

MARKET ANALYSIS OF CAR-T CELL IMMUNOTHERAPY- 2021

Dissertation

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Table of Contents

Characteristics Of The Study	4
Introduction	5
Global Disease Burden And Process Of CAR-T Therapy	6
Current Market Landscape	7
Development Pipeline	8
FDA Approved Therapies	9
Market Analysis of “Living Drug”	10
Recent Developments and India	11
SWOT Analysis	12
Conclusion	13
References	14

About the organization

- Established by founders Zoltners and Sinha in 1983 as a professional firm that leverages technology, analytics and expertise to provide solutions
- More than 6000 professionals serving in 23 offices across the globe
- Provides clients vast range of marketing and sales-related services in the industry, from customer insights, product development, sales and marketing strategies to sales compensation planning and administration planning
- consulting, operations, technology and software, and integrated solutions



Characteristics of the study

Rationale of the study

-  • Demographic shift in the disease pattern from infectious to chronic disease would need development of potential disease curing therapies.
-  • CAR-T immunotherapy is costly, with prices ranging from \$30 million to \$40 million
-  • CAR-T that is sourced domestically or indigenously can attempt to fill this deficit in healthcare services
-  • Understanding the current status of CAR-T immunotherapy-2021 with competitive landscape would help in comprehending the future growth of market in Indian healthcare system
-  • Key factors driving the growth of the market with regulatory changes can catalyze the approval pathways and policies

Research Question



What are the key market trends for CAR-T immunotherapy in the second quarter of 2021, and how will the competition environment shift?

Research Objectives



- To analyze the current market scenario through reports in the second quarter of 2021 of CAR-T immunotherapy global market
- To understand the competitive landscape associated with CAR-T immunotherapy
- To learn about the market's drivers and obstacle to impact the growth

Study Methodology



Descriptive study
(Desk Review)



