Turning Discovery Science Into Public Health Impact: Seizing New Opportunities Across The Research Continuum

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A Workshop on the Institute of Medicine* Report, Strategies to Improve Cardiac Arrest Survival: A Time to Act

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Clinical research findings lag in their translation into every day practice and gaps in knowledge exist in the pathobiology, risk stratification/prevention, clinical efficacy, and implementation science relevant to cardiac arrest.
Sudden Cardiac Death – Systems Medicine Approaches to Optimize Risk Stratification, Prevention, and Treatment
Clinical Trials for Public Health Impact

- New solicitations for trials solicit scientific innovation to improve outcomes
- Designed to enhance success of multi-site clinical trials that NHLBI supports
- Ability to align with the SIREN network to ask innovative questions

NHLBI Clinical Trials Enterprise

Trial of Continuous or Interrupted Chest Compressions during CPR

The NEW ENGLAND JOURNAL of MEDICINE

Network for Emergency Care Clinical Trials: Strategies to Innovate EmeRgENcy Care Clinical Trials Network (SIREN) - Network Clinical Center (Hub) (U24)

U24 Resource-Related Research Projects – Cooperative Agreements

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National Heart, Lung, and Blood Institute
How NHLBI Uses Community Input for Scientific Priority Setting: Strategic Visioning

Objective 5: Develop and optimize novel diagnostic and therapeutic strategies to prevent, treat, and cure HLBS diseases

Translating Clinical Efficacy Findings For Public Health Impact: What are effective and implementable practices (e.g., recognition and initial response by the community, emergency medical response, and hospital-based care) that would reduce the rate of mortality associated with out-of-hospital cardiac arrest?
The Promise of Precision Medicine: NHLBI TOPMed

Whole Genome Sequencing

Sequencing
(high impact diseases & populations)

Layer on other “omics”
(Metabolomics, Epigenomics, Proteomics, RNA)

Clinical Phenotypes

Transcriptome

Genomics

Exposome; Microbiome

Bioinformatics

NHLBI Precision Medicine Program

What If? We could uncover what happened in the 24 hours preceding a cardiac arrest downloading continuous cardiac monitoring from sensor technology.
Questions and Considerations for Breakout Groups

- What are the compelling scientific questions to address in pre-clinical models and clinical trials to most significantly improve morbidity and mortality related to sudden cardiac arrest/death?

- What are the opportunities to leverage mHealth, data science and the promise of precision medicine to understand both resilience and susceptibility to sudden cardiac arrest/death?

- What strategies should be tested that leverage existing health systems to increase the adoption of effective and implementable practices to reduce morbidity and mortality related to sudden cardiac arrest/death?