UC TrialQuest

Bringing 5 UCs Together to Share Clinical Trial Data

Nate Buscher
Program Manager, UC BRAID

Anirvan Chatterjee
Director of Data Strategy, CTSI, UCSF
What is UC BRAID?

- Network of 5 UC Health campuses
- Reduces barriers
- Leverages resources
- Accelerates research through collaboration

Rachael Sak, RN, MPH, Director, UC BRAID
David Grady, Program Coordinator
UC BRAID Initiatives

**UC ReX** — UC-wide database of 14.5 million+ de-identified patient records

**Biobanking** — Implementing eConsent, preparing for NPRM

**Child Health** — Breaking down barriers to improve pediatric research

**IRB Reliance** — Charting the path toward Single IRB
Problem...

No means of identifying clinical trials in real-time across the 5 UC academic medical centers
Why not use ClinicalTrials.gov?

- Frequently out-of-date
- Incomplete records
- Erroneous information
IRB Records as “Source of Truth”

- Institutional Review Boards review clinical trials to ensure human subjects’ protection
- Records updated daily
- Can be leveraged to minimize duplicative reviews if a study has been approved at another campus
Enter UC TrialQuest

- Deployed in July 2014
- Database of over 4,500 clinical trials across 5 UC Health campuses
- Simple web-based searches designed to mimic industry-leading search engines
- Contains submission date, campus, status, study title, sponsor, PI
UC BRAID Partnered with the Research Technology Team at UCSF’s CTSI
The Clinical & Translational Science Institute (CTSI) at UCSF facilitates the rapid translation of research to improvements in patient and community health.
Who and What is TrialQuest For?
Phase 1: Use Cases

• Focus on research administration processes

• Allow contract negotiators to share terms, budgets

• Provide data foundation to enable analyses of UC clinical trial portfolio

• Identify opportunities for Single-IRB, mitigating redundant IRB reviews
What is Single-IRB?

In the traditional model, an IRB review is required at each institution where a study takes place.

5 sites = 5 full IRB reviews

**Single-IRB** allows one IRB to serve as the IRB of Record while other institutions rely on that single review.

5 sites = 1 IRB review
Single-IRB

- Mandated by NIH starting in May 2017
- Reduces duplicative reviews, saving taxpayer dollars and speeding trial activation
- Saves PIs and study teams significant effort
How We Got There...
Obtaining Data

1. Garnered support for data sharing from all 5 UC Health campus IRBs

2. Enlisted help of campus technology teams to generate weekly reports containing the last 3 years of clinical trials:
   - Pending approval
   - Approved & underway
   - Inactive
But it wasn’t easy...
Technical Challenges

- 5 UC Health campuses use different IRB systems with no common ontology
- Data fields expressed differently between campuses
- Campuses’ inability to export data in a common format
Solution:
Accept data in whatever formats available
Campuses send data in idiosyncratic formats (8-25 fields) → Normalize records to 7 core fields → Expose records via simple typeahead web search
Front End

Goal: Make it incredibly easy for end users to find what they need

- Bootstrap web framework
- Data saved as a single JSON file
- DataTables.js to show/search records from JSON file
  - Plugins for CSV/XLS/PDF export and typeahead search highlighting
- Google Analytics to understand application usage
TrialQuest
The Next Generation
New Focus on Researchers & Study Teams
Phase 2 Enhancements

- Single sign-on across all UC campuses
- Synonym support:
  - Researchers looking for specific genes in clinical trial titles can use any notation for a given gene (e.g., HER2 = ERBB2)
  - Searching by generic drug name also returns brand name drugs, and vice versa
Phase 2 Enhancements (cont.)

- “Best Match” links added to studies without a ClinicalTrials.gov #
- “Click to Rely” feature
- Modular underlying structure to facilitate adding new campuses or sharing the tool with other institutions
Phase II Features Demo

Engage!
We couldn’t have done it without you!
Contributions of UC-wide Technology Infrastructure

• Report generation and automated IRB data
• Competitive virtual machine hosting
• Single sign-on via Shibboleth to support all campuses
• Identity and Access Management
• Systems administration and security monitoring
• Firewall rules
Future Plans

• Rollout Phase II this month. Collect feedback and analytics

• Include more types of studies, not just clinical trials

• Expand to include all 10 UC campuses

• Improve “Best Match” links to ClinicalTrials.gov

• More automated reporting and data import
Partnerships and Thanks

• UC Office of the President/CIO’s Office
• UC Santa Cruz Hosts
• UCSF CTSI Research Technology Team – Anirvan Chatterjee, Eric Meeks, Leslie Yuan
• Eric Mah, UCSD
• UC IRB Directors and Staff
• UC BRAID Contracting Workgroup
• UC BRAID/CTSA Communications Workgroup
• Kristen McCaleb, Megan Laurance
And of course...
Campus technology and research information systems teams!
UC TrialQuest: Winner of the 2016 Larry L. Sautter Gold Award
Available at: trialquest.ucsf.edu

End of this month!
Questions?

www.ucbraid.org
innovation • collaboration • acceleration