SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai

Approved by Pharmacy Council of India, New Delhi.

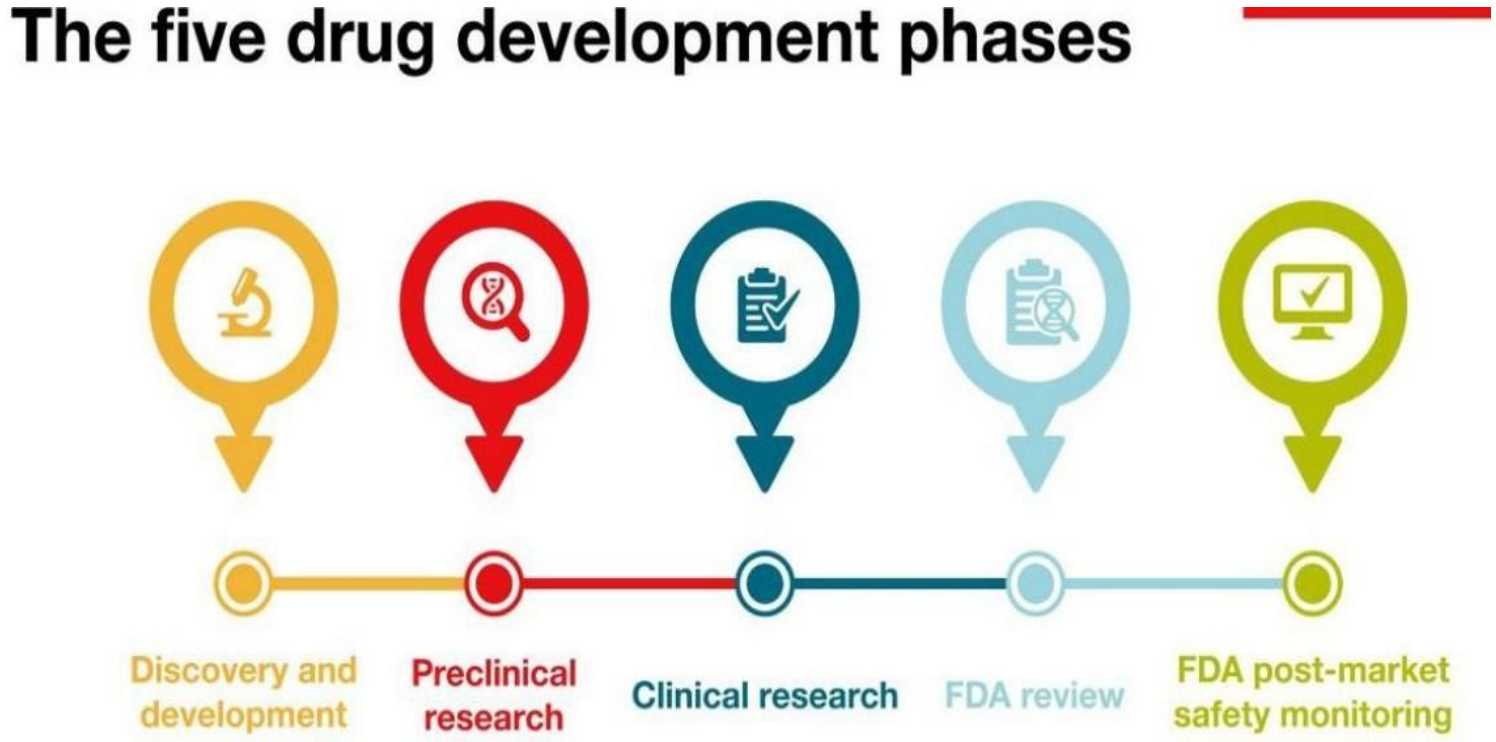
Coimbatore -641035

COURSE NAME : COMPUTER AIDED DRUG DESIGN(BP 807 ET)

