Center Overview: Point of Care Technology Research Center in Primary Care

Drs. Steven Schachter and John Parrish (co-PIs)
Penny Carleton (Program Director)

NIBIB Point of Care Technology Research Network Science Symposium
POCTRC in Primary Care

• A “center-without-walls” for rapid transformation of emerging point-of-care technologies into commercially viable, *clinically focused solutions* for improving primary care.

• Leverages the resources and infrastructure of CIMIT with industry, military, and international affiliates.

• CIMIT was founded in 1998 to harness the power of multidisciplinary collaboration to speed the translation of high-impact research into clinical practice.
CIMIT: Consortia for Improving Medicine with Innovation and Technology

CIMIT Founders
- Brigham and Women's Hospital
- Massachusetts General Hospital
- Draper Laboratory
- MIT
- TATRC

CIMIT Members
- Partners Healthcare
- Newton-Wellesley Hospital
- Harvard Medical School
- Beth Israel Deaconess Medical Center
- Children's Hospital Boston
- Boston Children's Center
- Boston Medical
- CIMIT
- VA Boston

National Affiliates
- NHLBI
- NIBIB
- Agency for Science, Technology and Research
- NHS England
- Greater Manchester Academic Health Science Network
- Oxford Academic Health Science Network
- New England Pediatric Device Consortium

International Affiliates
- Eastern Health Alliance
- Manchester Academic Health Science Network
- Acenter at Harvard Medical School
Center Aims and Highlights

ORIGINAL AIMS

1. Apply CIMIT’s innovation model
2. Identify unmet primary care needs and develop performance criteria
3. Select the most promising point-of-care technologies and develop them into prototypes
4. Evaluate prototype performance in simulated environments and “living laboratories”
5. Transition prototypes into commercially licensable or start-up company opportunities
6. Train and educate relevant stakeholders
7. Disseminate “lessons learned” and best practices both nationally and internationally

ADDITIONAL AIMS

1. Develop and maintain shared collaboration resources for POCTRN
2. Integrate systems engineering principles and methodology
3. Develop an interoperability roadmap for POCTs
Driving Towards Precision Medicine: 
Unmet Needs in Primary Care and Annual National Solicitation

- The need for primary care is increasing, while the number of providers is decreasing.
- Therefore there is a need to increase the capacity of providers to care for more patients
  - Without decreasing quality of care, or
  - Burdening providers.
- There are two POC technology-enabled pathways towards this end:
  - Introduce POCTs that increase the efficiency of operations, or
  - Offload selected testing and self-monitoring capabilities to the home setting
- Diverse portfolio of 30 projects drawn from across the country, including academic labs and start-ups. *(see posters for 16 of them)*
  - Must demonstrate strong engineering-clinical collaboration
  - Higher priority for projects with likely clinical impact/commercialization within 12-18 months
Examples of Center Activities/Resources

- **CIMIT**
  - Center for Point of Care Technology
  - Product Validation and Outcomes Analysis

- **CRAASH**
  - Application of Technology Readiness Levels to Track Project Progress for POCTRC in Primary Care
  - Penny Carleton, RN, MS, MPA, MSc, John Parrish, MD, Steven Schachter, MD, CIMIT

- **Center for Point of Care Technology**
  - Product Validation and Outcomes Analysis
  - See posters for details
Abstract—Systems engineering is an interdisciplinary field that seeks to better understand and manage changes in complex systems and projects as whole. Systems are sets of interconnected elements which interact with each other, are dynamic, change over time and are subject to complex behaviors. This poster presentation will report on the results of an NIBIB/POCT workshop exploring the future of point of care testing and technologies and the recognition that these new technologies do not exist in isolation but within other technologies and systems that influence their likelihood of success or failure and their effectiveness.
Network Collaboration: POCTRN Website

Our Research Centers

- Center for Point-of-Care Tests for Sexually Transmitted Diseases
  Charlotte Gaydos, Johns Hopkins University
- Point of Care Technology Research Center in Primary Care
  John Parrish, Steve Schachter CIMIT
- Center for Future Technologies in Cancer Care
  Catherine Klapperich, Boston University (Charles River Campus)

www.poctrn.org
Questions? Thank you

More detail on Center’s projects and resources during the poster sessions