A non-systematic
random, virtual,
digital study



April to June
2021

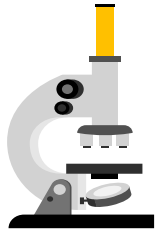


Surveys, annual
reports, company
websites, articles



Search engine
Keywords and
Booleans

Introduction: CAR-T Immunotherapy



Surgery



Chemotherapy



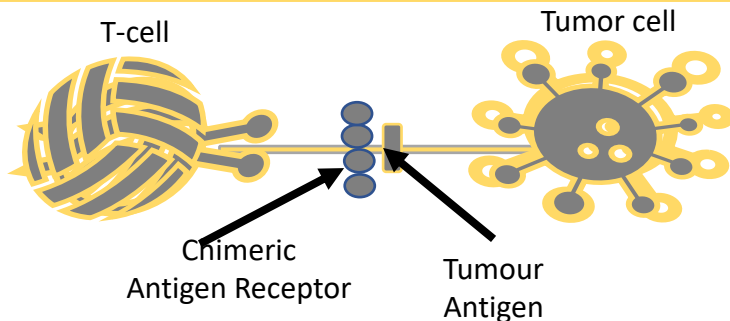
Radiotherapy



Immunotherapy

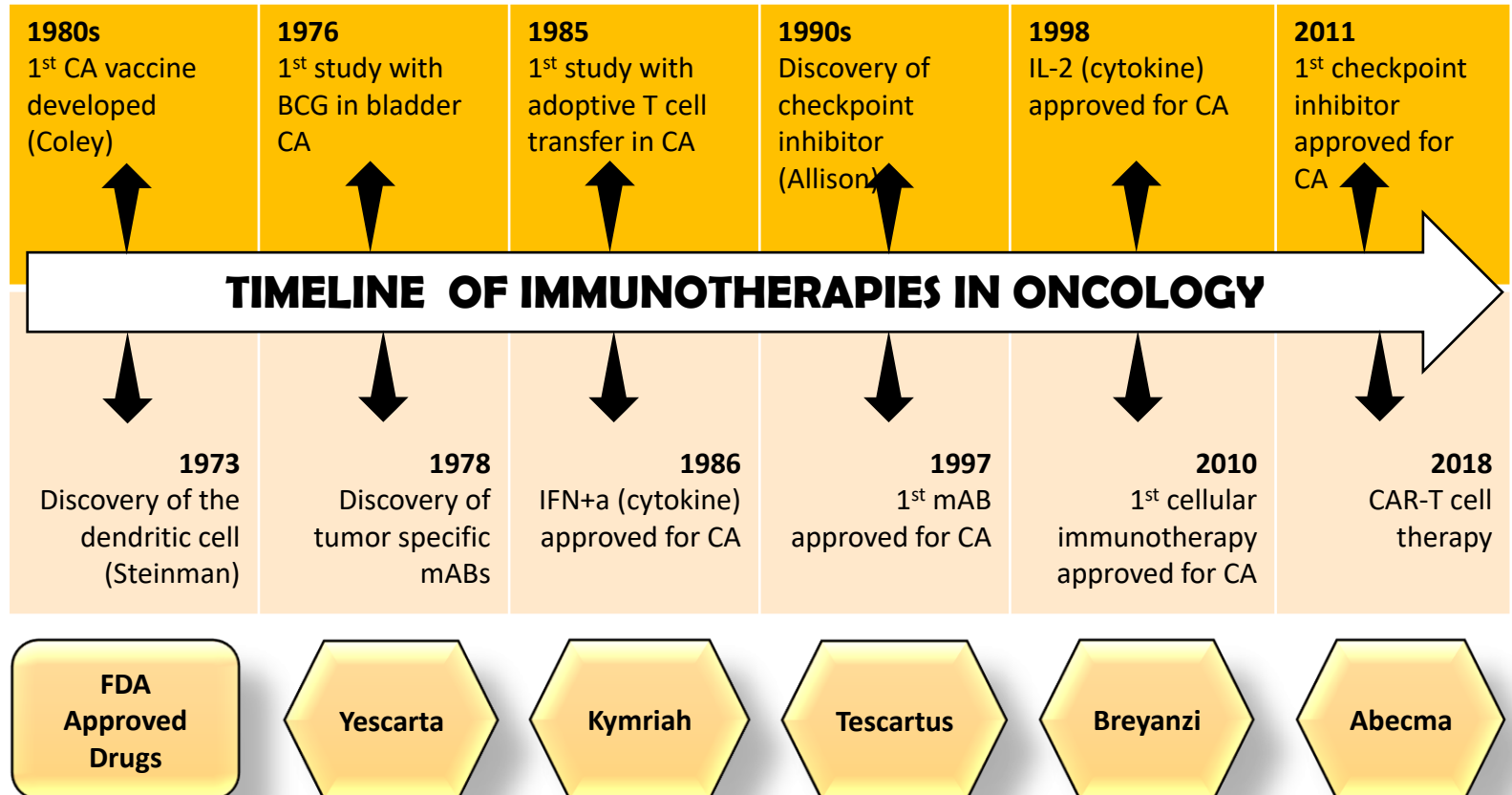


CAR-T immunotherapy



Chimeric antigen receptors are genetically encoded and programmed receptors that combine the specific binding domains from a tumor targeting antibody with T cell signalling domains to allow specificity targeted antibody redirected T cell activation

CAR-T immunotherapy changes a patient's own T-cells so they are able to recognize and attack cancer. T cells are taken from a patient's blood then in-vitro binds the gene for a special receptor to certain protein



