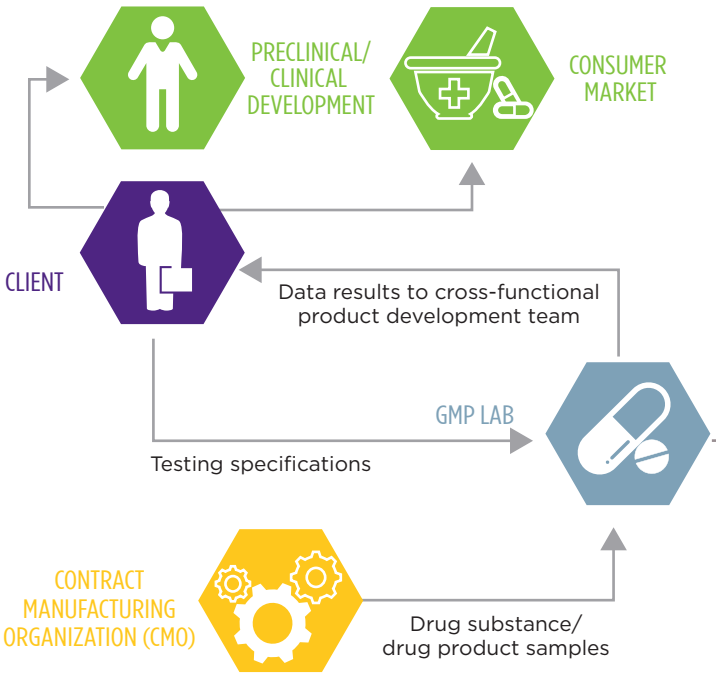
PPD® LABORATORIES

GMP Lab

Measuring the quality and quantity of the drug and its ingredients to support chemistry, manufacturing and controls (CMC) pharmaceutical development



GMP LAB SERVICES

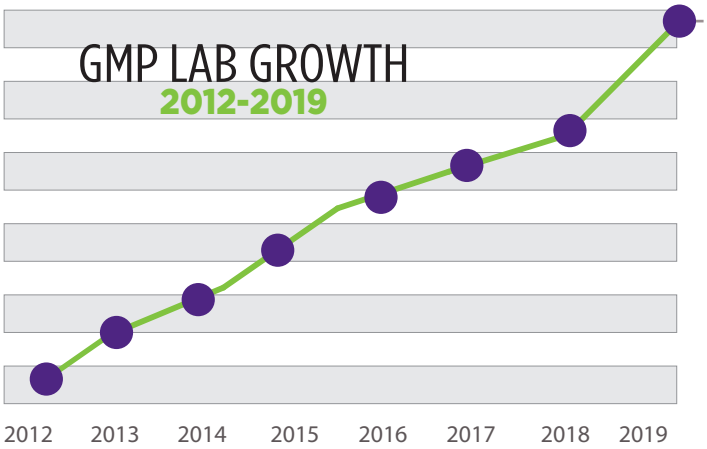
METHOD DEVELOPMENT AND VALIDATION

+ Development and validation of test methods for drug substances (i.e., the active ingredient) and drug products (i.e., the formulated product in its dosage form) throughout the drug development and commercialization process

STABILITY, RELEASE AND QUALITY CONTROL TESTING

+ Testing to release product for use in humans (clinical trials/consumer market)
+ Storage under controlled environmental conditions and testing of key drug parameters to establish expiration dating
+ Identification and measurement of drug impurities to ensure patient/consumer safety
+ Manufacturing process control testing to confirm product meets specifications

GMP LAB GROWTH 2012-2019



HALLMARKS OF PPD LABORATORIES

+ An industry-leading capacity and proven ability to successfully grow organically with global reach
+ Fully integrated laboratory services for all phases of drug development
+ Technical expertise in both small molecules and biologics analysis
+ An industry leader in inhalation product testing
+ Strong regulatory history
+ Depth and breadth of service offerings
+ Continued investment in leading-edge technology

THE FACTS

MORE THAN 300 functional service partnership (FSP) employees across **18 client locations**

An industry-leading laboratory for inhaled drug analysis

5S deployment to all sites globally

TWO custom-built laboratories in Athlone, Ireland and Middleton, Wisconsin

>1,500 FTEs in 2019

HELPING DELIVER LIFE-CHANGING THERAPIES