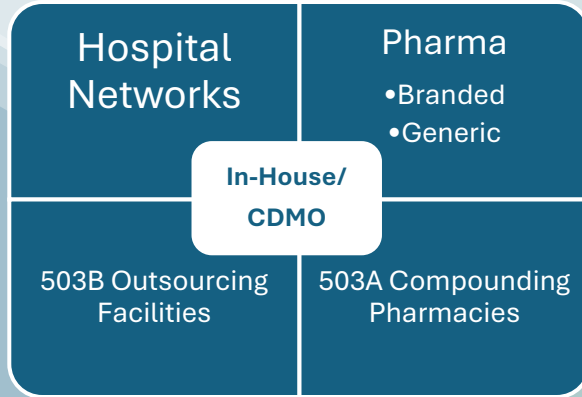


# Terminal Sterilization of Pharmaceuticals using E-Beam| X-ray Radiation

We use R&D techniques to explore superior terminals by Electron Beam | X-ray to sterilize various pharmaceuticals. We are expanding the drug types and formats capable of utilizing this technology through partnerships within the industry, innovative dose application methods, and our proprietary toolkit.

## Who?



## Drug Therapies



## How?

R&D Feasibility: stability HPLC & radiation tolerance study

R&D Packaging Considerations: primary and secondary

Microbial Sterilization Validation: following ISO 11137 or equivalent

Dose Mapping



## What?

Vial Injectables, Monoject Syringes, L.E.T, PCA, IV Bags, Implants, Topicals, Suppositories

## Terminal vs. Aseptic Fill

SAL  $10^{-6}$  vs.  $10^{-3}$

Simpler Operations

Lowest Risk for Sterility Failure

Cost Savings

