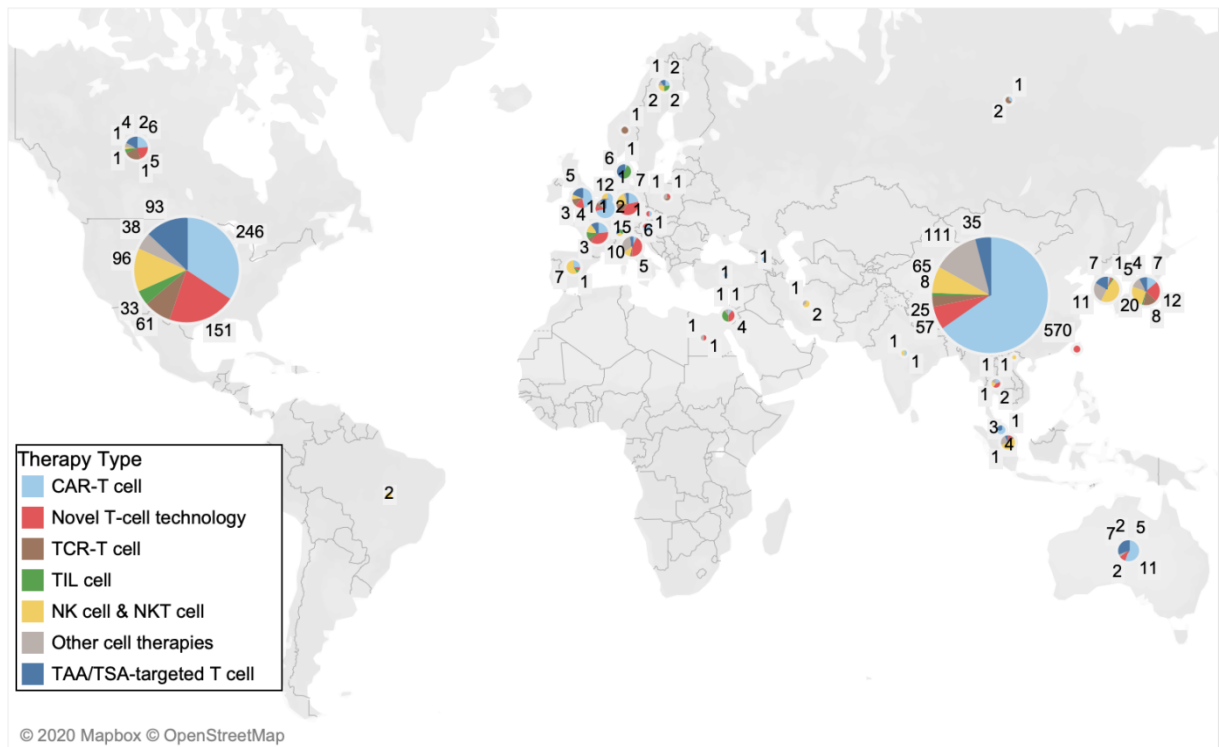
Supplementary Fig. 4 | Comparison of all cancer cell therapy clinical trials by start date (2000 to 2019) and indication type. Source: CRI IO Analytics and GlobalData

Supplementary Fig. 5 | Comparison of active cancer cell therapy pipeline from update year 2018 to 2020 by ownership type. Source: CRI IO Analytics and GlobalData

Supplementary Fig. 6 | Comparison of cancer cell therapy pipelines from update year 2018 to 2020 by clinical stages. Source CRI IO Analytics and GlobalData.

Supplementary Fig. 7 | Comparison of all cancer cell therapy clinical trials by main country and therapy types with data cut-off point date March 31,2020. Source CRI IO Analytics and GlobalData.