

Sociotechnical Interventions for Health Disparity Reduction

New Orleans, Louisiana

April 9-10, 2018



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Catalyst

Organizers

Tiffany Veinot, University of Michigan

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Elizabeth Mynatt, Georgia Tech (CCC Liaison)

Heather Cole-Lewis, Johnson and Johnson (SBM Digital Health Council Liaison)

Syed Haider, Johnson and Johnson (SBM Scientific and Professional Council Liaison)

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Donna Spruijt-Metz, University of Southern California

CCC and SBM

Khari Douglas, CCC

Brian Mosley, CCC

Erin Trimmer, SBM

Lindsay Bullock, SBM



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Free SBM Annual Meeting Attendance

Thursday, April 12, 2018

SBM is free for all to attend on Thursday

Events of Interest

7:00am Behavior Informatics and Technology SIG

“Tech Madness” Ballroom A

3:15pm WISH Overview and Networking *Marlborough*

7:00pm BIT SIG and Digital Health Council SIG Social

Grand Isle Restaurant & Oyster Bar

Special thanks to SBM Board of Directors

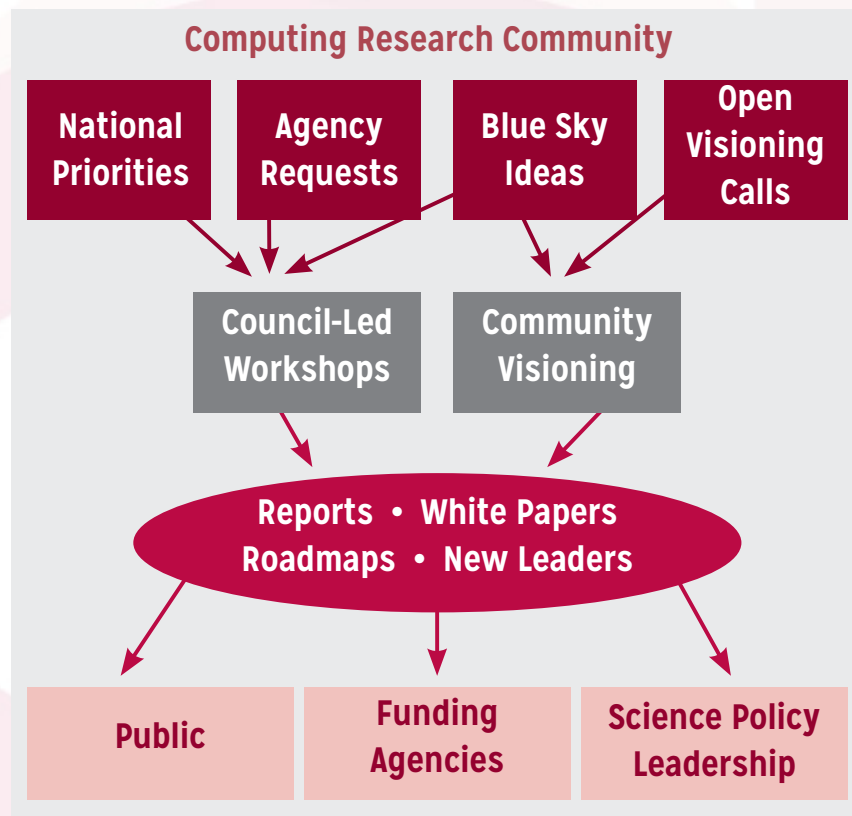


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COMPUTING COMMUNITY CONSORTIUM

The **mission** of Computing Research Association's Computing Community Consortium (CCC) is to **catalyze** the computing research community and **enable** the pursuit of innovative, high-impact research.



Promote Audacious Thinking:

- Community Initiated Visioning Workshops
- Blue Sky Ideas tracks at conferences

Inform Science Policy:

- Outputs of visioning activities
- Task Forces – Health IT, Data Analytics

Communicate to the Community:

- CCC Blog - <http://cccblog.org/>
- Great Innovative Ideas
- White Papers

Promote Leadership and Service:

- Industry – Academic Collaborations
- Leadership in Science Policy Institute
- Postdoc Best Practices

HEALTH DISPARITIES

Background

- Definition of “health disparities”: disease incidence, prevalence, morbidity, mortality, or survival is worse in a population subgroup than in the general population
- Emerge from health system disparities and socioeconomic factors which:
 - Provide differential access to “flexible resources” including money, status, power, freedom, knowledge and social capital
 - Flexible resources can be used to reduce negative health exposures and adopt health-enhancing behaviors
 - Differential resource access linked to:
 - inequity in education, occupational prestige and income
 - residential segregation
 - environmental barriers
 - stigmatization and discrimination.