The unmet need of cancer and the process of CAR-T immunotherapy

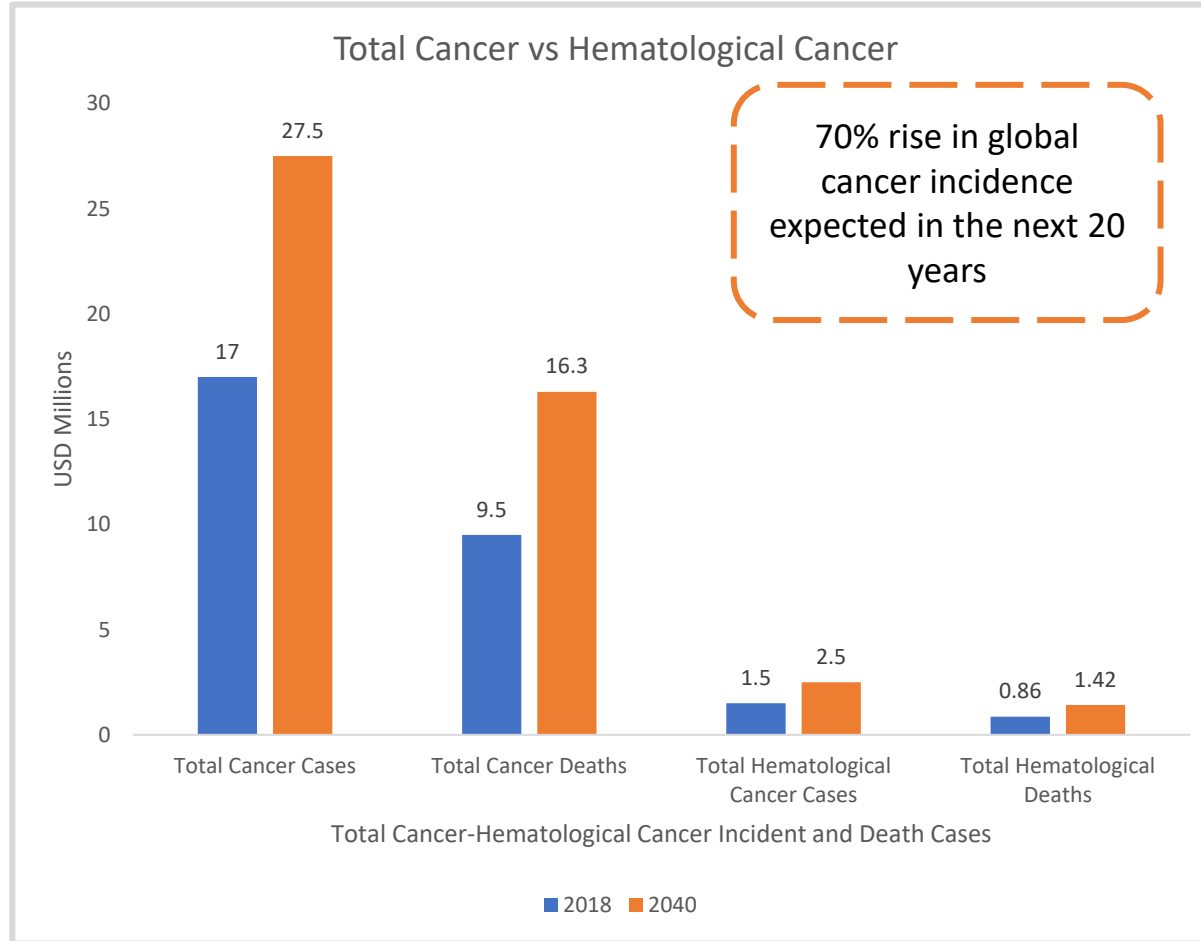
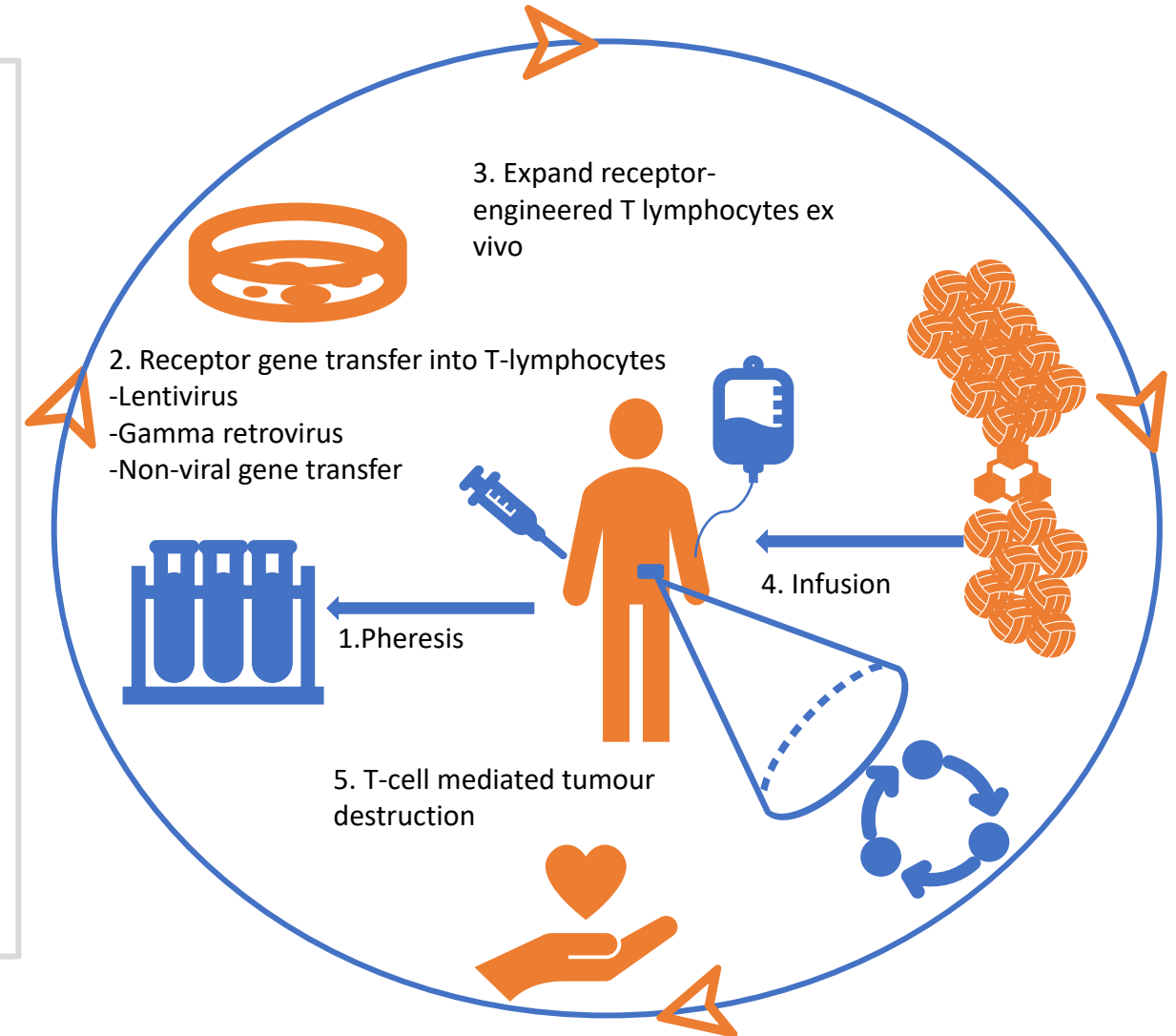


