

**UCSF Clinical & Translational Sciences Training Program:
Clinical Research Informatics Postdoctoral (CRISP) Fellowship**

<https://crisp.ucsf.edu>

Health Informatics

Rachel L. Richesson · James E. Andrews
Editors

Clinical Research Informatics

Second Edition

 Springer

Clinical Research Informatics involves **the use of informatics in the discovery and management of new knowledge relating to health and disease**. It includes management of information related to clinical trials and secondary research use of clinical data.

<https://amia.org/about-amia/why-informatics/informatics-research-and-practice>

Highlights

Clinical research informatics: a growing subspecialization of biomedical informatics

Lucila Ohno-Machado

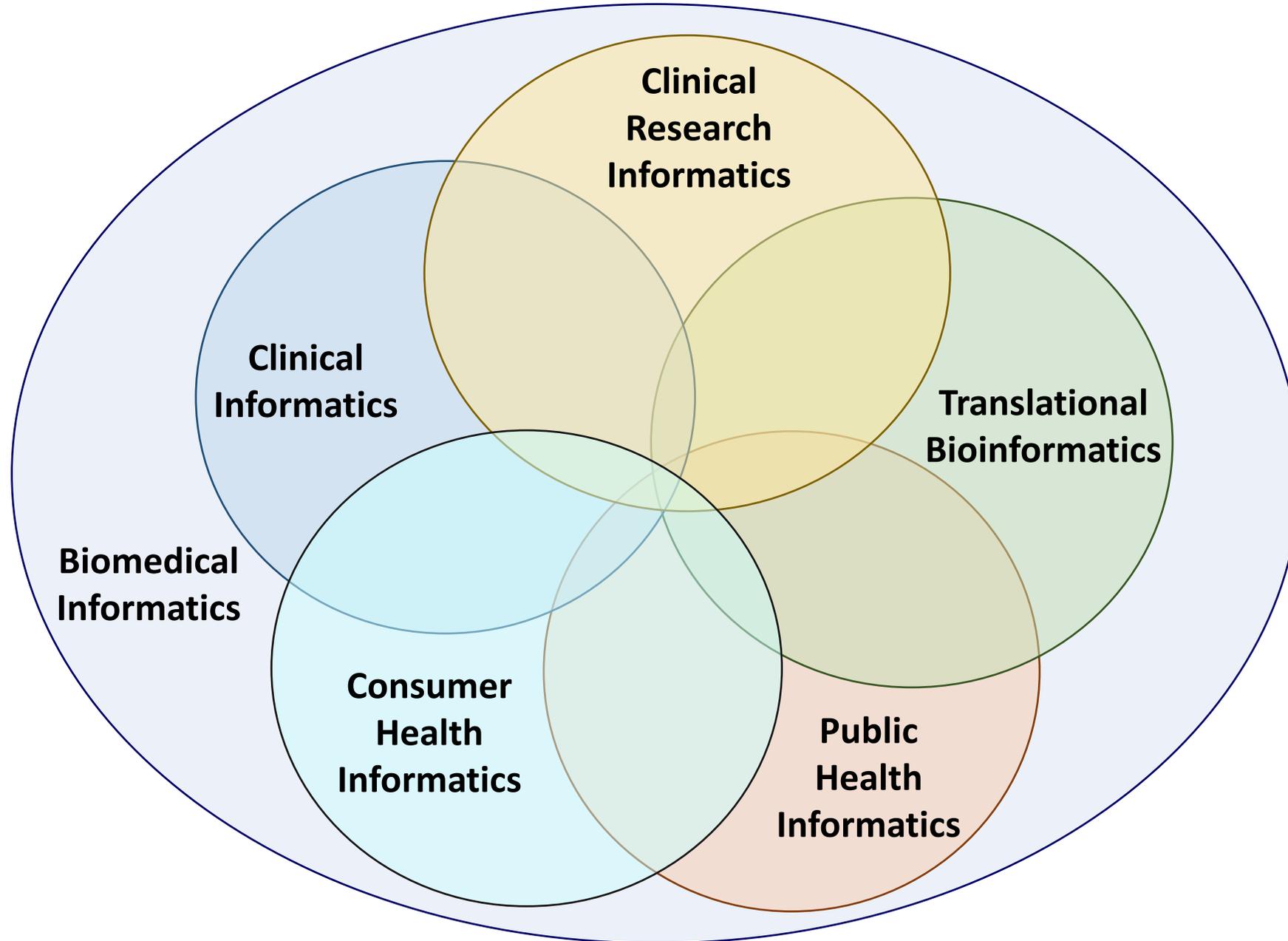
Editor-in-Chief

Editorial

The maturation of clinical research informatics as a subdomain of biomedical informatics