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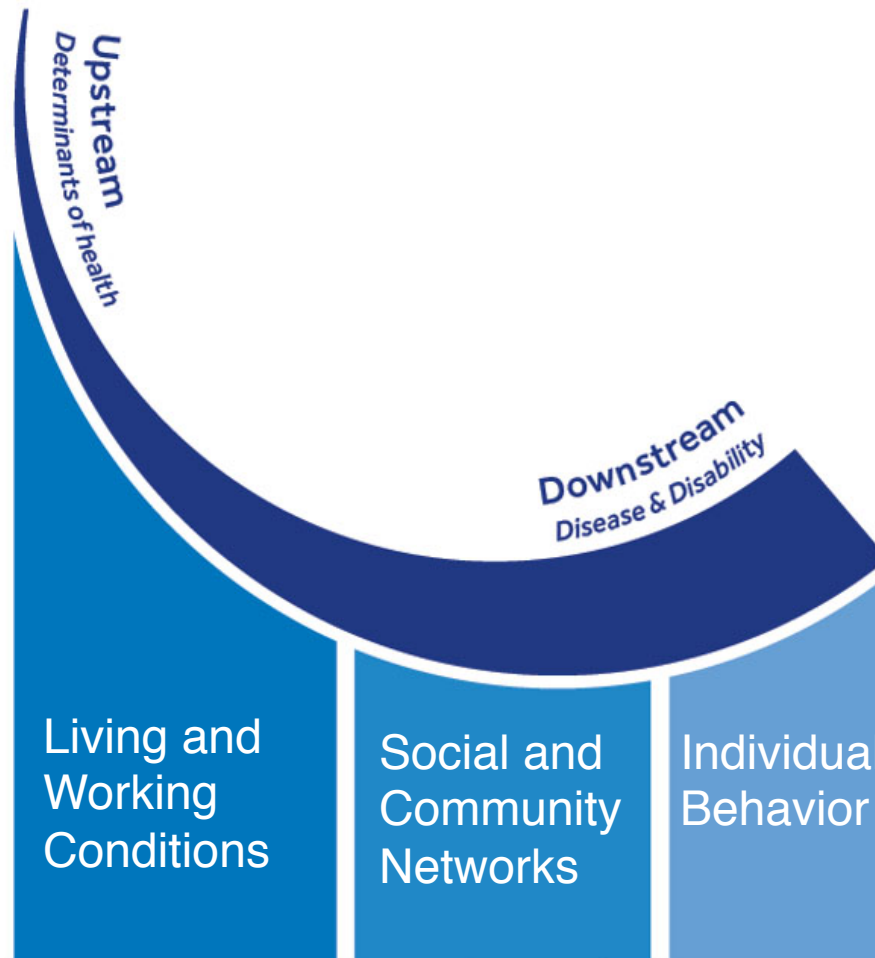
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HEALTH DISPARITIES

General
Socio-
Economic, Cultural, and
Environmental
Conditions

Institutions
(including
health care)

Public Policy



Flexible
resources



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Aims

- **Theory to Design and Implementation**
- Sociotechnical System Blackboxes
- Sociotechnical Systems to Inform Theory
- Multidimensional Evaluation to Reduce Health Disparities at Population Level



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How do we identify and map theory to design, implementation, & evaluation?

Aims

- Theory to Design and Implementation
- **Sociotechnical System Blackboxes**
- Sociotechnical Systems to Inform Theory
- Multidimensional Evaluation to Reduce Health Disparities at Population Level



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How can we understand when
sociotechnical systems elicit +/-
health outcomes?

Aims

- Theory to Design and Implementation
- Sociotechnical System Blackboxes
- **Sociotechnical Systems to Inform Theory**
- Multidimensional Evaluation to Reduce Health Disparities at Population Level



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graph TD; A([Sociotechnical Systems]) --> B([Theory]); B --> A; C((Dosing?))
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Sociotechnical
Systems

Dosing?

Theory

Aims

- Theory to Design and Implementation
- Sociotechnical System Blackboxes
- Sociotechnical Systems to Inform Theory
- **Multidimensional Evaluation to Reduce Health Disparities at Population Level**



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How can we design safeguards to assist researchers become more aware of intervention generated inequalities?

