ACGME Clinical Informatics Fellowship & ABMS Subspecialty Certification

David Avrin, MD, PhD • Program Director
Professor of Clinical Radiology and Medicine (courtesy)

6/20/2017
"UCSF Clinical Informatics Fellowship (CIF) is a two year program ... to create future academic and clinical healthcare informatics leaders."

http://hospitalmedicine.ucsf.edu/fellowship/clinicalinformatics.html
Strategic Goal

- Create a cadre of physicians from all specialties who have advanced informatics skills
  - Paraphrase JFK: “A new generation of physicians”
- More “applied” than “academic”: there are academic depts of BioMed Info – PhD
- Future leaders, including CMIO’s
  - Chief Medical Information Officer
- Leverage their domain expertise with informatics and vice-versa
- Or larger cross-specialty domain projects
New ABMS Subspecialty of Clinical Informatics

β Sponsored by the American Board of Preventive Medicine / (Am Bd of Path)

β They administer the Certification Exam (written)

β Two routes:

• Grandfathered/Grandmothered with documentation of work experience

• Two year approved CI Fellowship following successful completion of ANY ABMS/ACGME Residency

β Fellowships are approved and monitored by ACGME
20+ programs in the U.S.

2 Year ACGME Fellowship

Curriculum includes software development, databases, healthcare data analytics, medical statistics, change management & human factors, research study design

ABPM administers an annual exam

Grandfathering still open through 2021
UCSF Clinical Informatics fellowship is sponsored by the Division of Hospital Medicine.

First class of UCSF fellows Michael Wang MD and Steven Chan MD MBA, pictured with Bob Wachter MD, Chair of the Dept of Internal Medicine & author of The Digital Doctor.
### Faculty from Many Specialties

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<th>Specialization</th>
<th>Department</th>
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<td>Andrew Auerbach MD MPH</td>
<td>Hospital Medicine</td>
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<td>David Avrin MD PhD</td>
<td>Interventional Radiology</td>
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<td>Michael Blum MD</td>
<td>Cardiology</td>
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<td>Seth Bokser MD</td>
<td>Pediatrics</td>
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<td>James Bourgeois MD OD</td>
<td>Psychiatry</td>
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<td>Atul Butte MD PhD</td>
<td>Pediatrics</td>
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<td>John Carter MD</td>
<td>GI Surgery</td>
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<td>Russ Cucina MD MS</td>
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<td>Raman Khanna MD MAS</td>
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<td>Marc Kohli MD</td>
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<td>John Mongan MD PhD</td>
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<tr>
<td>Aaron Neinstein MD</td>
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<td>Niraj Sehgal MD MPH</td>
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<td>Brad Sharpe MD</td>
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<tr>
<td>Ida Sim MD PhD</td>
<td>Internal Medicine</td>
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<tr>
<td>Bob Wachter MD</td>
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Working with EHR data

Analytics:

Machine learning, artificial intelligence & data science coursework at UCSF ICHS

Find “best practices” & info from EHR data & bring to a Learning Healthcare System.
Mentors & industry access

For example, Udi Manber, PhD, Former Google Search director, NIH, Yahoo, Amazon VP Engineering

Now UCSF DOM Director of Digital Transformation
The Learning Healthcare System

Digital data all pts: Discrete combined w text NLP/AI

Securely aggregate

Analyze

Determine “best practices” or algorithms of care

Use that to inform current practice

Individual Patient Encounter Digital Health Record

Best Practices

Analytics

Aggregation (PHI)
Solve Existing Problems:

- GUI: User Interface
- User friendliness
- Task Time
- Structure
  - Order sets
  - Templates
- Interoperability (Data Sharing)

Examples: MD Burnout Issues related to EMR

- Time
- Evening work at home
- Typing
  - Scribes? – who pays?
- Inbox management
Curriculum

Year 1
- Intro to Medical Informatics Q1
- Intro to Medical Informatics Q2
- Intro to Object-Oriented Software Dev
- DataBase Query and Design
- TICR 1: Medical Statistics
- TICR 2: Research Study Design
- Data Analytics for Quality and Safety
- Change Management / Human Factors
- 20% Clinical Participation in your specialty

Year 2
- Two to three publishable projects
- Maintain 20% Clinical participation in your specialty
Applicants / Requirements

Computer Science

• Formal Education?
  – Not a specific req UCSF
• Self-education
• Skills
• Projects
• Interest

Match?
Unique Aspects of UCSF Program

- Silicon Valley next door
- UCSF and Bob Wachter
  - Virtually unlimited projects and mentors
- Formal CS background NOT required
  - You will arrive or leave with SW Dev and DB skills
  - We can teach you that
- NOT an Epic Training Program
- Multi-site & diverse
- Potential of Informatics for underserved populations
- Didactics concentrated in first year, leaving second year free for projects
David Avrin, MD, PhD

Program Director
Professor of Clinical Radiology and Medicine (courtesy)
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Fellowship Manager Sherry Chen MPA • sherry.chen@ucsf.edu
Through its singular focus on health, UCSF is leading revolutions in health.

AMIA Clinical Informatics FAQ site:
https://www.amia.org/clinical-informatics-board-review-course/faq