The TRIG Approach: Progress and Potential

ISCC In-Person Meeting

Richard L. Haspel, MD, PhD
Director of Medical Education, Department of Pathology
Beth Israel Deaconess Medical Center
Associate Professor, Harvard Medical School
Chair, TRIG Working Group
Training Residents in Genomics (TRIG) Working Group
A structured approach to teaching

1. Form national working group
2. Develop curriculum
3. Implement: workshops
4. Providing tools for others to implement
   o Online resources
   o Train the Trainer sessions
5. Evaluation
   o Workshops
   o Resident in-service exam
6. Dissemination/Research

- Obtained $1.3 million in NCI R25 funding
- 25 international
- >9000 page views;
- >550 downloaders from 15 countries
- Query all US residents (>2000) about their genomics training
- 7 TRIG-related publications
- Adapted to other specialties
Curriculum: A breast cancer patient

Exercise 1: Single gene testing

Exercise 2: Prognostic gene panel testing

Exercise 3: Design of a Cancer gene panel

Exercise 4: Whole-exome sequencing
Dissemination: Comprehensive guidance

- 87 page Instructor Handbook
- Workshop lectures
- Handouts/References
  - Pre-workshop
  - Activities
  - Post-workshop
- Peer reviewed
- Downloaders survey (n=67)
  - Used in teaching >1100 trainees
  - All would recommend to colleagues

- In preparing for the workshop, it is most helpful for the instructor to review the handbook, PowerPoint lectures, and handouts together – none of the materials is intended to stand alone. Also, the instructor may choose to review the additional references included in the pre- and post-team-based learning-activity lectures.
TRIG Curricular Resources

Preparation Pathologists for a Leading Role in Genomics

Online Genomic Pathology Modules Now Available!

• Testing at 11 residency programs
• Pre-Post test design

http://www.pathologylearning.org/trig
Adaptability: Universal modules through ISCC

- ISCC Innovative Approaches Working Group: TRIG-based “Universal Modules”
- $100,000 NHGRI supplement to NCI R25 to develop non-cancer related tools
- Developing Instructor Handbook and Toolkit: Planned ISCC IAWG review
- Other organizations welcome to adapt Universal Modules
New Initiative: Undergraduate Training in Genomics (UTRIG) Working Group

- Build on TRIG model, develop medical student genomics curriculum
- Test at UMEDS/PRODS medical school sites
- Track progress using the RISE-FIRST
- Recruiting additional organizations
- Applied for R25 grant renewal
A structured approach to teaching

1. Form national working group
2. Develop curriculum
3. Implement: workshops
4. Providing tools for others to implement
   - Online resources
   - Train the Trainer sessions
5. Evaluation
   - Workshops
   - Resident in-service exam
6. Dissemination/Research

- 25 international
- >9000 page views;
  >550 downloaders from 15 countries
- Query all US residents (>2000) about their genomics training
- Obtained $1.3 million in NCI R25 funding
- 7 TRIG-related publications
- Adapted to other specialties
Thanks!

TRIG Working Group Members

Members
• Richard L. Haspel, MD, PhD (Chair)
• Elizabeth Azzato, MD, PhD
• Frederic Barr, MD, PhD
• Andrew H. Beck, MD, MS
• Karen Frank, MD, PhD
• Madhuri Hegde, PhD, FACMG
• Karen Kaul, MD, PhD
• Debra Leonard, MD, PhD
• John Pfeifer, MD, PhD
• Henry Rinder, MD
• Mark E. Sobel, MD, PhD
• VO Speights, MD*
• Elizabeth Varga, MS, CGC
• Chad Vanderbilt, MD

Advisors
• Lauren Briere, MS, CGC
• Grace Huang, MD
• Peter Tonellato, PhD
• Loren Joseph, MD

NHGRI Supplement Co-Investigators

• Kiran Musunuru, MD, PhD; Veeral Shah, MD, PhD; Timothy Stout, MD, PhD; Jeffery Vance, MD, PhD

UTRIG

• Rebecca WilcoxPhD (Co-chair)
• Richard L. Haspel, MD, PhD (Co-chair)
• James Atkinson, MD
• Lela Buckingham, PhD, MB(ASCP), DLM(ASCP)
• Shoumita Dasgupta, PhD
• Robin D. LeGallo, MD
• Priscilla S. Markwood, CAE
• Kate Shane-Carson, MS, LGC
• Mark E. Sobel, MD, PhD
• Eric Suarez, CDER, MC, USN
• Laura J. Tafe, MD
• Julia de la Garza, MD

ASCP Staff

• Eric Parks, Suzanne Ziemnik, Karisa Munoz, Matt Smith, Asma Ali, Michelle Martin, Jay Wagner

Supported by an R25 grant from the NCI (1R25CA168544-01) and a supplement from NHGRI
TRIG Curricular Resources

• **Future Workshops**
  - Pathology: 2017 AACC ASCP, CAP and USCAP Annual Meetings
  - Other specialties: 2017 AAN Annual Meeting
  - Train-the-Trainer: 2017 ACMG Annual Meetings

• **Future Goals: Input Welcome!**
  - Additional TRIG and UTRIG organizational representation
  - Developing new cancer-research TRIG-based committee/curriculum
  - R25 supplement: Develop Instructor Handbook/Toolkit
  - ISCC IAWG: ideas for new projects, review of Universal Module Handbook/Toolkit (attend our meeting today!)
  - Additional organizations interested in adapting Universal Modules to their specialty
  - Additional funding for cancer and non-cancer related genomics education (R25 renewal, NHGRI)

http://www.pathologylearning.org/trig