WOOP-SURPASS: a core platform team for ARPA-H SURPASS

Turning the wait before treatment into evidence

For early-stage breast cancer, led by the University of Illinois Cancer Center, enrolling in community and safety-net hospitals

Noah Dolev, PhD, CTO, ElixirTrials (TA3 partner)
for the University of Illinois Cancer Center team

One master protocol, from first-in-patient safety to preliminary efficacy

What is new: a standing rule, not a one-off study. Every drug entering the platform gets the same first step, a randomized, drug-alone target check inside the usual work-up, before any combination therapy, within one master protocol.

The usual wait: median 45 days from diagnosis to treatment, longer for the lowest-income patients US, stage I–III breast cancer, 2022–23

Before the window
First-in-human
Dose finding in metastatic disease at academic hubs
◆ Sets the dose and safety record needed to enter the window

Window — new drug alone, ~2 weeks
- **Diagnosis** — biopsy + blood; randomize to drug or control
- **Day ~14** — biopsy + blood again

◆ **Arm decision, futility only:** no target engagement despite confirmed exposure → stop the arm. Not a go criterion.

Work-up — fits inside; treatment start capped

Neoadjuvant — new drug + standard therapy vs shared control, by subtype
- **Standard therapy starts** — date capped by protocol; DSMB monitors delay

Arm decisions use monthly analyses pooled across patients; standard treatment is not altered.

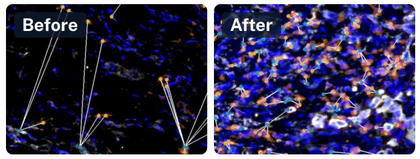
Follow-up — event-free survival
- **Surgery** — pathologic response

◆ **Arm decision:** pCR / RCB → advance to EFS confirmation

TA1 Design engine	Simulates every arm before and during the trial; control models trained on standard-care EHR data, validated before use	● Open to partners
TA2 Continuous inference	Monthly Bayesian analyses with error control; independent statistics committee; models change only at locked releases	● Open to methods partners
TA3 Agentic operations	Prescreening, site start-up, data capture and cleaning now; consent and specimen tracking being built; every step sealed in a tamper-evident record	● Piloting on real EHR data
Biology Evidence layer	Cancer Center lab: multiplex spatial imaging, spectral flow, cytokines, ctDNA; AI pathology for consistent reads across sites	● Cancer Center assays in use ● Open to AI pathology partners

University of Illinois Cancer Center VK Gadi, MJ Godoy

BRE-04: **27 patients treated** before surgery, **no serious adverse events**

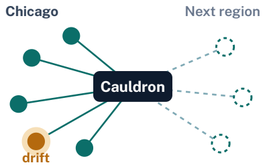


45%
closer: immune cells to tumour cells. T-cell density: no significant change.

Single-arm interim, 9 of 27 analysed, exploratory; final results pending. Example fields: lines join each CD8 T cell (orange) to its nearest tumour cell.

ElixirTrials, TA3: one stack for every site Noah Dolev, PhD; Heather Grey

Design intent: every site runs the same software and measures the same way.



- **Same-day deviation alerts:** drift at one site stands out against the rest.
- **Sites check each other:** an effect seen in every region is stronger evidence, sooner; one seen in a single region points to a local cause.
- **Canary releases:** changes start at one site, then roll out to the rest.
- **Real-world data:** standard-care patients at every site train the control models.

Cauldron benchmark: recall 1.00, precision 0.971 on 204 held-out eligibility criteria, 6 protocols (internal, unpublished).

Built to be copied after the program

Same templates, models and network

- **Early-stage breast cancer** launch
  Common; the usual wait is the window
- **Pancreatic cancer** next
  High need; pre-surgery therapy is growing
- **Soft-tissue sarcoma** then
  Rare, many subtypes: a shared control counts for more where patients are scarce

We're looking for partners

1. **Drug sponsors**
   First-in-human biotechs to multinational pharma
   Especially a small company with a first-in-human agent
2. **Breast-cancer sites**
   Community and safety-net hospitals beyond Chicago
3. **Simulation and modelling partners**
   Trial simulation, patient and drug-response models, AI pathology
4. **Biostatistics, regulatory and project leads**
   Bayesian platform trials, FDA master protocols, program management

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Sources: Sakowitz et al., JAMA Surg 2026 (PMID 42584916); BRE-04 interim, AACR 2026 abstract CT263; Cauldron metrics: internal, unpublished.

Status as of 30 Oct 2026. Partner roles are in discussion; no commitments implied.