Figure 1.2 Global demographics of total and hematological cancer in 2018 and 2040



The number of therapies being developed in various indication with current market landscape

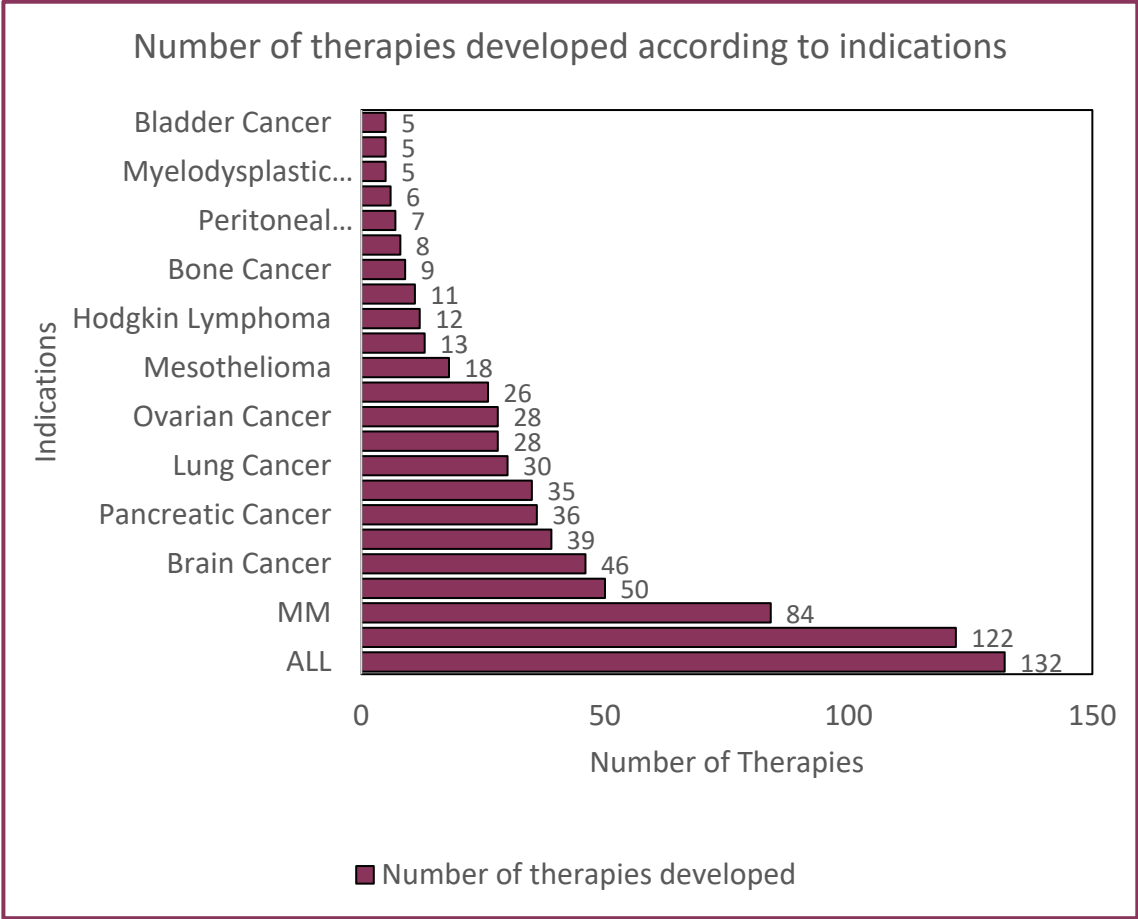
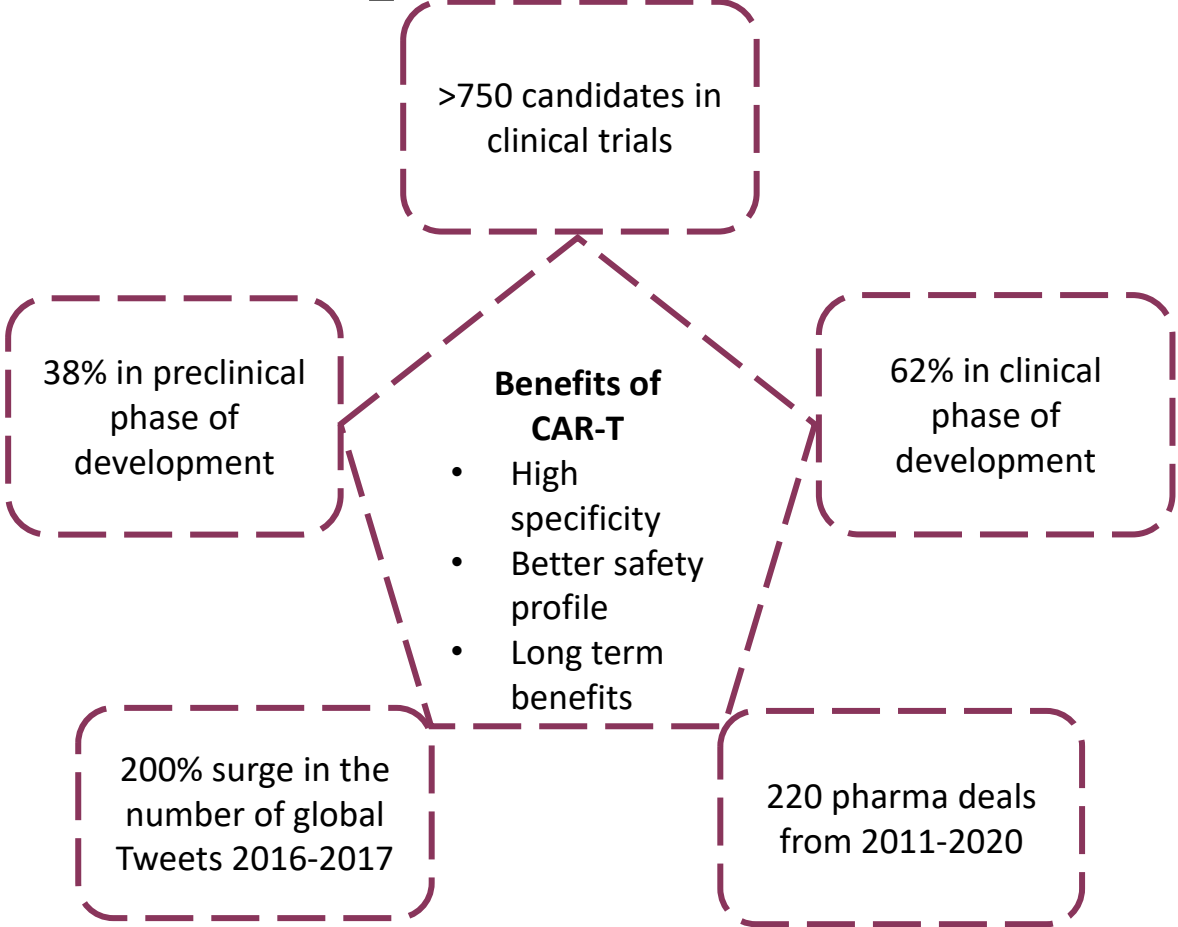


