



Technology in Implementation Science Overview



Implementation
Science and
Technology
Action Group

Rachel Gold, PhD, MPH



Angela M. Stover, PhD



Heather D'Angelo, PhD (NCI)



Action Group Housekeeping

- Our goal today: Develop ideas for projects to help IS community advance research/understanding of technology in cancer control
- Agenda
 - Review last year's objectives
 - Generate ideas (25 min.)
 - Prioritize objectives for moving forward (40 min.)
 - Determine your interest in leading an objective
- Communication
 - Mentimeter voting: www.menti.com
 - Chat, Raise Hand

Background Information

- NCI has growing portfolio in specific technology and IS areas
 - IMPACT: implementing patient reported outcomes (PROs) in Epic
 - Cancer Center Cessation Initiative (C3I)
 - ISC3: in vivo research labs to enable rapid knowledge acquisition
- May not result in broad-based efforts to improve measurement, research designs, or sustainability in clinical and community settings
- Potential for technology innovations to both mitigate and exacerbate disparities

Last Year's Priority Objectives for Technology and IS

- Increase IS and IT Team Science Capacity
 - Establish training institute similar to mHealth Training Institute
 - Develop curriculum on IS and technology for broad audience (e.g., practitioners, researchers, end-users, developers)
 - Rotating mini institutes/trainings at society meetings
- Use technology to transform health care improvement
 - Identify key levers like quality measures (e.g., HEDIS)
 - Develop value proposition
- Document best practices in technology and IS and create repository
- Create national technology infrastructure

Defining the Scope

- Defining the topic area of technology innovations and IS
 - EHRs, telehealth, mHealth, and other technologies?
- High-priority areas in technology and IS
 - Metrics and measures across technology initiatives
 - Telehealth implementation, evaluation, and impact
 - Identifying and mitigating inequities
 - Theory synthesis
 - Sustainability of technology innovations
 - De-implementation of suboptimal practices

Example Ideas

- Predicting and mitigating disparities exacerbated by implementing technology innovations
- Prioritizing a set of common metrics and measures assessing implementation effectiveness across technology innovations
- Telehealth
- Theory synthesis for technology and IS
- Your awesome ideas!

Today's Goals

- Generate, expand on, and prioritize new focus areas for field
 - Identify critical problem(s) that need to be addressed for technology and IS in cancer control
 - What are the 1-2 most important things that the Consortium should do in Technology and IS work group?



Technology in Implementation Science Recap



Report Out:
Implementation
Science and
Technology
Action Group

Rachel Gold, PhD, MPH



Angela M. Stover, PhD



Heather D'Angelo, PhD (NCI)



Objectives

Question: What are the critical problems to address to advance knowledge of the role of technology in cancer control, from an IS perspective?

These problems fall into 5 buckets:

1. Obtaining, using patient-generated / -reported health data
2. Clinical decision support / shared decision-making
3. Equity / disparities
4. Telehealth
5. Applying technology components to IS frameworks

Major Ideas from Discussion

1. **Obtaining, using patient-generated / -reported health data**

- Role of patient portals / other means (texting?) to
 - obtain such data?
 - support shared decision-making / preventive care?

2. **Clinical decision support / shared decision-making**

- How to use / present patient-reported / -generated data in CDS?
- How to make CDS acceptable, useful, no alert fatigue?
- Partner with informaticists / AMIA?
- Measure CDS / SDM use / adoption (audit logs, other EHR data)? Role in QI / generating reports?
- How are data (e.g., radiology reports) stored? Is NLP better?

3. **Equity / disparities**

- How to identify, address ways that technology exacerbates disparities?
- How to use technology to reduce them?

Major Ideas from Discussion

4. Telehealth

- What kinds of care can be done via telehealth without negatively impacting quality, outcomes? What is lost / gained?
- How can telehealth improve / augment cancer care?
 - Assess skin cancers?
 - Access to specialists / rural health?
- How can IS support adoption of telehealth benefits / avoidance of poor outcomes?
- Impact on patient-provider communication? Role of family / support?

5. Applying technology to IS frameworks

- Applying / calling out / specifying in common IS frameworks
- Overlap with tech-specific frameworks like TAM
- Synthesize existing efforts?

Action Items – redux

1. Obtaining, using patient-generated / -reported health data

- **Action item:** TBD

2. Clinical decision support / shared decision-making

- **Action item:** Shared workshop / white paper with AMIA

3. Equity / disparities

- **Action item:** paper / white paper on what is known / research needed on how technologies can increase / reduce disparities

4. Telehealth

- **Action item:** paper / white paper on IS research needs on telehealth and cancer care, including potential to reduce / increase disparities

5. Applying technology to IS frameworks

- **Action item:** paper / review / white paper on how technology fits into IS frameworks
- **Action item:** terminology – is a technological approach an intervention, innovation, implementation strategy, implementation support strategy ... ?