

# Proposed NHGRI Research Training and Career Development Initiatives



**NATIONAL ADVISORY COUNCIL FOR  
HUMAN GENOME RESEARCH**

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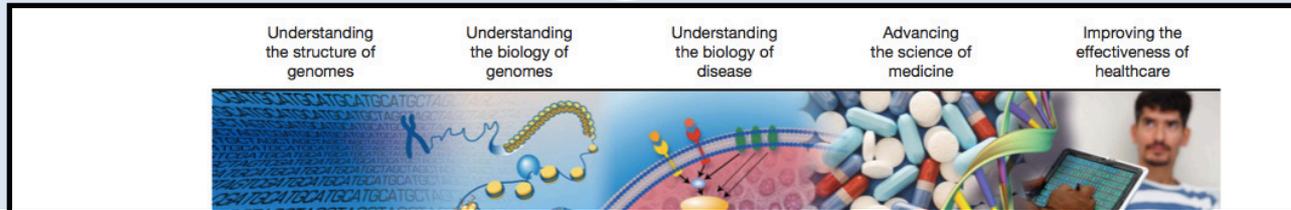
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# Background

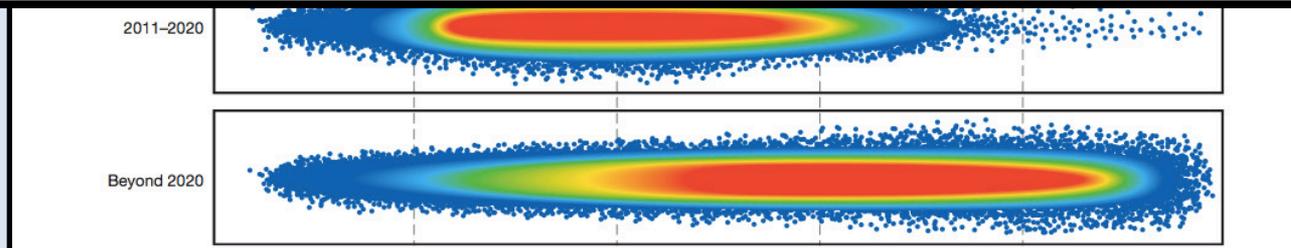


- Workshop held in April 2013 to provide guidance to NHGRI on how to align the research training and career development programs with the Strategic Plan.
- Participants included experts in genomics, academic medicine and training

# Overarching Recommendations



- Maintain investment in genomic science training; expand informatics
- Expand training into genomic medicine
- Training investment on par with other NIH ICs



# General Recommendations



- **Institutional Training Grants**
  - Expand postdoctoral training to encompass genomic medicine
  - Continue training in genomic sciences
- **Career Awards**
  - Expand K awards to encompass genomic medicine
  - Continue training in genomic sciences

# Specific Recommendations from Workshop



- Develop leaders as an over-arching goal.
- Train comprehensively in more than one discipline.
- Ensure trainees have access to large, complex datasets.
- Continue support of the Diversity Action Plan.
- Develop a professional network of trainees and K awardees.
- Fund more training and career development activities.

# Proposed Implementation Plan



- Institutional postdoctoral/clinician training program in *genomic medicine* (T32) \*new\*
- Institutional training program in *genomic sciences* for graduate students and postdoctoral fellows (T32)
- Individual mentored career development award in *genomics* (K01)
- Individual mentored clinical scientist career development award in *genomic medicine* (K08) \*new\*

# Institutional Training Program for Postdoctoral Fellows in **Genomic Medicine (T32)**



Objective: To develop leaders in genomic medicine

- Two training paths (programs may include one or both):
  - (1) train genomic medicine researchers and
  - (2) provide comprehensive training in genomics for clinicians
- Eligible appointees: Postdoctoral fellows with MD or clinical PhD degree.
- Course requirements flexible, training in quantitative approaches and ELSI required.
- Individual appointments 2-3 years' duration.
- *Number of training slots per application: 4-6*

# Institutional Training Program for Postdoctoral Fellows in **Genomic Medicine (T32)**



## *What's New?*

- Expansion of the T32 program to support training in genomic medicine.
- Program targeted to MD or clinical PhD postdocs
- Broad training in medicine and genomics
- High potential to serve as a mentor in genomics to other clinicians or genomics consultant on complex cases

# Institutional Training Program in **Genomic Sciences** for Graduate Students and Postdoctoral Fellows (T32)



*Objective:* To develop leaders in genomic sciences

- Comprehensive knowledge base and skills set in the quantitative and informational sciences
- Cross-training can include clinical discovery work and technology development
- New programs limited to 10 training slots
- Existing programs that are larger will be reduced gradually over time.
- What's new?
  - Greater emphasis on cross-training in bioinformatics, biostatistics, and quantitative sciences.

# NHGRI K awards



- Currently signed on to NIH parent awards:
  - K01
  - K25
  - K99/R00
- Propose:
  - New NHGRI K08
  - New NHGRI K01 to replace parent K01/K25
  - K99/R00 – no change

# Individual Mentored Career Award in Genomic Sciences (K01)



*Objective:* To cross-train investigators proficient in a genomic discipline in another scientific discipline relevant to genomic science.

- Eligible applicants: Individuals with PhD degree or equivalent and demonstrated competency in one scientific discipline relevant to genomic sciences.

## *What's new?*

This will expand opportunities to individuals with a biological degree who wish to cross-train in genomic sciences.

# Individual Mentored Clinical Scientist Career Award in Genomic Medicine (Ko8)



*Objective:* To provide a mentored research experience to clinically-trained individuals to become independent investigators and practitioners of genomic medicine

- Eligible appointees: Individuals with a MD degree
- Course requirements: Defined curriculum needed to complement their existing clinical expertise and to receive training in ELSI.
- Pursue a research project that would provide preliminary data for an independent research project.

*What's new?*

- Expansion of the mentored career award program to support clinicians in genomic medicine

# NHGRI's 5-yr average % investment of extramural budget vs. NIH-wide (FY 2008-2012)

mechanism	code	NHGRI %	NHGRI \$	NIH %
institutional NRSA	T32	1.8	6.9M	2.39
pre-doc fellowship for MD/PhD	F30	0	0	0.06
pre-doc fellowship	F31	0.04		0.17
post-doc fellowship	F32	0.09		0.29
senior fellows	<i>F33</i>	<i>0.001</i>		<i>0.29</i>
	<i>F total</i>	<i>0.13</i>	0.5M	<i>0.47</i>
Research Scientist Career Development Award	K01/K2 5	0.11	0.4M	0.49
Clinical Scientist Career Development Award	K08	0	0	0.6