Figure 7.4.3 Number of therapies developed according to indications.

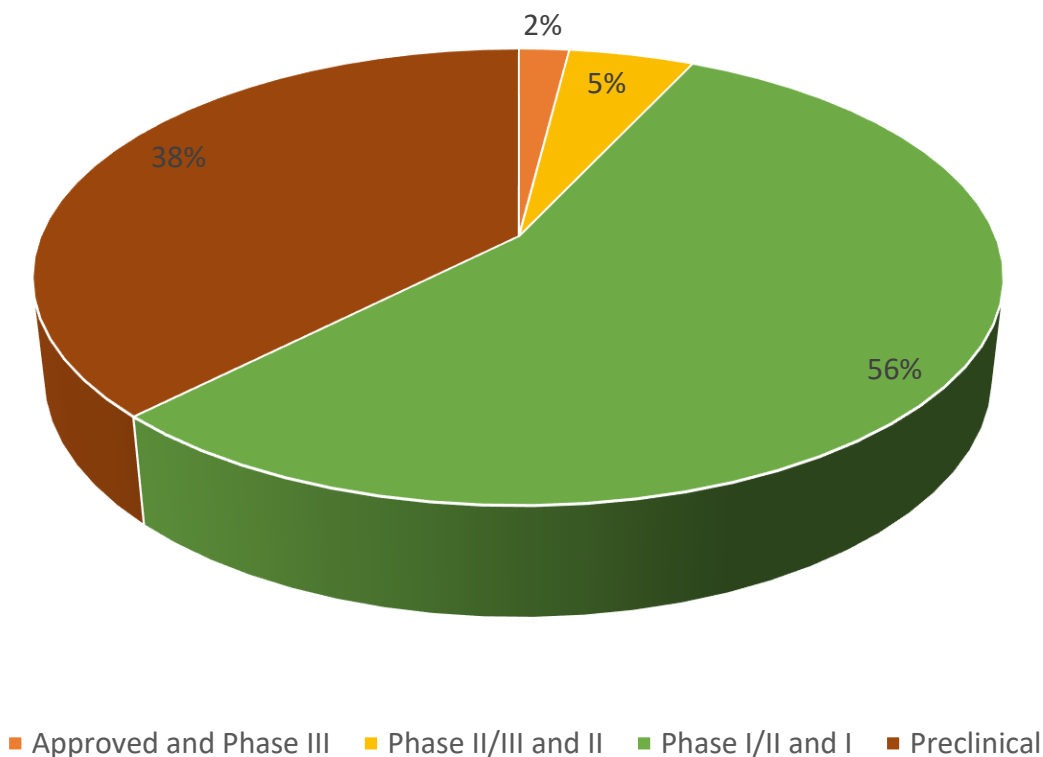
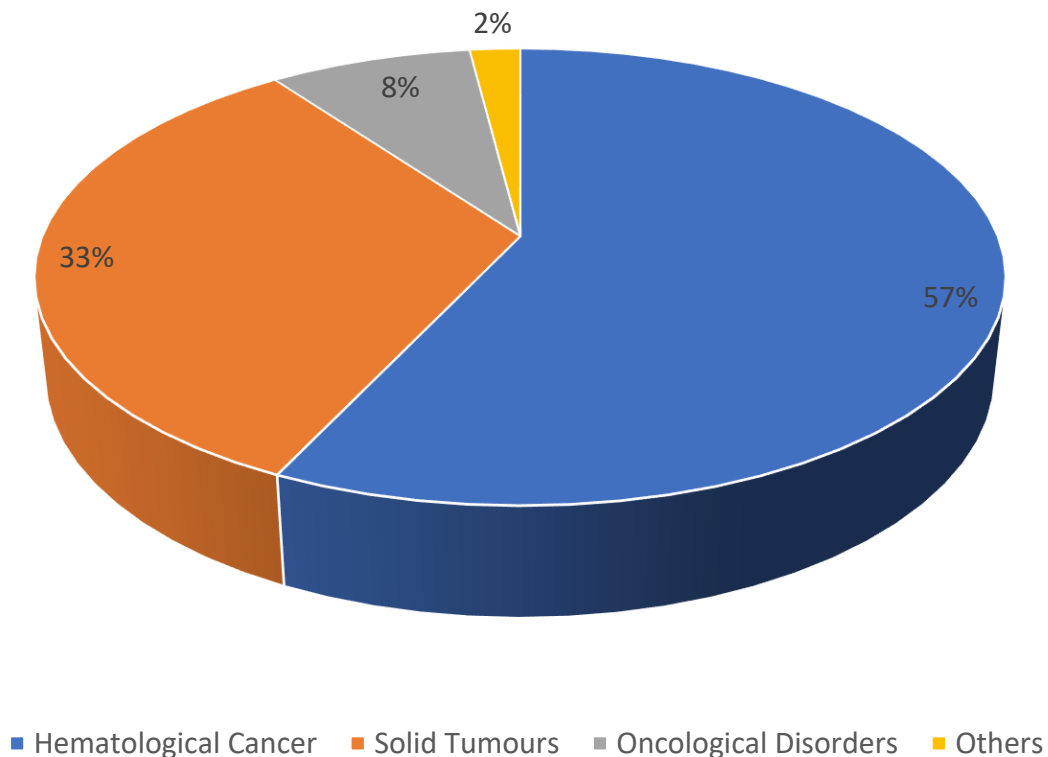


With five approved products and many candidate therapies under evaluation, CAR-T pipeline is healthy and growing

