Technology in Implementation
Science Overview
Action Group Housekeeping

• Our goal today: Develop ideas for projects to help IS community advance research/understanding of technology in cancer control

• Agenda
  o Review last year’s objectives
  o Generate ideas (25 min.)
  o Prioritize objectives for moving forward (40 min.)
  o Determine your interest in leading an objective

• Communication
  o Mentimeter voting: www.menti.com
  o Chat, Raise Hand
Background Information

• NCI has growing portfolio in specific technology and IS areas
  o IMPACT: implementing patient reported outcomes (PROs) in Epic
  o Cancer Center Cessation Initiative (C3I)
  o 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
  o Establish training institute similar to mHealth Training Institute
  o Develop curriculum on IS and technology for broad audience (e.g., practitioners, researchers, end-users, developers)
  o Rotating mini institutes/trainings at society meetings

• Use technology to transform health care improvement
  o Identify key levers like quality measures (e.g., HEDIS)
  o 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
  o EHRs, telehealth, mHealth, and other technologies?

• High-priority areas in technology and IS
  o Metrics and measures across technology initiatives
  o Telehealth implementation, evaluation, and impact
  o Identifying and mitigating inequities
  o Theory synthesis
  o Sustainability of technology innovations
  o 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

  o Identify critical problem(s) that need to be addressed for technology and IS in cancer control

  o 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

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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 … ?