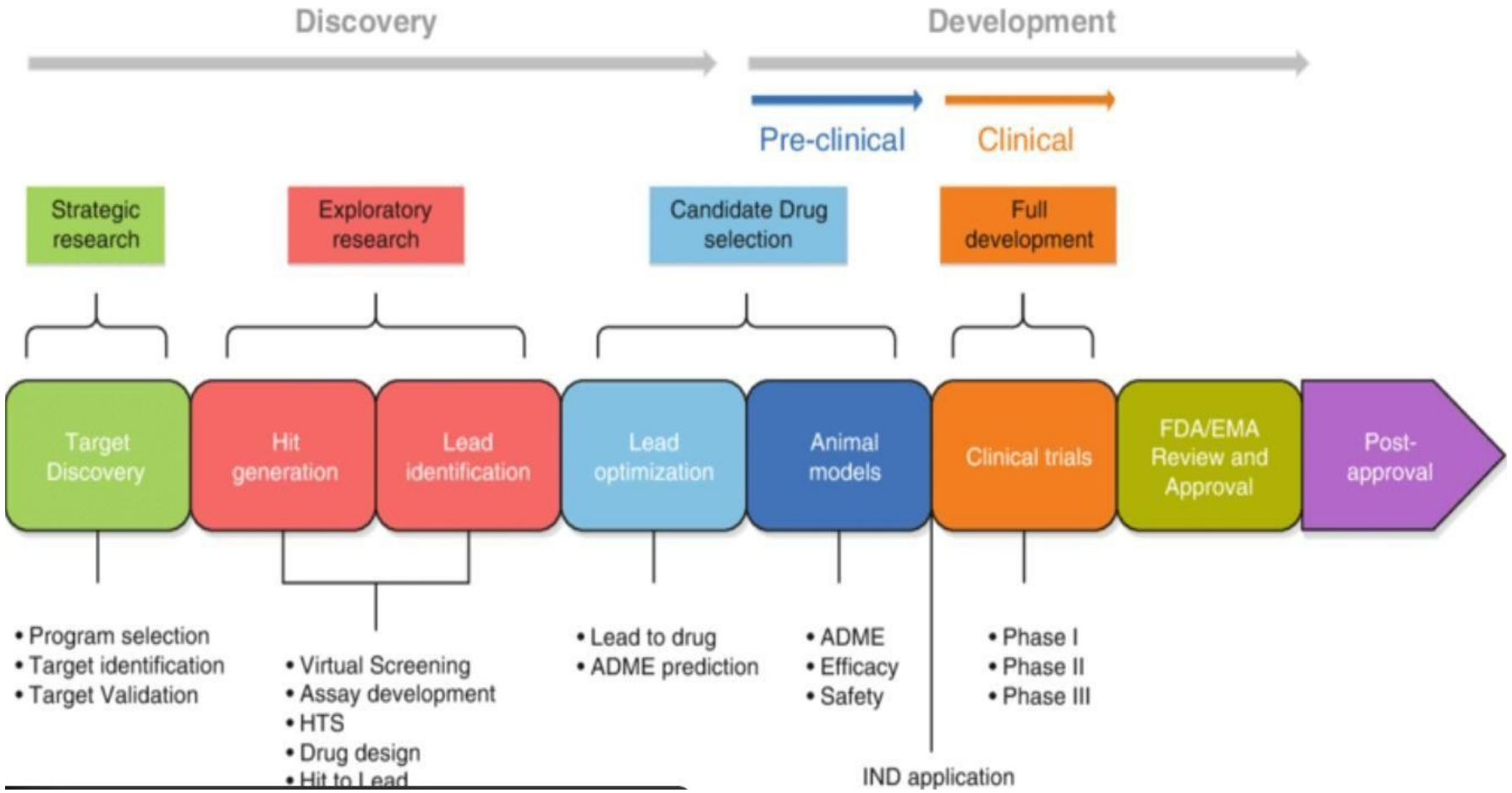
VIII SEM / IV YEAR

TOPIC 4: LEAD DISCOVERY BASED ON CLINICAL OBSERVATION

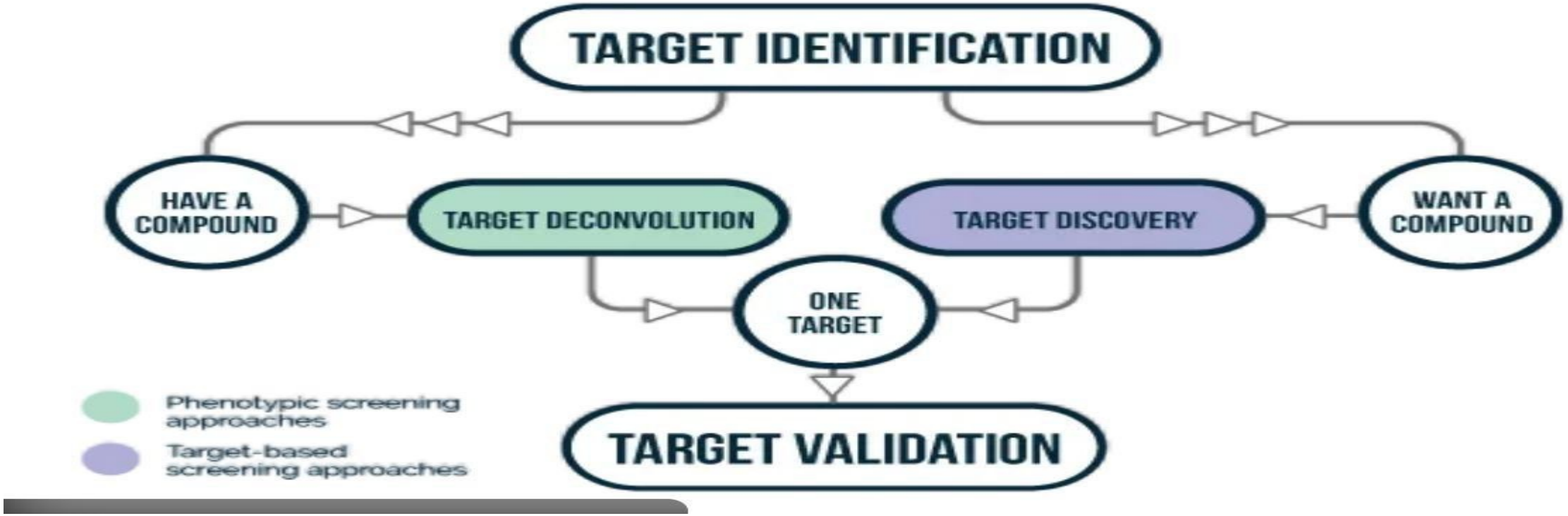
DIFFERENT PHASES ARE INVOLVED IN DRUG DISCOVERY



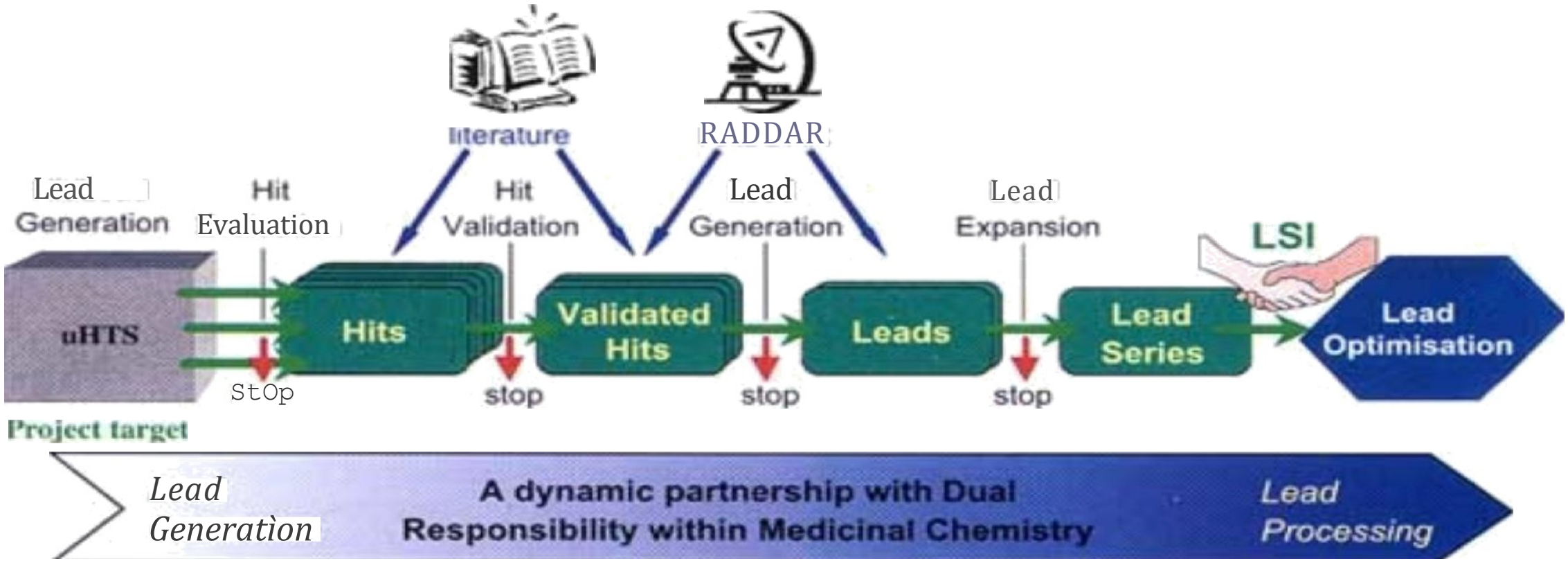
LEAD DISCOVERY BASED ON CLINICAL OBSERVATION (CLINICAL & PRECLINICAL) STUDIES



TARGET IDENTIFICATION & TARGET VALIDATION IN LEAD DISCOVERY PROCESS

