If the question is genetics, the answer is Invitae

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Bring comprehensive genetic information into mainstream medical practice to improve the quality of healthcare for billions of people

Core principles

Driving down the cost of genetic information will increase its personal and clinical utility

Healthcare professionals are fundamental in ordering and interpreting genetic information

People should own and control their own genetic information

Genetic information is more valuable when shared
Dominant growth in diagnostics

ON TRACK TO BECOME LARGEST PROVIDER OF GENETIC CANCER TESTING BY VOLUME IN 2018

- Building a better product wins
- Pricing does matter, even in healthcare
- Breadth of offering is a key factor
- Cost and scale of infrastructure is a key advantage
Focused execution is accelerating momentum

**Drove triple digit volume and revenue growth in 2017**

**Disciplined acquisitions**
- 4 successful acquisitions adding complementary capabilities and reach

**Expanded product and commercial breadth**
- Launched exome sequencing and interpretation services
- Now test >20,000 genes
- Content across all stages of life

**Commercial collaborations**
- >16 biopharma and health system partners
- >100 advocacy organizations reaching >100,000 people

**Enhanced user experience**
- Introduced $250 patient pay for all panels and Family Variant Testing at no additional charge
- Launched updated CancerGene Connect Platform
Leveraging opportunities to reinvest in growth

**Rapid Implementation**

**Near-Term Growth**

**Long-Term Value**

**Adding patient communities & network infrastructure**
- **Acquired:** January 2017
- **Launched:** April 2017 Invitae Patient Network, enabling participants to contribute data, learn how others manage similar health plans, and receive information about the latest research and clinical trial opportunities, driving new biopharma partnerships and testing.

**Enhancing the user experience**
- **Acquired:** June 2017
- **Launched:** September 2017 new version of CancerGene Connect, at no charge, to provide a software solution that simplifies data gathering, tracking and analysis for genetic counselors and their patients, onboarding >100 new accounts, driving new account growth.

**Expanding content and capabilities**
- **Acquired:** August and November 2017 (respectively)
- **Launched:** January 2018 integrated sales force to drive new account volume in cancer and OB/GYN in 2018.
Recipe for billions of people

Lower costs → Expand content → Improve customer experience → Drive Volume → Attract Partners → Lower prices → Lower costs

Growth
How the market works today

Of the up to 10% of the population affected by genetic disease, less than 0.5% receive that information by way of an indication-based screen or test report¹

- Testing remains largely “event based” with patients accessing the market through discreet entry points
- Report generally remains isolated from patient’s broader healthcare and long-term health decisions

A large, fragmented and inefficient market

Carrier screening | Fertility & perinatal health | PGS/D | Prenatal testing | Neonatal testing | Pediatric testing | Preventive screening | Adult inherited testing

10,000's of tests

Somatic cancer testing

PGx

(~12) (~12) (>30) (>20)
How the market will work in the future

A large portion of the population in modernized healthcare systems will have their genetic information managed on their behalf to improve health outcomes for themselves and their families.

- Access to comprehensive genetic information services at all major market entry points
- Individuals can access comprehensive genetic information to inform healthcare decisions throughout their lives
Comprehensive solution for clinicians and patients

THREE BASIC QUESTIONS DRAW PEOPLE TO GENETICS

Informing my health?
- Proactive
- Adult inherited testing

Starting a family?
- Carrier screening
- Fertility & perinatal health
- PGS/D
- Prenatal testing

Diagnosing a disease?
- Pediatric testing
- Neonatal testing

Fertility & perinatal health
Comprehensive solution for partners

A LIFETIME OF DATA ACROSS THE SPECTRUM OF HEALTHCARE

- Adult inherited testing
- Pediatric testing
- Neonatal testing
- Prenatal testing
- PGS/D
- Fertility & perinatal health
- Carrier screening

Comprehensive phenotypic/Family health history data

- Patient Communities
- Research
- Clinical Trials
- Therapeutics
- Devices
- Providers
A technology fueled business model

FROM SAMPLE TO ANSWER: CUSTOM AUTOMATION

- Scalable, custom, machine-learning software tools enable clinical analysis costs to decline even as assay and panel size increase.
- Capabilities are difficult to retrofit into large incumbent operations.
- Technology integration is tough to justify at smaller scale.

Moore’s Law
The cost of DNA sequencing is decreasing rapidly.

Metcalfe’s Law
The “Internet of genetics” is emerging.

