

Oh, The Places You Can Go: Career Opportunities Within the Pharmaceutical Industry for Healthcare Professionals

Janice Johnson, RN, MSN
Senior Hematology Sales Specialist
Novartis Pharmaceuticals

Objectives

By the end of this session the learner should be able to:

- Describe the various career opportunities available in the pharmaceutical industry for those with healthcare/science backgrounds
- Gain understanding of the life cycle of drug development
- Articulate why having a science/healthcare background is preferential over other degrees in many roles within the pharmaceutical industry
- Have increased confidence when counseling students in this career path

MYLAN CEO HEATHER BRESCH'S
total compensation went from
\$2,453,456 to **\$18,931,068**,
a **671 PERCENT INCREASE**.

During the same period, the
company raised EpiPen prices from
\$56.64 to **\$317.82**,
a **461 percent increase**.



MAY 28, 2001

www.time.com AOL Keyword: TIME

TIME

THERE IS NEW **AMMUNITION**
IN THE WAR AGAINST
CANCER.
THESE ARE THE BULLETS.

Revolutionary new pills like **GLEEVEC**
combat cancer by targeting only the
diseased cells. Is this the breakthrough
we've been waiting for?

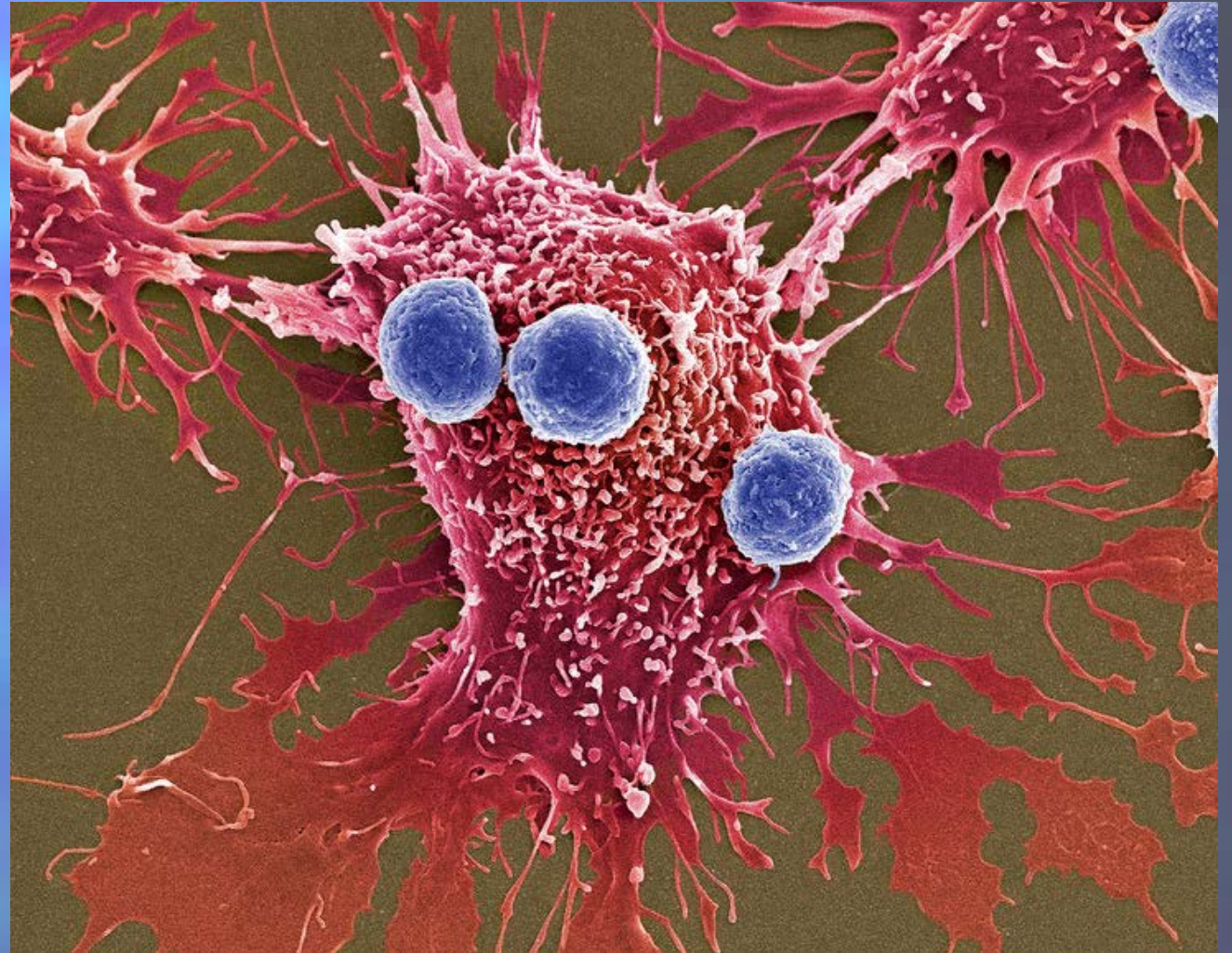


FDA Approves First Gene Therapy For Leukemia

The Food and Drug Administration on Wednesday announced what the agency calls a "historic action" — the first approval of a cell-based gene therapy in the United States.