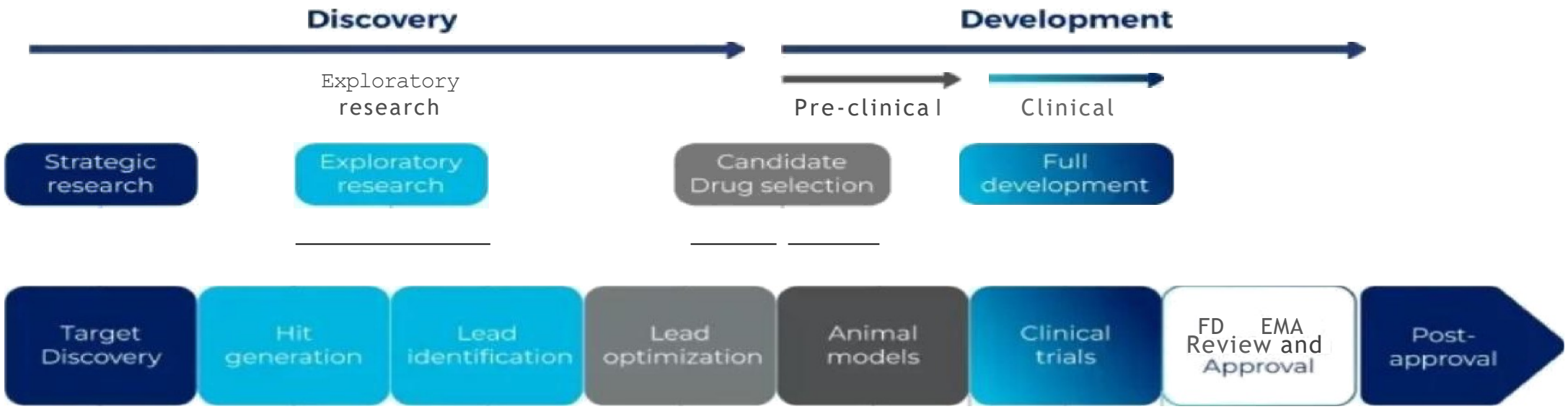


STUDY OF LEAD GENERATION & LEAD PROCESSING ON CLINICAL OBSERVATION

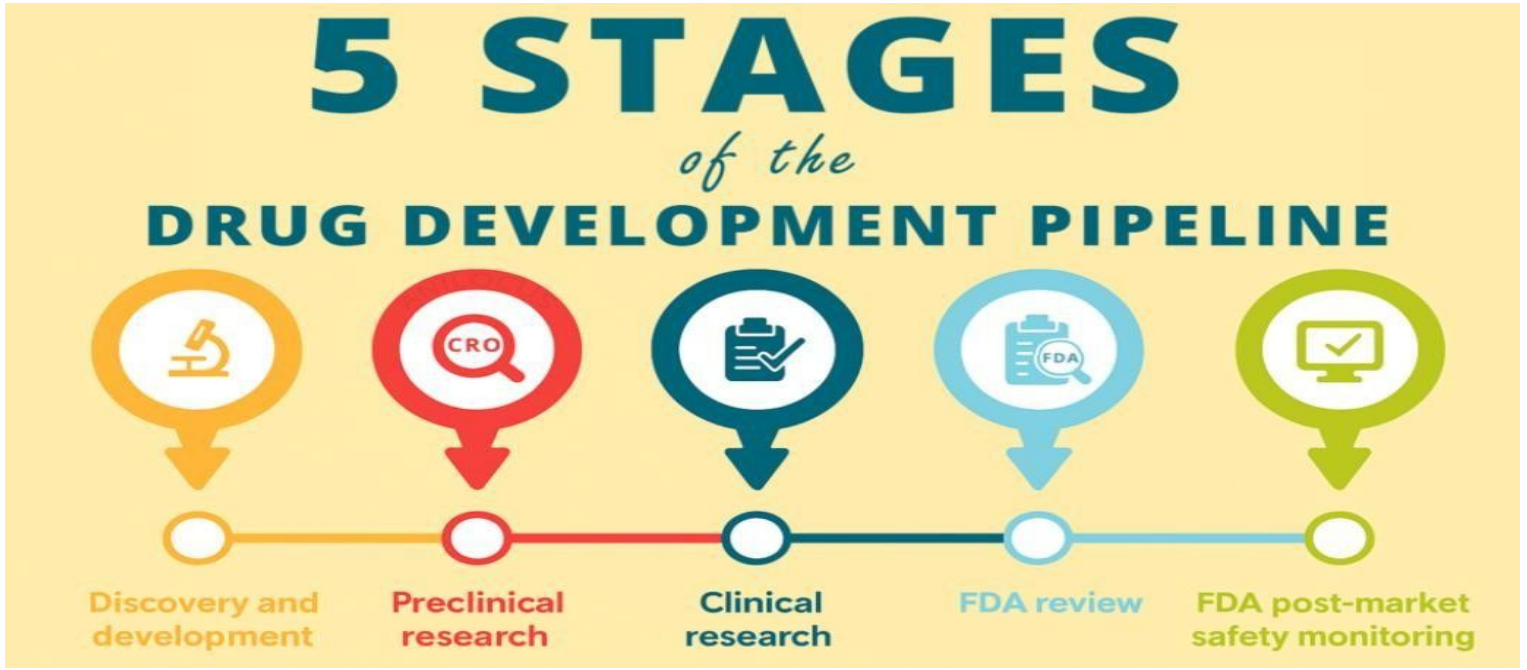


DEVELOPMENT OF LEAD DISCOVERY INTO PRECLINICAL REGULATORY PROCESS

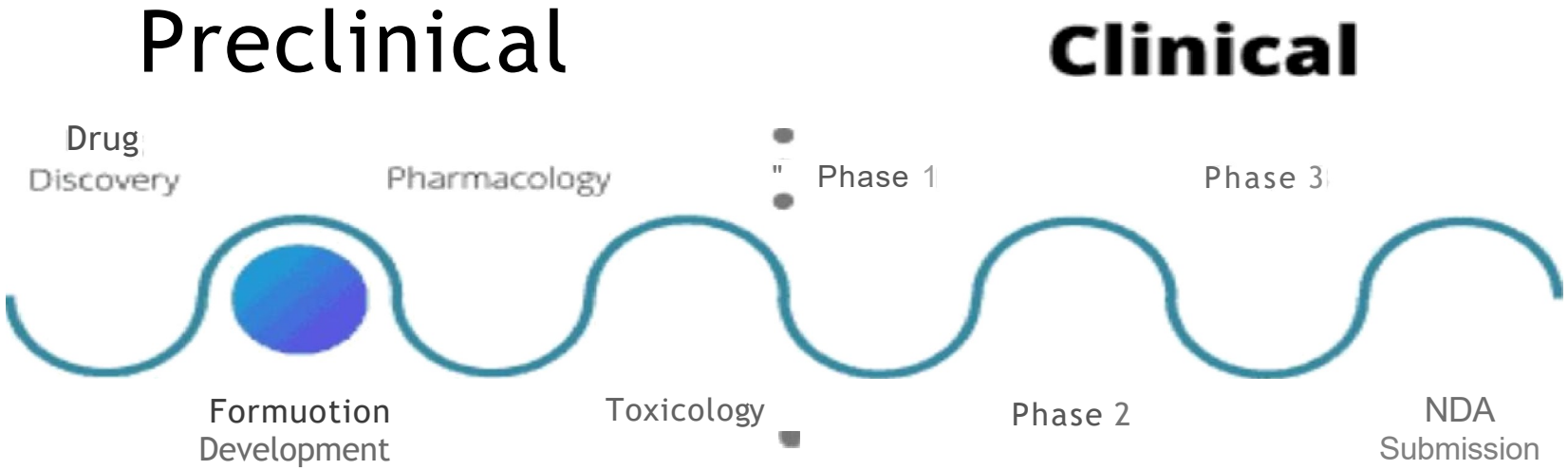
LEAD DISCOVERY BASED ON CLINICAL OBSERVATION



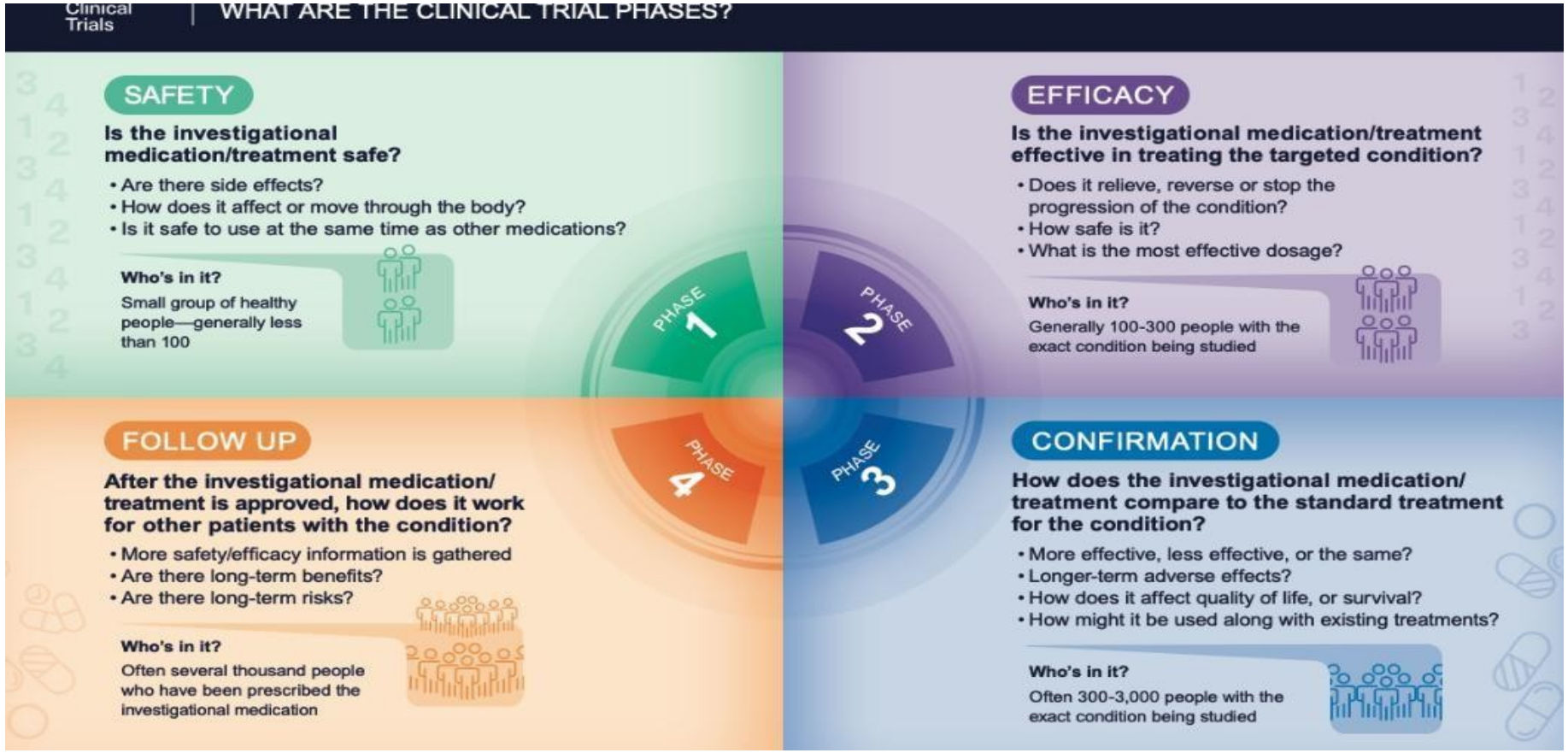