Suzanne Bakken  ^{1,2,3}

Five Domains of Biomedical Informatics (American Medical Informatics Association)



Overlap between clinical informatics, clinical research informatics and clinical research

Clinical Informatics

- Clinical decision support
- Enterprise Information Systems
- Human-centered design
- Workflow engineering
- Change management
- Computer programming
- Data privacy and security
- Data governance
- Quality improvement principles
- Mobile technology (wearables)
- Health economics & financing

Clinical Research Informatics

- Computable phenotypes
- Machine learning algorithms
- Natural language processing
- Data standards & nomenclatures
- Implementation science
- Data visualization

Clinical Research

- Study design
- Subject recruitment
- Data management
- Data quality assurance
- Clinical epidemiology
- Ethical conduct of research
- Publishing & presenting research
- Biostatistics
- Systematic reviews
- Clinical trials
- Program evaluation
- Grant writing

Clinical Research Informatics: Combining research and operations in a learning healthcare system

CRISP Components

	Conduct a mentored research project.
	Attend weekly didactic sessions with UCSF (ACGME) Clinical Informatics Fellows .
	Participate in weekly work-in-progress sessions with the UCSF Quality and Informatics Lab .
	Join monthly Fellows Advancement Skills Training in Clinical Research (FAST-CaR) career development sessions.
	Continue clinical practice (20% effort).
	Complete coursework.