The FDA approved Kymriah, which scientists refer to as a "living drug" because it involves using genetically modified immune cells from patients to attack their cancer.

The drug was approved to treat children and young adults up to age 25 suffering from a form of acute lymphoblastic leukemia who do not respond to standard treatment or have suffered relapses.



Novartis Pharmaceuticals^{1, 2}

- Headquarters in Basel, Switzerland/US Headquarters in East Hanover, NJ
- Employs 118,000 FTE's
- Products sold in approximately 155 countries around the world
- 200 + projects in clinical development
- 9.0 Billion Dollars R & D spend in 2016
- In 2016, Novartis Patient Assistance Foundation provided \$547 million in free medication to more than 61,000 patients in the US
- Oncology Division: 22 Oncology, Hematology and Rare Diseases Medicines reaching 980 Million patients worldwide

Novartis Pharmaceuticals Strategic Framework¹

- Our Mission: Discover new ways to improve and extend people's lives
- Our Vision: Be a trusted leader in changing the practice of medicine
- Our Strategy: Science-based innovation; better patient outcomes; in growing areas of healthcare
- Our Values: Innovation, Quality, Collaboration, Performance, Courage, Integrity

Drug Life Cycle³

1. Research
2. Drug Development
3. Drug Commercialization

Drug Life Cycle: Research³

- Discovery and Design
- Primarily driven by an unmet medical need
- 3-5 years in duration
- Career Opportunities include different types of Biologists (molecular, biochemists, bioinformaticians, biomedical scientists), different types of chemists (medicinal, protein, and analytical), pharmacologists, biopharmacy and pharmaceutical technology experts

Drug Life Cycle: Drug Development³

- The potential drug candidate progresses to a drug or medicinal product which is effective and safe to be administered to humans (or animals) to prevent, diagnose, or treat a disease
- Involves clinical trial development and design
- Can be a highly risky and costly process
- 5-8 years in duration
- Career opportunities include life scientists, clinicians (including MD's, RN's, PharmD's), and regulatory affairs experts

Drug Life Cycle: Commercialization³

- Begins with FDA Approval
- Involves Sales and Market Access
- Duration is the life of the drug patent (approximately 20 years from the date of application to the FDA for approval)
- Career Opportunities include sales reps (with varied backgrounds), brand managers, sales trainers, medical affairs and business managers

Drug Development: Commercialization and Career Opportunities³

- Medical Affairs
 - Focuses on clinical drug development in the post-approval phase and on the medical and scientific aspects of pharmaceutical marketing such as managing medical communications and publications, key opinion leaders and advisory boards and medical information (answering questions from health care providers and patients)
 - Professional activities are separate from pharmaceutical sales, but some overlap collaboration/communication occurs between the two roles
 - Professionals who bridge the gap between R & D and marketing, hold positions such as medical science liaisons(MSL), filled by MD's, PharmD's, MSN's (masters prepared nurses)

Drug Development: Commercialization and Career Opportunities³

- Pharmaceutical Sales
 - Made up of reps who promote the drugs of a pharmaceutical company
 - Usually responsible for a given franchise or therapeutic class of drugs, given a target audience (private practices or hospitals) and a given territory.
 - Positions required a minimum of a bachelor's degree (master's preferred in specialty sales) with strong communication skills and the necessary motivation and stamina to reach sales objectives
 - Training is done in-house by sales trainers as well as on the job
 - Current trend is to hire reps with a science background rather than a sales/marketing background due to their ability to better communicate the complex scientific messaging associated with current therapeutic options

Drug Development: Commercialization and Career Opportunities³

- Training and Development
 - Responsible to provide onboarding training for new associates as well as continuous training and development for all current individuals and teams.
 - Offered to all operational disciplines throughout the drug life cycle
 - Can have varied backgrounds and qualifications but need to have expertise in the field to be taught; need to have exceptional communication and teaching abilities and a thorough understanding of the regulatory environment

Drug Development: Commercialization and Career Opportunities³

- Management
 - Includes area sales managers, executive business directors and senior corporate managers
 - Involves strategic and operational management
 - Background is varied, but usually start in a sales rep role and complete a manager development program
 - Desirable candidates have MBA's

SO HOW DID I GET HERE??



IT IS A BEAUTIFUL
thing when a career
AND
a passion
COME TOGETHER



References

1. 2016 Novartis Annual Report
2. Novartis Corporate website: <https://novartisoncology.com>
3. Thomas, J., van Schravendijk, C., Smit, L., & Saso, L. Job Career Opportunities in the Pharmaceutical Sector; <http://dx.doi.org/10.5772/66422>