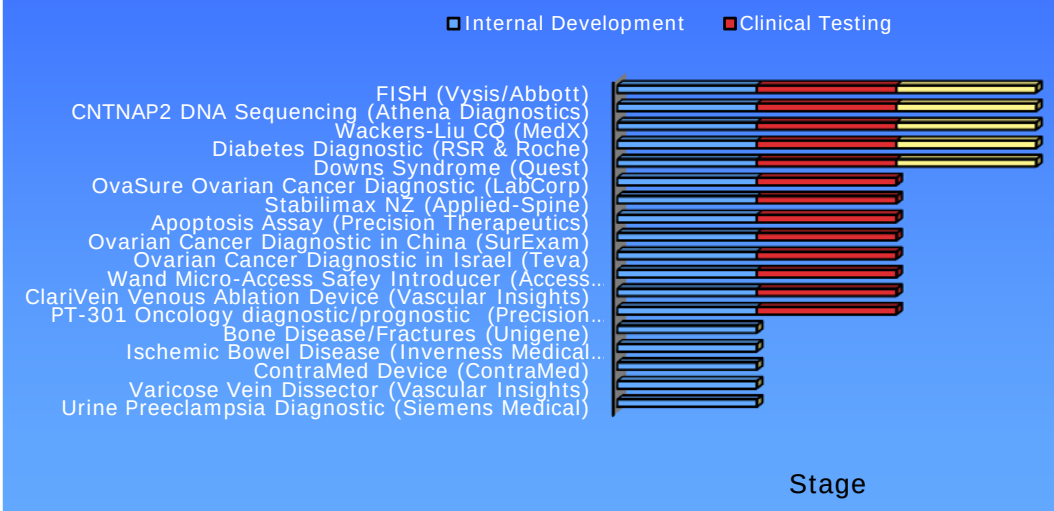The Yale Device and Diagnostic Pipeline