The Future of SPARK and Autism Research

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What is SPARK?

- Largest study of autism ever
- Collect and study genetic, behavioral, and medical information from hundreds of thousands of people
- Completely online
- Return information to you
- Invitations to participate in additional research that matters to YOU
What has SPARK achieved?

- Building our research community

31 CLINICAL SITES

50,000 PARTICIPANTS’ DNA SEQUENCED

250,000 PARTICIPANTS JOINED
What has SPARK achieved?

- Giving back

- 70,000 reports returned
- 500 autistic people with genetic findings
- 150 original stories
- 50 webinars
What has SPARK achieved?

- Accelerating research

150 GENES
179 SCIENTISTS USED SPARK DATA
3 GENETIC PAPERS

100 RESEARCH MATCH STUDIES
10 RESEARCH PAPERS
32 SCIENTIFIC PAPERS
What does the future hold for SPARK?

• We are here for decades to come
• Big data approach to autism research and discovery
• Lifespan research
• Transition to adulthood research
• Research that reflects the diversity of the autism community
• Discover more about autism genetics and subtypes to fuel evidence-based “precision” treatments and therapies
• Invitations to take part in all types of research through Research Match
What does the future hold for autism research?

- Novel technologies for in-home data collection
  - Wearable sensors to track:
    - Activity and repetitive movements
    - Heart rate
    - Skin conductance
    - Sleep
  - Home webcam and smartphone video:
    - Analyze looking and facial expressions
  - Beaconing devices and GPS
  - Apps
    - Record and analyze vocalization, language, and conversations

Can predict stress, aggression, and other behaviors and abilities
Can measure ASD behaviors and changes
Can measure interactions with others
Allows for new language-free ability tests
Q & A