STAGES OF DRUG DEVELOPMENT PIPELINE



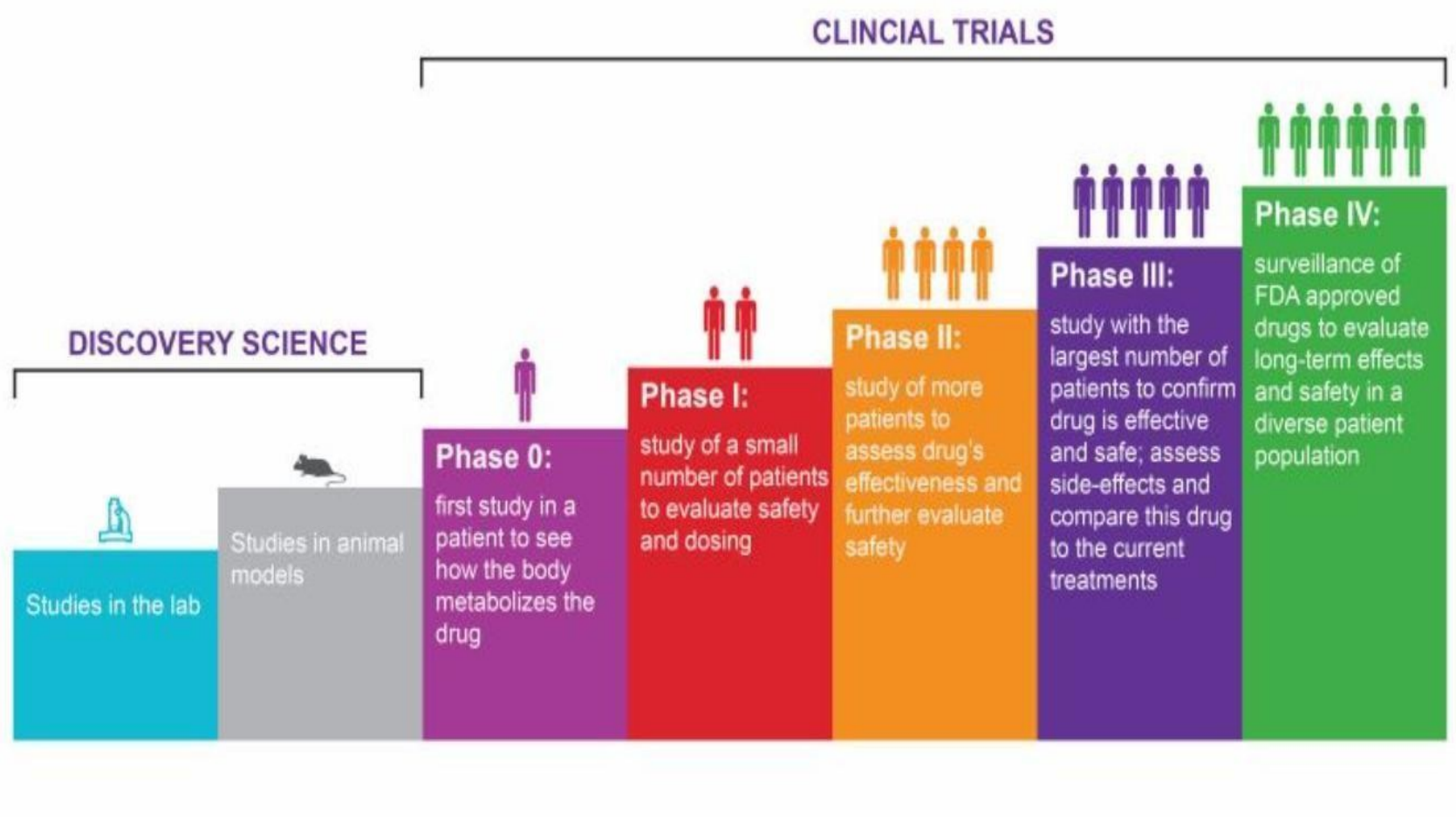
DEVELOPMENT STAGES OF PRECLINICAL AND CLINICAL SEGMENT



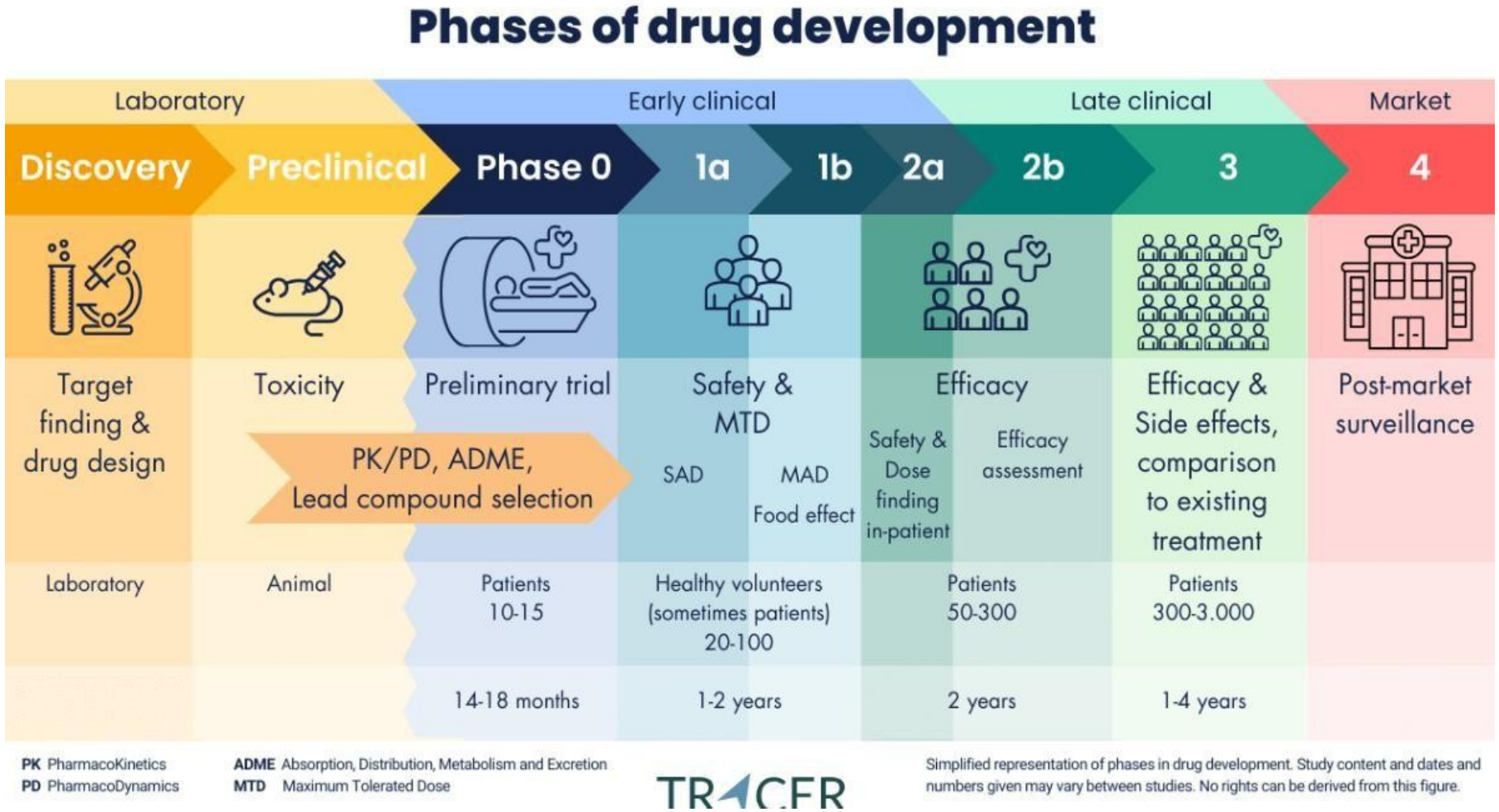
CLINICAL TRAIL PHASES



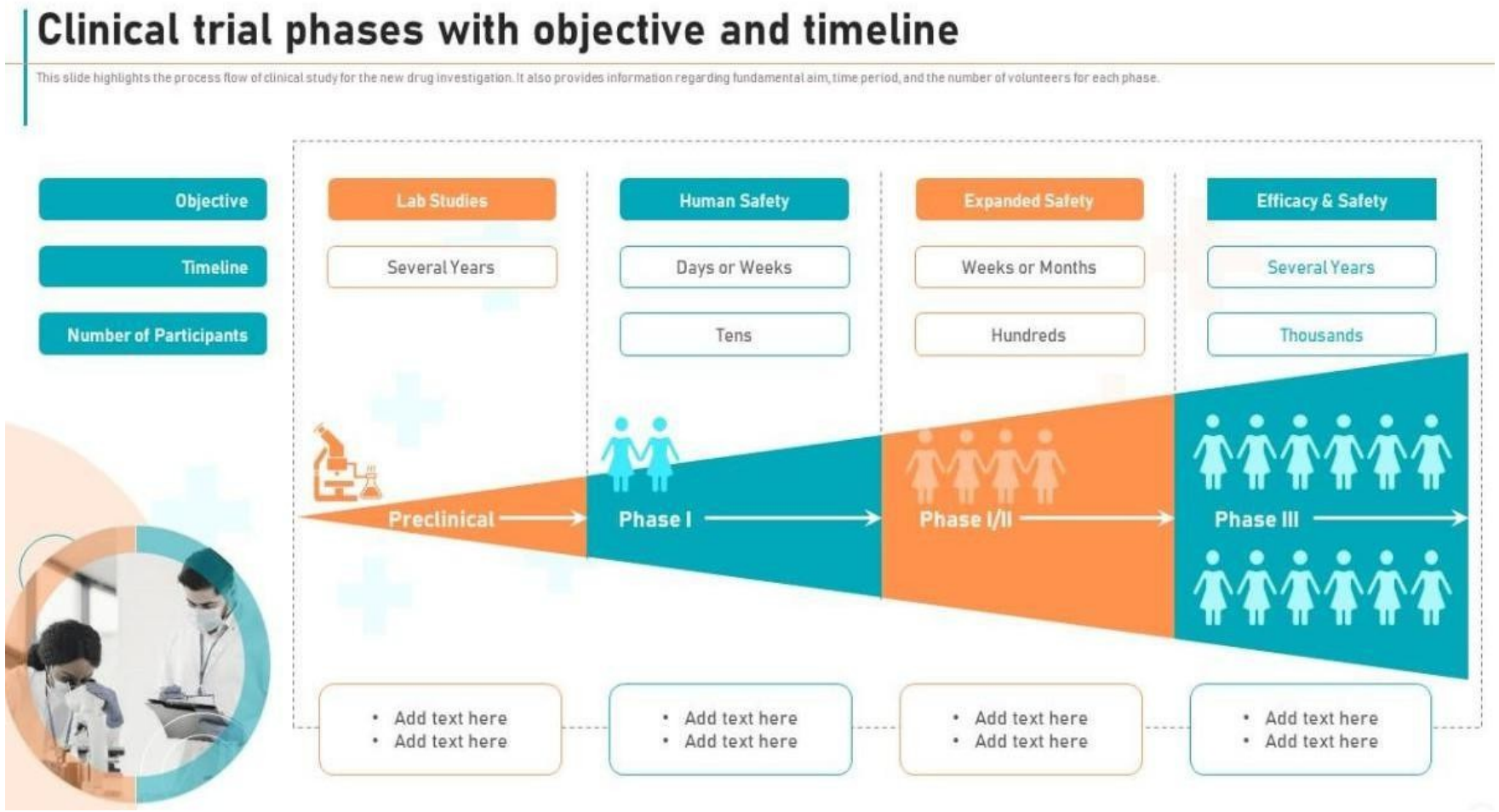
STUDY OF DISCOVERY SCIENCE AND CLINICAL TRAILS



DRUG DEVELOPMENT ON UNDER CLINICAL OBSERVATION

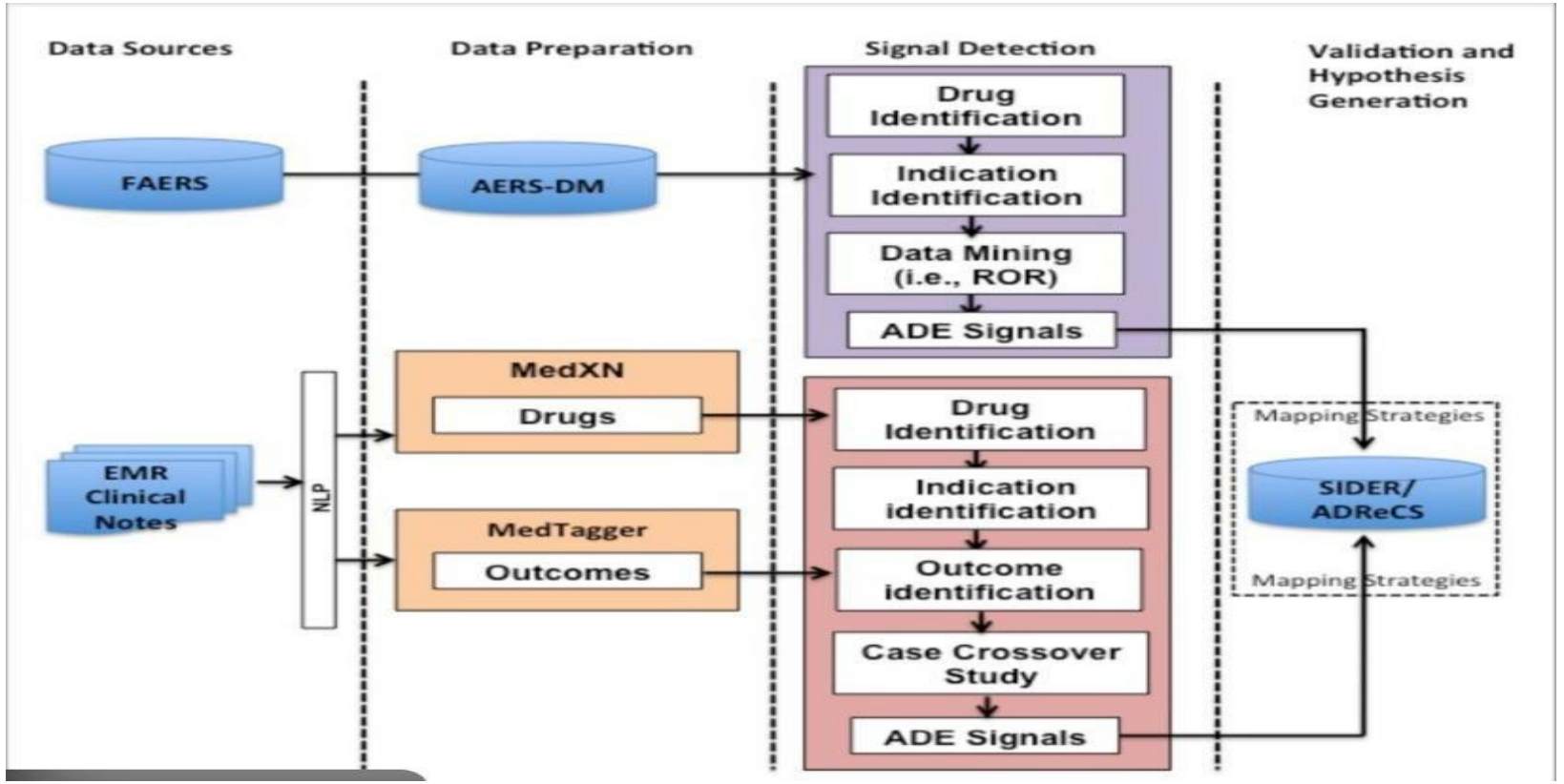