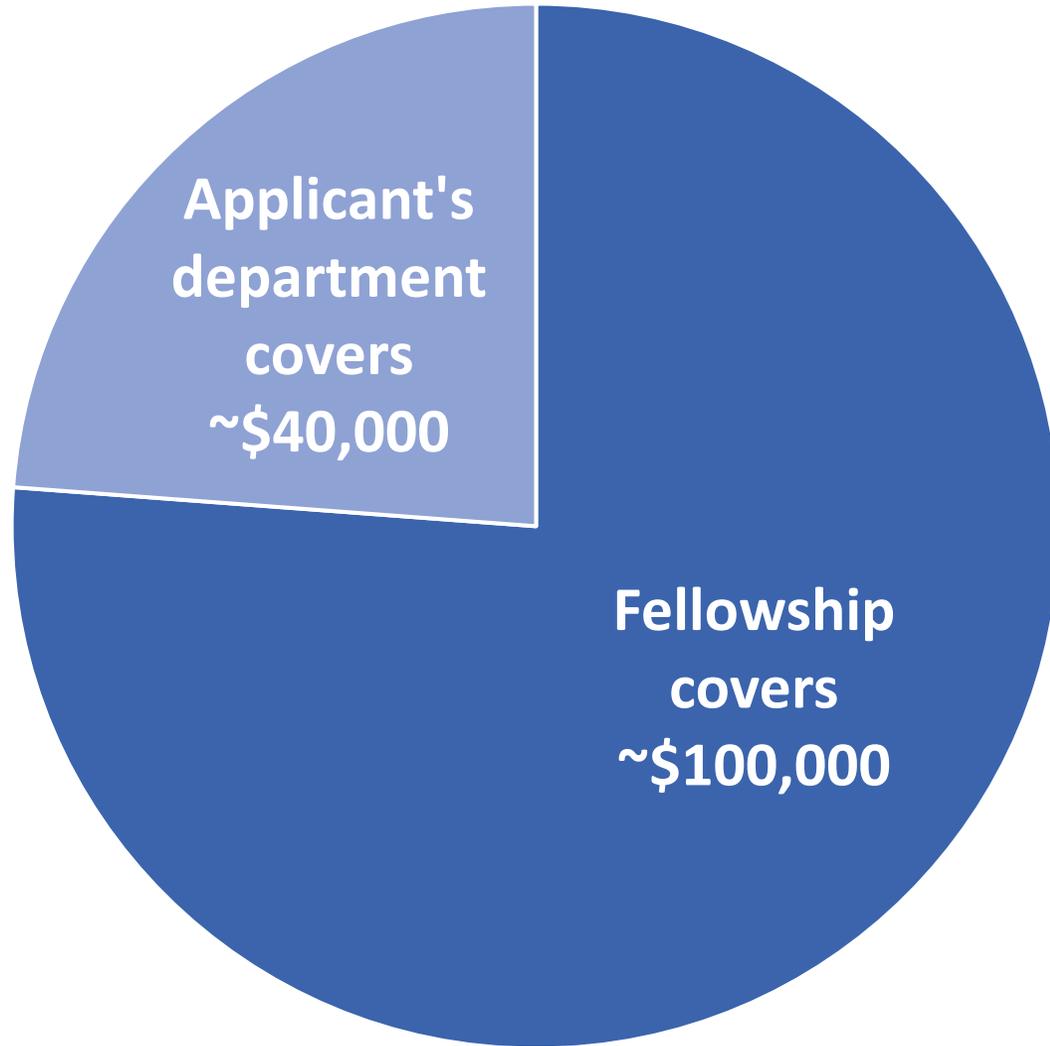
Course Options

	CRISP Program Recommended Courses https://crisp.ucsf.edu	Certificate in Health Data Science (CiHDaS) https://epibiostat.ucsf.edu/certificate-health-data-science
Summer	Responsible Conduct of Research (EPI 201)	Responsible Conduct of Research (EPI 201)
	Designing Clinical Research (EPI 202)	
	Introduction to Programming in R (BIOSTAT 213)	Introduction to Programming in R (BIOSTAT 213)
	Introduction to the Science of Big Data (BIOSTAT 202)	Introduction to the Science of Big Data (BIOSTAT 202)
Fall	Clinical Epidemiology (EPI 204)	Epidemiologic Methods I (EPI 203)
	Biostatistics for Clinical Research I (BIOSTAT 200)	Biostatistics for Clinical Research I (BIOSTAT 200)
	Advanced Programming in R (BIOSTAT 214)	Advanced Programming in R (BIOSTAT 214)
	TICR Program Seminar	Data Science Program Seminar
	Machine Learning in R (BIOSTAT 216)	Machine Learning in R (BIOSTAT 216)
	Biostatistics for Clinical Research II (BIOSTAT 208)	Biostatistics for Clinical Research II (BIOSTAT 208)
	TICR Program Seminar	Data Science Program Seminar
Spring	Use of EHR Data for Research (EPI 231)	
	Publishing and Presenting Clinical Research (EPI 212)	Advanced Machine Learning for Biomedical Sciences (DATASCI 225)
	Biostatistics for Clinical Research III (BIOSTAT 209)	Biostatistics for Clinical Research III (BIOSTAT 209)
	TICR Program Seminar	Data Science Program Seminar
	15 courses, 31 credits	13 courses, 28.5 credits

Eligibility

- U.S. citizen or permanent resident
- Doctoral degree
- Clinical license in a healthcare profession (medicine, nursing, pharmacy, dentistry, psychology, physical therapy, acupuncture, podiatry)
- Fewer than three years of prior funding through institutional or individual NRSA postdoctoral grants
- Applicant department must commit to covering approximately 30% (\$40,000/year) of the costs

Annual Cost of CRISP Program



Department must cover:

- UCSF housing supplement (about \$14,000/year)
- Difference between UCSF and NIH pay scales
- Uncovered tuition (\$0 - \$10,000/year)
- Miscellaneous expenses (e.g., travel, conference registration)

Application Review Criteria

Track Record

- Background and prior training:
- Area(s) of expertise:
- Number of coauthored publications since 2015:
- Number of first author publications since 2015:
- Number of grants (if any):

Research Plan

- Scientific strength
- Clinical importance
- Feasibility

Training Plan

- Commitment of the proposed mentors
- Proposed coursework

Resources

- Workstation
- Computer
- Analytic support
- Conferences

Likelihood of Pursuing Academic Career