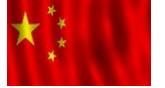
Development Pipeline

Distribution by Therapeutic area

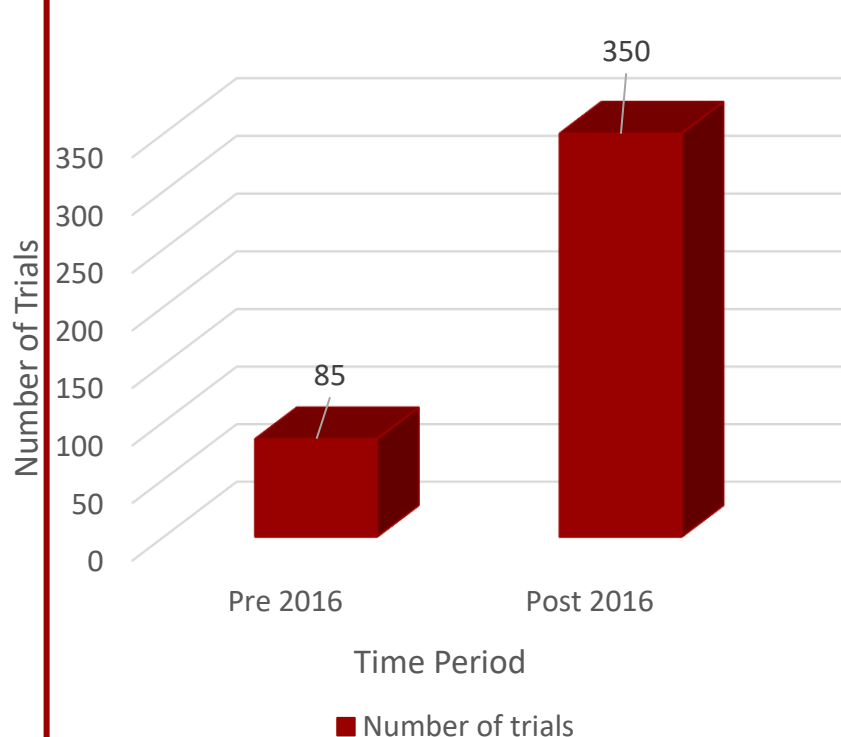
Distribution by Stage of Development



>300 increase in number of trials, especially in China



Number of trials



FDA approved CAR-T Therapies



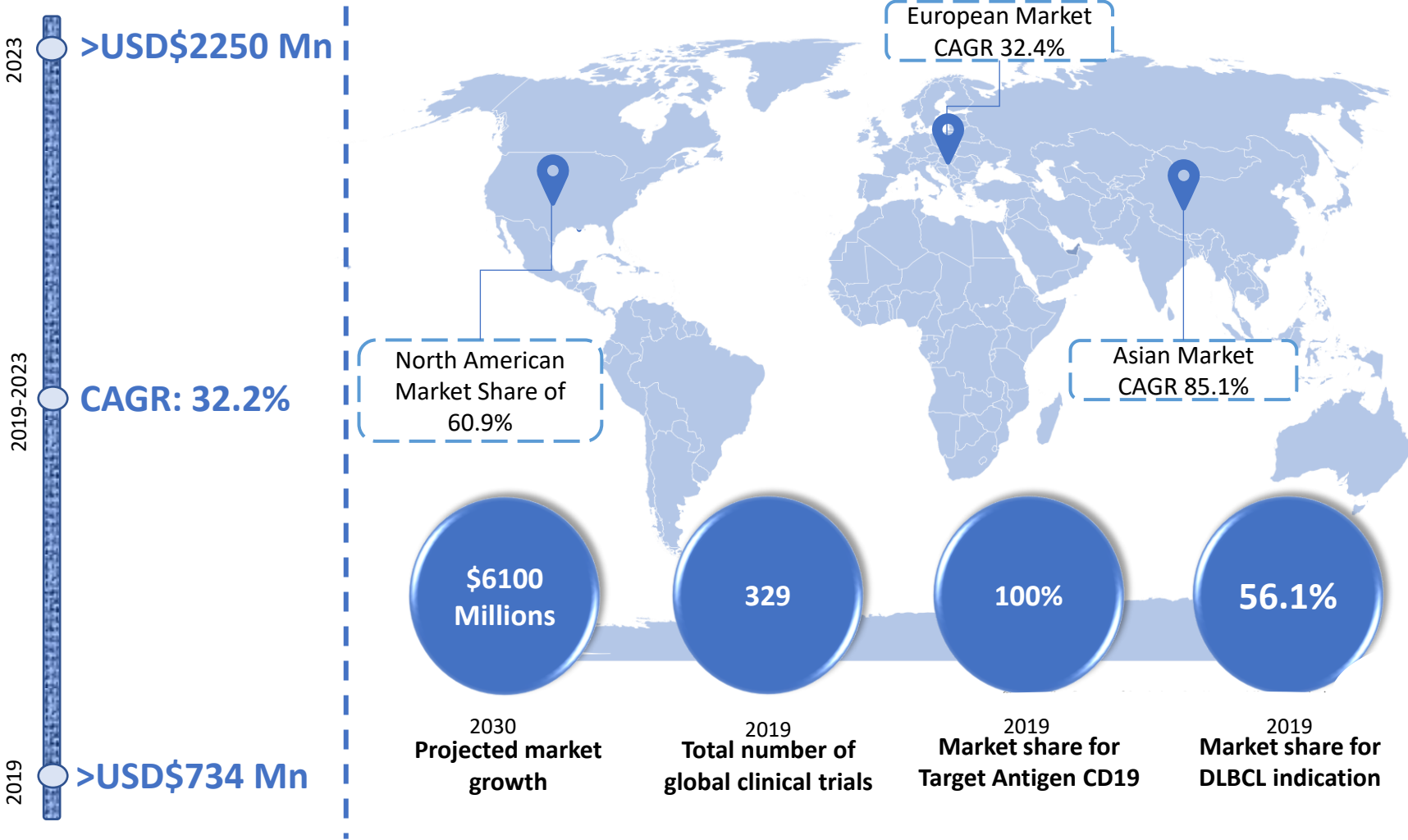
China being a Leader

Key factors Driving T-cell Innovation in China:



- Local research or technical expertise in cell-based therapies
- Availability of target patient population
- Supportive Government and regulatory environment
- Increased investment interest in cell-based therapies

CAR-T Cell Immunotherapy: Market Analysis of the “Living Drug”



