Viewpoint: FDA should expand drug safety test program to include new technologies, including ‘organs on a chip’

Every March, thousands of toxicologists from around the world gather for the Society of Toxicology’s annual meeting. Animal-based approaches once held the spotlight. But these days, the exposition hall is filled with companies showcasing innovative methods that incorporate human biology to predict whether a product is likely to be safe or harmful for humans.

…

These new approaches include so-called organs on a chip — human liver or kidney or lung tissues or nerve cells on a silicon chip that mimic internal human physiology; bioprinted kidneys; stem cells that can model human brain development; and skeletal and cardiac muscles that independently contract. All of these can be used to test for unwanted side effects of drugs.

…

The FDA should expand the drug development tools program to include approaches based on human biology. This would let the agency keep pace with rapidly advancing science while ensuring that an innovation is indeed safe and useful.

Recent work by the FDA supports taking this action. Its own Predictive Toxicology Roadmap, which aims to integrate nonclinical methods that better predict drug safety while reducing animal testing, generally highlights qualification as a critical part of integrating a new method.

Read full, original post: FDA should use its existing program to qualify new tools for drug safety testing