OBJECTIVES & TIMELINES OF CLINICAL TRAIL PHASES OBSERVATION



FDA DRUG APPROVAL PROCESS

COLLECTIONS OF DATA AND CLINICAL STUDY OBSERVATION



DRUG DISCOVERY DEVELOPMENT PROCESS

ASSESMENTS

Question 1 : Considering cost, time and failure rate in drug development, argue for or against prioritising clinical-observation leads in early-stage research over conventional screening methods.

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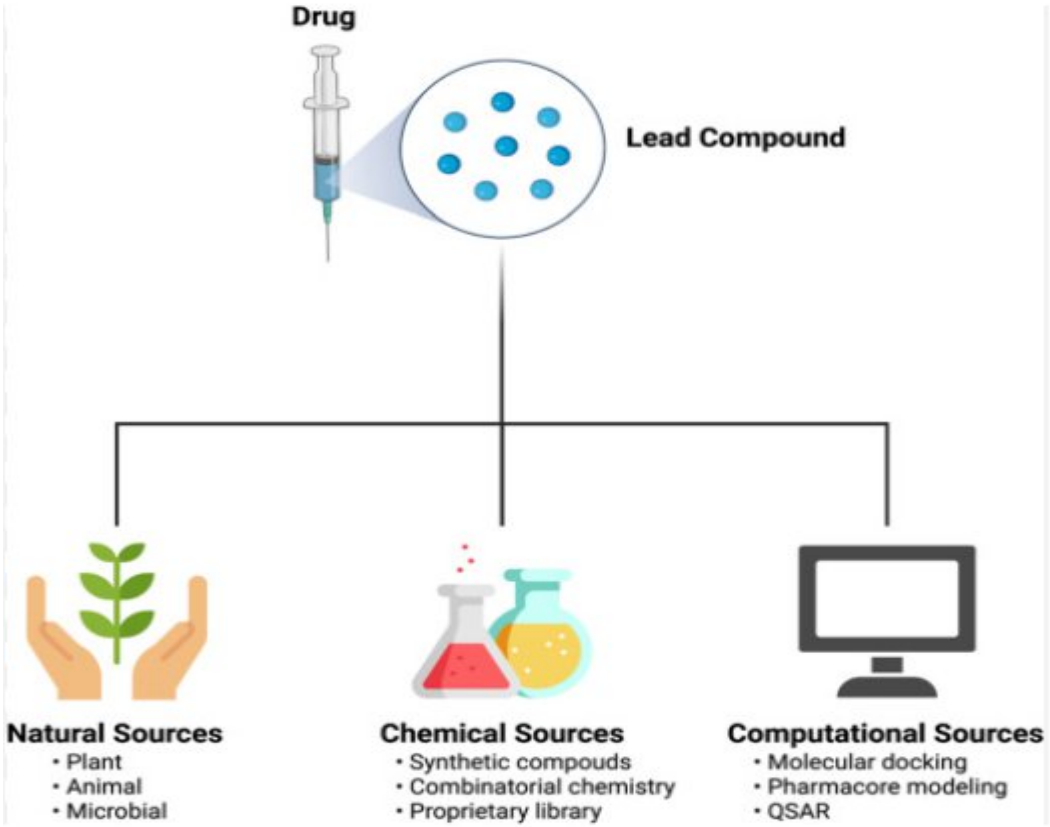
Question 2: Discuss the potential role of real-world evidence and large-scale clinical databases in enhancing clinical-observation-based lead discovery. What are the strengths and pitfalls of this approach?

SUMMARY


Drug
Lead Compound
Natural Sources
• Plant
• Animal
• Microbial
Chemical Sources
• Synthetic compouds
• Combinatorial chemistry
• Proprietary library
Computational Sources
• Molecular docking
• Pharmacore modeling
• QSAR

REFERENCES

- Michne, W. F. (2010). Lead Discovery: The Process. In Z. Rankovic & R. Morphy (Eds.), Lead Generation Approaches in Drug Discovery (Chapter 1, pp. 1-17). John Wiley & Sons.
- Moffat, J. G., et al. (2013). “Neoclassic drug discovery: the case for lead generation using phenotypic and functional approaches.” Journal of Biomolecular Screening, 18(10), 1090-1094. doi:10.1177/1087057113498282.

Ma, S., Hou, J., Liu, S., Zhu, F., Wei, P., & Chen, N. (2023). “Lead Drug Discover Strategies from Natural Medicines Based on Network Pharmacology.” Medical Research Archives, 11(2). doi:10.18103/mra.v11i2.3559


Thank You!