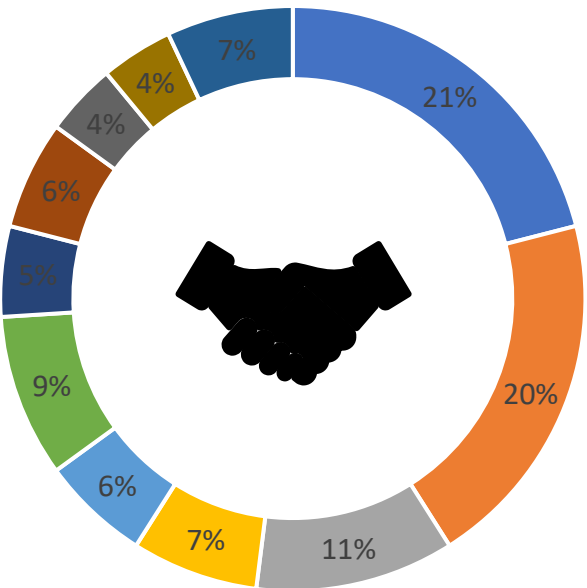
- ### Growth Drivers
- Elevated prevalence of global malignancies rate with disease profile is transitioning away from infectious disease to chronic diseases
 - Tactical partnership between the companies
 - Ongoing clinical trials are being performed by numerous pharmaceuticals businesses
 - Lenient global regulations
 - Physicians are the primary influencers and decision-makers in patient treatment

- ### Challenges
- Large cost implicated in study, research and development for CAR-T cell immunotherapy
 - Scientific and foremost technological challenges for fabrication of disease specific new CAR-T cell immunotherapy
 - Lack of proficiency and insufficient understanding about CAR-T cell immunotherapy in developing countries
 - Affordability and accessibility of the therapy

Recent Developments and India



Distribution by Type of Partnerships



- R&D Agreements
- Development and Commercialization
- Acquisitions
- Clinical Trial Collaboration
- Joint Venture
- Others
- Technology Licensing
- Manufacturing Agreements
- Product Licensing
- Product Development
- Product supply Management

On June 4, 2021, first successful testing of CAR-T immunotherapy was conducted at the “Advanced Centre for Treatment, Research and Education in Cancer (ACTREC)”, “Tata Memorial Hospital” in Mumbai in association with “IIT Bombay”.

Budget of 19.15 Crore was assigned

The list price of therapy in India accounts for Rs. 3-4 crore per patient

The national team is acting on lowering this expense down to ₹20 lakh.

In May 2021, China-based Pregene and India-based Dr. Reddy Laboratories announced an agreement for exclusive licensing, where the former qualified to obtain a product royalty, up to \$150 million

The exclusive license would favour the clinical development and commercialization of PRG180 by Dr. Reddy Laboratory for the treatment of R/R Multiple Myeloma

This agreement would inflate Dr. Reddy's capability in the sphere of treatment of malignancies

CAR-T Immunotherapy and India

A potential rollout of the CAR-T technology in India, Immuneel was founded in 2018 to histrionically enhance access.

The aim is to aims to lessen the expense of a course of action of CAR T-cell therapy to approximately \$50 000, like the expenditure of a more accessible and affordable bone marrow transplantation.

Cardiac surgery can be seen as an affordable quality befitting example of treatment.

SWOT



STRENGTH

- Responses in heavily pre-treated/resistant disease
- Durable response and potential cure
- Flexibility



WEAKNESS

- Target antigen identification
- Toxicity
- Costs and availability
- Manufacturing delay



OPPORTUNITIES

- New antigen targets
- Improving efficacy
- Reducing toxicity
- CAR-T-cell combination therapy with other immunotherapies
- CAR-T-cell combination therapy with non-immuno-therapeutic modalities



THREATS

- May produce superior agents with improved on-target off-tumour toxicity, efficacy, response, and off-the-self availability

Conclusion



- Well structured regulatory pathways with emerging and popular market products could further accelerate the market expansion



- Companies would be aided by governments providing clear regulatory authorization guidelines.



- The payers will also encourage uptake to lower health-care costs



- Due to these traits, as well as a gap in the access of physical and financial status to the expensive therapy, CAR-T immunotherapy manufacturers are anticipated to benefit the most in the future



- The businesses shall build solid access to market plans that talks about important “where to play” also “how to win” decisions



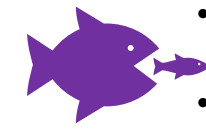
- Also convert their business models to volume rather than profits



- An elaborated emphasis on education of patients and physicians to talk about the accessibility, reduced consumption and investments in supply chain



- and physician support and awareness of methods and goods may all contribute to this education



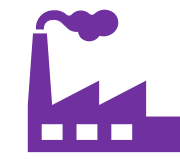
- The expansion of the market would not be a simple undertaking



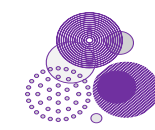
- An approach that identifies the unique characteristics or brand identification they face while also integrating lessons learnt from countries having developed economies



- A unique proposition to value would may be needed to tap the huge population in growing markets for those who find it difficult to access expensive therapy



- Lastly, manufacturers shall not ignore the chance to work with the localities to understand the navigation of the environment.



CAR-T immunotherapy

- Comprehensive understanding of local market modulation and lean, lower-cost manufacturing, connected with the popular brands internationally and recognition of the manufacturer

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Thank you

