The drug discovery & development process

1. Identify disease
2. Identify- validate targets
3. Identify lead molecules
4. Optimize lead molecules
5. Pre-clinical trials
6. Clinical trials
7. Approval & marketing
The drug discovery & development process

Discovery

Preclinical

Target validation and lead discovery

Laboratory and animal testing

Phase I

Safety and dosage (20-80 healthy volunteers)

(250 lead compounds)

Phase II

Efficacy and side effects (100-300 patient volunteers)

(5 drug candidates)

Phase III

Adverse reactions (1000-5000 patients)

(1 drug)

Approval

Post marketing surveillance

Success

1 in 5,000

6 years

Preclinical

6 years

Clinical

2 years

Approval

5-10 years

Cost ??????

Success 1 in 5,000

Preclinical 6 years

Clinical 6 years

Approval 2 years

Post marketing surveillance 5-10 years

Cost ????

Success 1 in 5,000

Discovery Preclinical Phase I Phase II Phase III Approval

Cost ??????