Personal Aims

- Open up to learn
- Connect with someone new
- Embrace the interdisciplinary community
- Share your experience

Terminology & Must Reads: <http://bit.ly/CCCSBM>

#CCCSBMDisparities



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Partners

- FQHC
- Communities
- Hospitals



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Populations

- Age
- Location
- Demographics
- Target users

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HEALTH DISPARITY POPULATIONS

Lower
Socioeconomic
(SES) Status
People **(22)**

Pacific Islanders/
Native Hawaiians
(0)

Rural Residents
(3)

African
Americans **(5)**

Native
Americans/Alaska
Natives **(0)**

LGBTQ+ People
(2)

Hispanics/Latinos
(10)

Age
Elders **(6)**
Youth **(4)**

People with
Disabilities **(2)**

BOLD=targeted populations mentioned in 1-pagers



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Populations

- Age
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Issues

- Wellness
- Prevention
- Screening
- Intervention
- Mental health
- Chronic illness(es)

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Platforms

Data Sources

Theory

Methods



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HOW HEALTH DISPARITIES ADDRESSED

- Participatory design, user-centered design or co-design **(9)**
- Focus groups and interviews with target audience **(7)**
- Info design for low-literacy users: audio, images, reading level, games **(6)**
- Collecting data about SDOH and patient stories (tools, workflows, clinical actions) **(4)**
- Choice of platforms (SMS, offline access, mobile, phone calls, form factor, 3G card) **(4)**
- Representing psychosocial info, matching and tailoring of interventions **(3)**
- Technology to improve access in remote, dispersed groups **(3)**
- Leveraging marginalized community resources **(3)**
- CBPR and other forms of community/stakeholder engagement **(2)**
- Culturally-adapted design: music, people, features **(2)**
- Language of offerings (e.g., Spanish) **(1)**
- Targeted participant retention strategies **(1)**
- Policy issues (e.g., privacy) **(1)**
- Investigating contextual moderators of intervention efficacy **(1)**
- Equity-focused analysis of intervention effects **(1)**
- Assistance with disclosure of stigmatized statuses **(1)**

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Platforms

Data Sources



Theory

Methods



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OPEN QUESTIONS/ISSUES RAISED

- Recruitment and retention challenges with marginalized groups **(7)**
- Privacy and ethics challenges **(5)**
- Lower engagement/use among marginalized groups **(4)**
- Participatory design methods: value, when to use, translation, evaluation **(4)**
- Costs of technology development; potential obsolescence **(4)**
- Implementation, scale-up and research challenges in healthcare settings **(4)**
- Trust among participants and towards researchers **(4)**
- Acquisition of SDOH and psychosocial data (burden, acceptability, unstructured data) **(3)**
- How to effectively use SDOH and psychosocial data (matching, tailoring, risk stratification, referrals, decision support) **(3)**
- Lower interest in, and uptake of, technologies in marginalized groups **(3)**
- Lack of access to tech in target groups (no smartphone, govt issued phones, inconsistent Internet) **(3)**
- How socio-economic constraints may affect intervention efficacy **(3)**

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OPEN QUESTIONS/ISSUES RAISED

- Lack of access to healthcare and specialists **(2)**
- How to merge behavior change theory and user requirements with technology design **(2)**
- Bias in data due to overrepresentation of more advantaged groups or common cases **(2)**
- Accessible, appropriate and effective data collection, measurement and analysis **(2)**
- Access to technological expertise and challenges working with technologists **(1)**
- How to model multi-level, contextualized, dynamic data **(1)**
- How to motivate change in marginalized groups **(1)**

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Time	Topic
4:30-4:40	Sociotechnical Theory in Health Disparity Contexts
4:40-5:20	Two 15 Minute Rotations
5:20-5:40	Break
5:40-5:50	Sociotechnical Blackboxes and Multidimensional Evaluation
5:50-6:20	Two 15 Minute Rotations
6:20-7:00	Wrap-Up
7:00	Dinner, August Restaurant



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ROTATIONS

Present

Strengths

Weaknesses

How do researchers appropriately identify and map theory to design, implementation, and evaluation in a health disparity context

How do the data that sociotechnical systems collect impact theory?

Future

How do we negotiate the dosing?

Opportunities

Challenges

BOLD=mentioned in 1-pagers



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BREAK UNTIL 5:40

Panel: Sociotechnical Blackboxes

- Tammy Toscos, Ph.D., Informatics Research Scientist, Parkview Mirro Center For Research And Innovation
- Robert Lucero, Phd, MPH, RN, FAAN, College Of Nursing, University Of Florida
- Kathy Kim, Ph.D., MPH, MBA, Betty Irene Moore School Of Nursing, University Of California Davis
- Jamilia Sly, Ph.D., Icahn School Of Medicine, Mount Sinai

ROTATIONS

Present

Strengths

Weaknesses

Future

Opportunities

Challenges

How can researchers understand when sociotechnical systems elicit positive, neutral, or negative health outcomes for disparity populations?

How do we identify the individual or combined impacts of theory and design?

How can researchers understand or guard against unintended intervention generated inequalities?

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- Nam qui officiminis dolorroovit
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- Asdfasdf

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- Vellab illenim agnati quisciis alignam ululique nonseria vollige nditas nisl zzril
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