



Eugene Consulting Inc.
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December/January 2019 Report

uBiome - <https://ubiome.com>

- uBiome is a company that uses machine learning, artificial intelligence, and advanced statistical techniques to analyze microbes in a user's body
- Mission: to advance the science of the microbiome and make it useful to people
- Customers collect their sample at home using a kit
 - Can be done in under 2 minutes
 - Simply swipe a swab across the appropriate site and mail the sample back to the lab in an enclosed prepaid envelope
- The company then uses their patented precision sequencing methods to analyze the bacteria
- Once everything is processed, customers will be send a link to their secure website via email
 - The customer, their healthcare provider if they wish, can then download the test results
- Products offered include: SmartFlu, SmartGut, and Explorer
 - SmartFlu – world's first clinical, sequencing upper respiratory test
 - Helps patients determine which virus or bacteria is related to their symptoms
 - Customers use an easy-to-use nasal microbiome swab and results come in 48 hours
 - SmartGut - world's first sequencing-based clinical microbiome test
 - Provides customers with information on dozens of bacteria to help them and their Healthcare provider manage gut conditions like inflammatory bowel disease (IBD), including ulcerative colitis and Crohn's disease, irritable bowel syndrome (IBS), and even obesity and diabetes
 - Available through healthcare providers
 - SmartJane – world's first sequencing-based clinical microbiome test for vaginal health
 - Provides genotyping of high-risk HPV, four common STIs (chlamydia, gonorrhea, syphilis, and *Mycoplasma genitalium*), and 23 commensal bacteria to better understand vaginal health
 - Available through healthcare providers
 - Explorer – helps customers track their diet and lifestyles and learn how their bacteria can help them boost their wellness and stay fit
- CLIA-licensed and CAP-accredited laboratory (gold standard for laboratory governance) in San Francisco
- Company uses multiple layers of encryption and the highest levels of computer security to ensure privacy of the users
- Clinical tests are HIPAA-compliant



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- Research has been approved by an external Institutional Review Board
<https://www.fiercebiotech.com/medtech/health-data-firm-sophia-genetics-raises-77m-to-support-u-s-expansion>
 - Sophia Genetics, the Swiss health data start-up has raised \$77M in new venture capital to support its U.S expansion
 - The series E round was led by Generation Investment Managementinvestros include: Idivest Partners, Balderton Capital, and Alychlo
 - With this, the company has fundraised a total of \$140M
 - This funding will also be used to help push its AI-based platform into new hospital systems
 - Sophia's AI program is currently employed by more than 850 hospitals in 77 countries

<https://www.ft.com/content/ef9b2226-9981-11e7-a652-cde3f882dd7b>

- Scientists at the Wellcome Trust Genome Campus are responsible for some of the biggest genetic discoveries of the past century
 - <https://www.wellcomegenomecampus.org>
 - In the early 1990s, researchers here helped sequence the first human genome
- The groundwork laid by the Genome Campus has resulted in an explosion of genomics software companies worldwide
- Companies that can use algorithms to perform smart data analytics and provide diagnoses have become key targets for investment
- Companies that manage the big data will benefit from the discoveries that come from it
- Start-ups building clinically useful software and data-mining applications have received a windfall in venture funding
- In Europe, investors tend to be more cautious
- The challenge of using genomic data for clinical diagnosis has moved from being a hardware and chemical problem to a data problem
- Technological challenges still remain – don't know what cancer looks like that early
- The amount of money invested in genomics hit \$3.2B in 2017

<https://www.straitstimes.com/business/companies-markets/trendlines-triples-its-singapore-medtech-start-up-count-in-2018>

- The Trendlines Group (Israeli-based investor) set up 4 medical technology start-ups in Singapore in 2018
 - They focus on early-stage medical and agricultural technologies
 - They now have 6 start-ups through its wholly owned Trendlines Medical Singapore subsidiary
- New start-ups include
 - Medulla Pro Technology, which is developing an imaging system for lumbar puncture procedures



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- AyzerSense technology – tackling the problem of pressure ulcers in patients with technology from Ngee Ann Polytechnic
- Tredlines Medical Singapore is accredited as a Startup SG Accelerator by government agency Enterprise Singapore

<https://www.healthcarediver.com/news/more-seniors-may-soon-be-sporting-apple-watches-with-ma-partnerships/546252/>

- Apple is making a move by talking to 3 private Medicare plans about making Apple Watches available to seniors to monitor health and fitness
- They are looking subsidize the device's cost so that older patients with a lower/fixed income can afford it
- No deals have been reached

<https://www.medtechdiver.com/news/fitbit-targets-newest-activity-trackers-at-health-wellness-plans/546761/>

- Fitbit quietly rolled out a new set of fitness trackers for members of health plans and self-insured organizations
 - Fitbit Inspire & Fitbit Inspire HR
 - Available solely through the company's corporate, wellness, health plan, and health system partners and affiliated businesses
- Fitbit pushes into the health insurance space as Apple is in the talks of subsidizing the cost of Apple Watches
- In the fall, Fitbit launched Fitbit Care – a connected health platform for health plans and employers
 - Combines coaching and virtual care with the goal of improving wellness and helping people manage chronic conditions
 - Leverages Fitbit's wearables technology with the Fitbit Plus app and Twin Health's disease management platform
 - Fitbit acquired Twine in February 21018
- New to Fitbit Inspire
 - 24/7 heart rate tracking + real-time heart rate zones
 - Real-time heart rate zones
 - Sleep stage breakdown
 - Variety of exercise modes and GPS-leveraged pace and distance racking
- A recent survey by the Healthcare Information and Management Systems Society and Fitbit found that ½ of the hospitals and health systems either use or plan to use health coaches to connect with patients and facilitate treatment

<https://www.darkdaily.com/nebula-genomics-offers-free-whole-genome-sequencing-to-customers-willing-to-allow-their-data-be-used-by-researchers-for-drug-development/>

- Nebula Genomics – a start-up genetics company in Massachusetts



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- Founded by George Church PhD – Harvard Medical School/MIT professor of genetics
- The company announced they will offer free whole genome sequencing to customers willing to allow their data to be used by researchers for drug development
- Customers answer questions about their health history, physical activities, medications, and more
- Researchers then review this information and elect to subsidize the cost of sequencing specific customers in exchange for access to the resulting genomic data
- Customers can also pay \$99 for a personal genome sequencing that delivers basic analysis of their ancestry and inherited traits
- Process of selection may begin with a researchers or pharmaceutical firm contacting Nebula expressing interest in studying a group of patients with a specific disease
- Customers can choose how they want their data used and by whom and be compensated for it
- Actual genomic data is stored on an Arvados storage platform at Veritas Genetics (a company also co-founded by Church)