Law of Finite Genomes
Understanding the genetic basis of disease is like a finite puzzle… it’s a reverse engineering problem!
Executed in the most exacting of industries

APPLYING WORLD-CLASS CLINICAL EXPERTISE TO RESULTS THAT INFORM CRITICAL HEALTHCARE DECISIONS

Many companies deploying technology to lower costs remain naïve about the complexity of biology
Invitae network marks emergence of new industry

GENETIC INFORMATION MANAGEMENT TO DRIVE PRECISION CARE

Genome Management

Build a genome management infrastructure

Genome Network

Share genetic information on a global scale to diagnose more patients correctly and bring therapies to market faster

Genetic Testing

Make acquisitions that expand test menu content and services to open new markets

Build partnerships with industry peers to increase utilization of genetic testing

Make genetic testing more affordable and more accessible

Comprehensive genetic health information service to lead new era of healthcare
Network builds clinician and patient value

**EARLY VALUE OF NETWORK APPROACH**

- Enabling earlier diagnosis for clinicians and their patients
- Offsetting cost to patients while accelerating market adoption
  - Comprehensive epilepsy panel testing for pediatric patients sponsored by BioMarin
  - Complementary sales and marketing effort taps new audiences to engage more patients and clinicians
- Bringing more patients into the network
  - Makes testing available to a broad cross-section of pediatric epilepsy patients
- Doing more with data
  - Patients diagnosed sooner and treated faster
Creating mutual value to drive explosive growth

ENSURE RELEVANT DATA AND INFORMATION IS ACCESSIBLE WHEN AND WHERE IT'S NEEDED

People: Across all stages of life
- Most comprehensive, highest quality genetic information
- Lowest cost to access medically relevant information
- Connect with physicians, research, treatment, and patient communities

Partners: Across all healthcare sectors
- Better, more comprehensive information to accelerate research & innovation
- Access to larger target patient populations
- Single source solution
Pulling forward the value inflection point

INVESTING IN NETWORK GROWTH

Build

Grow

Monetize
NOT ALL CANCER TESTING CREATED EQUAL

- Most comprehensive testing at the lowest price
- More genotypic and phenotypic data generated per individual
- Multiplies growth and value of network data relative to potential competitors
Building a best-in-class platform

BREADTH, DEPTH AND SCALE IS ESSENTIAL TO LEAD

- Carrier screening
- Fertility & perinatal health
- PGS/D
- Prenatal testing
- Neonatal testing
- Pediatric testing
- Adult inherited testing

✓ Depth and breadth have been a key component of our commercial success to date

✓ Enhanced content feeds a virtuous cycle of scale, pulling forward value inflection point for our business
Uniquely capable of serving growing demand

Inherited Disease
Cancer market estimated to grow to > 2 million tests per year
• 1.2-1.3 million women in the US with breast and ovarian cancer who qualify for genetic testing didn’t receive it
• ~1.7 million newly diagnosed cancers per year
Cardio, Neuro, Peds estimated to grow over the coming years
• >90 million Americans living with cardiovascular disease or after-effects of stroke

Family health
Family Health market is already larger than cancer with 4 million live births per year in the US
• Combined carrier testing, products of conception, cytogenetics, cancer screening into one NGS platform
• Aggregate market is enormous for family health

Proactive
Proactive Health estimated to grow to over 10 million per year
• 1 in 20 people carry a serious health-related genetic risk
• ~300 million US population is the total addressable market
Invitae aims to emerge as the leader in a ‘winner take most’ environment based on increasing demand and the most scalable cost infrastructure.
Driving toward increased value inflection

PROGRESSING THE NETWORK

Build
Adding depth to breadth by expanding content, deepening technology and engineering infrastructure

Grow
Engage more users through indirect volume drivers, enhance user experience and increase marketing and advertising

Monetize
Migrate from one-off ordering to repeat, lifelong engagement with genetic information via customer subscription services and increased partner participation
Tracking our progress in 2018 and beyond

GOAL OF 1 MILLION CUSTOMERS AND $500 MILLION IN REVENUE IN 2020

REAL-TIME INDICATOR

Volume

Anticipated continued double-digit sequential growth

At least 250,000 samples expected in 2018

TRAILING INDICATOR

Revenue

Expected to double in 2018:
$120 million

TREND

Reimbursement

TREND

Gross Profit

TREND

COGS

TREND

Operating Leverage

• Targeting ability to breakeven in mid-2020

• Ended Q4 17 with $76.0M in cash
  • Additional $40.0M debt draw down available
Value that is created as...

Access most important information for preventive health and wellness

Proactive

Adult inherited testing

Carrier screening

Fertility & perinatal health

Make assisted reproduction easier, more certain and less costly

PGS/D

Prenatal testing

We accelerate the understanding of the genome and the impact across all of healthcare

Diagnostic

Identified risk before a disease presents

Pediatric testing

Neonatal testing

Put an end to diagnostic odysseys that result from developmental delays in children

Stop being surprised by conditions presenting before & after birth