

I-SPY Trial Case Example: Using an Embedded Trial to Identify New Treatments for Breast Cancer

Embedding trials into health care delivery is possible. CTTI spoke with individuals from five different trials in which elements of the trial were embedded into clinical practice. We provide an example of one trial, the [I-SPY](#) Trial, below.

TRIAL OVERVIEW

- ▶ Adaptive, randomized, open-label trial
- ▶ Number of sites (as of April 2022): ~30 (hospitals and research institutes across the U.S.)
- ▶ Number of patients enrolled (as of April 2022): ~2000
- ▶ Ages eligible for study: Adult, Older Adult
- ▶ Intervention: Investigational (primarily) and repurposed drugs; also testing biologics and medical devices; all for invasive breast cancer
- ▶ Primary outcome/endpoint: whether adding experimental agents to standard neoadjuvant medications increases the probability of pathologic complete response (pCR)

EMBEDDED TRIAL ELEMENTS

- ▶ *Data Acquisition and Intervention*: Aligned outcomes and endpoints to data captured within routine care; Aligned research requests with clinical workflow to have minimal burden for providers
- ▶ *Evidence Integration*: Results of a diverse (representative) population are made available in close to real time to clinicians and rapidly translated into clinical practice

WORDS OF WISDOM

- ▶ If we're going to get the appropriate diversity and medical research that patients deserve, we have to embed and integrate more trials.
- ▶ Engage site PIs in the conduct of the trial and incentivize them (e.g. through academic productivity options such as ability to publish through working groups).
- ▶ Be flexible by supporting centers that aren't purely academic medical centers with built-in research staff.

- Train staff for all the various site functions that need to happen.

CHALLENGES		SOLUTIONS
Data	Data entry into an electronic data capture (EDC) system is manually done and requires continuous iterations of the electronic case report form (CRF)	<p>Designed an eCRF to be aligned with clinical workflow</p> <p>Currently enabling automated data acquisition directly from EHR into the EDC</p>
Culture	Buy-in from all stakeholders is challenging; it is difficult to change the mindset of those who manage by tradition rather than manage by evidence (i.e. are risk averse and reliant on the way FDA used to be in the past)	<p>Provides academic incentives to Principal Investigators (e.g. authorship)</p> <p>Offers observational trial arm option (capturing real world data) to patients who did not want to receive investigational drugs or procedures</p> <p>Reduces low-value workload</p> <p>Improved patient subtyping for quality, personalized/precision care</p> <p>Ensures return of results to participating patients</p>
Process	Facilitating non-traditional research institutions to be ready for research, including clinical trial agreements, research support, data collection and others takes time and is challenging	<p>Provides necessary supports and training to all sites</p> <p>Uses a central IRB and protocol review committee</p> <p>Does not ask for big workflow changes, rather small, continuous improvement changes</p>