

The Product Cycle of Medicine

The development of a new therapeutic product (a new medicine or biologic) is a time-consuming, complex, and costly process. The overall purpose of the product life cycle of medicine is for researchers to discover whether or not a drug is safe and effective as a treatment for specific illnesses. It involves understanding the causes and patterns that contribute to the varied conditions of the disease and evaluating the impact of larger scale distribution. The product development life cycle consists of four main stages: Discover, Develop, Manufacture, and Commercialize. This process is vital to delivering safe and effective medical treatment.

Resources

- [Product Development Lifecycle](#)
- [How the Product Development Process Works in 7 Steps](#)
- [The Drug Development Process](#)
- [Drug Discovery and Development Process](#)
- [Vaccine Development—101](#)

Curriculum Connections

- **Discover:** Students research a vaccine-preventable illness and explore vaccine myths.
- **Develop:** Students outline the steps of the FDA review

and approval process focusing on clinical operations, personalized healthcare, and safety risk management.

- **Manufacture:** Students explore drug product manufacturing focusing on product/supply chain management, technology/innovation, quality/compliance, and global production.
- **Commercialize:** Students develop social awareness campaigns for an infectious disease, addressing diverse audiences and emphasizing social justice in healthcare.

Industry & Career Connections

- **Discover:** Researcher, Developmental Scientist, Clinician, Project Manager, Biologist
- **Develop:** FDA Reviewer, Statistician, Toxicologist, Medical Technologist, Epidemiologist
- **Manufacture:** Pharmaceutical Engineer, Chemical Engineer, Material Scientist, Quality Control Inspector, Manufacturing Technician
- **Commercialize:** Product Development Manager, Customer Operations, Marketing Manager, Sales Executive, Digital Marketing Specialist

