

CELL & GENE THERAPY AND CONNECTED HEALTH

Fact Sheet

SEPTEMBER 2021

IT'S ALL HERE — TALENT. RESEARCH. RESULTS.



TALENT

- Nearly 70,000 employed in the life sciences industry in Greater Philadelphia (JLL, 2020)
- Between 2010 and 2020, Philadelphia County's biotechnology research and development sector added 4,510 jobs, an increase of 787% (Bureau of Labor Statistics, July 2021)
- The cell and gene therapy workforce is expected to grow 35 – 94% in the next 10 years, using mid-range projections. That could account for 6,558 to 9,396 jobs (Econsult, 2019)
- 38 four-year colleges offering programs related to life sciences, producing over 18,500 life sciences/STEM degrees in 2017 (Newmark Knight, 2019)
- Number 4 in higher education expenditures (JLL, 2021) and No. 4 for medical research and health services (CBRE, 2019)
- Ranked second-best globally for attracting entrepreneurs and skilled technology graduates (JLL, 2019)
- Among the region's renowned researchers in cell and gene therapy, gene editing, bioprocessing, and connected health are: University of Pennsylvania's Perelman School of Medicine's Dr. Jean Bennett, Dr. Carl June, Dr. Raina Merchant, and Dr. James Wilson; Children's Hospital of Philadelphia's Dr. Steve Grupp and Dr. Hakon Hakonarson; ChristianaCare's Dr. Eric Kmiec; and Jefferson Health's Dr. Parviz A. Shamlou



RESEARCH

- More than two decades ago, early gene therapy research was underway at the University of Pennsylvania
- The region is home to the collaboration between Children's Hospital of Philadelphia and Penn Medicine that developed CAR T-cell cancer treatment therapy
- Five FDA-approved therapies have their origins here, including:
 - First FDA-approved cell therapy, Kymriah™, which has multiple indications, by Novartis Pharmaceuticals
 - First FDA-approved gene therapy*, LUXTURNATM, by Spark Therapeutics for congenital blindness
 - Zolgensma, a gene therapy for spinal muscle atrophy, a rare genetic disease
- In 2020, Pennsylvania received \$1.57 billion in National Institutes of Health funding, the fourth-largest among the 50 states; the University of Pennsylvania ranked fifth in NIH funding that year, with more than \$593 million (NIH RePORT 2021)
- Home of ChristianaCare's Gene Editing Institute

**For a genetic disease.*



RESULTS

- Home to more than 40 cell and gene therapy companies that have cell and/or gene therapy programs, as well as numerous support firms and several fully-integrated global biopharma companies
- Attracted \$4.7 billion in VC funding in FY20-21, \$2.6 billion of which was directed to cell and gene therapy companies
- 10 IPOs since 2019, including four among the region's cell and gene therapy companies Cabaletta Bio, Castle Creek Bio, Century Therapeutics, and Passage Bio (DealForma 2021)
- Number 7 on Genetic Engineering & Biotechnology News' [\(GEN\) top 10 list](#) of biopharma clusters, March 2021
- Hickey and Associates [list](#) of 2020 Top 25 Global Innovation Hubs
- Advancement to #6 in the [2020 JLL Life Sciences Real Estate Outlook](#), up from #8 in the 2019 report
- Named one of the *Next New World Cities* by JLL Business of Cities 2019
- The site of Quil, an Independence Blue Cross and Comcast joint-venture developing a patient-centered technology and communications platform, and the Perelman School of Medicine Center for Digital Health