

**Advanced Genomics Platform for
Next-Generation Cancer Therapies**



Investor Presentation
August 2020

Forward-Looking Statements

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Investment Highlights

Large market of ~\$40B for biopharma research, clinical and companion diagnostics, and population sequencing

Market-leading Immuno-oncology biomarker platform for tissue & liquid biopsies

Growing NeXT platform adoption by large pharma and advanced biotech companies

Proven scale with more than 100,000 samples sequenced to-date, with ample capacity

Attractive historical growth and prudent balance sheet management

Business Update & COVID-19 Response

Update on COVID-19 Impact and Personalis Response

- Laboratory operations scaled down in 2Q due to the COVID-19 shelter-in-place orders, but laboratory employees returned to work and fulfilling customer orders
 - Personalis took appropriate safety and social distancing measures to ensure the well-being of its employees
- Company experienced delays in receiving samples from certain customers, but shipments continued at a solid pace as the majority of the business comprises retrospective clinical trial projects
- Ability to continue serving oncology and population sequencing customers, without shifting business model
- No layoffs or furloughs
- No discernable impact to supply chain
- Continued investment in future growth initiatives

Strong Business Momentum

- Achieved record quarterly revenues of \$19.5M in Q2 2020 (+23.2% YoY growth), in spite of the negative impacts from the pandemic on customer sample shipments and laboratory sample processing labor capacity
- Continued to see strong ordering levels from existing and new customers
 - Continued adoption of NeXT platform; 32 customers that placed orders as of end of Q2 2020
- Launched liquid biopsy offering in August 2020; available for customers to order with initial deliveries planned for Q4, with expected revenue to begin in 2021

Accomplishments Since IPO

Key Highlights

32 Customers have placed orders for NeXT as of 2Q 2020

5 New Product Offerings since IPO

Commercial team has grown **>75%** since IPO

Multiple New Partnership and Collaborations since IPO

73% YoY Revenue Growth in 2019 ¹

Completed **75,000th** Whole Genome for VA MVP

Increased Momentum and Adoption by

Biopharma Customers

Key Customer Wins and Partnerships

- ✓ Customers include a majority of the top ten oncology pharma
- ✓ Collaboration with Merck KGaA to identify and develop novel biomarkers for cancer therapies
- ✓ Engagement with pharma/biopharma companies for potential CDx partnerships
- ✓ Scientific collaboration with Sarepta Therapeutics for rare disease
- ✓ Partnership with Invivimed to support their database development
- ✓ Partnership with Berry Genomics for China lab expansion

New Product Offerings

- ✓ NeXT Liquid Biopsy, exome-wide liquid biopsy platform (launched)
- ✓ NeXT Personal, also from liquid biopsies (in development)
- ✓ Cancer whole genome sequencing services (launched 2019); future option to identify ~ 20x more variants for NeXT Personal
- ✓ NeXT Dx Test, a comprehensive genomic cancer profiling test enabling advanced composite biomarkers for cancer treatment
- ✓ Integration of new ImmunoID NeXT Platform features in latest expansion of immuno-oncology biomarker discovery applications

Overview of Recently Launched NeXT Liquid Biopsy Platform

Platform Highlights

- Monitors 20,000 genes, or about 40x more genes than the majority of liquid biopsy cancer panels on the market
- Ability to track mutations and detect new mutations over time in response to treatment
- Capabilities will help biopharmaceutical companies advance their understanding of tumor biology, including resistance mechanisms, to aid the development of next-generation cancer therapies

Strategic Importance

- Entrance into large market
- First product in Company's liquid biopsy product portfolio
- Liquid biopsy results can be paired with NeXT Platform tissue results and provide an unprecedented breadth of data from limited tumor sample
- Comprehensiveness matters for biopharma customers

Company Overview



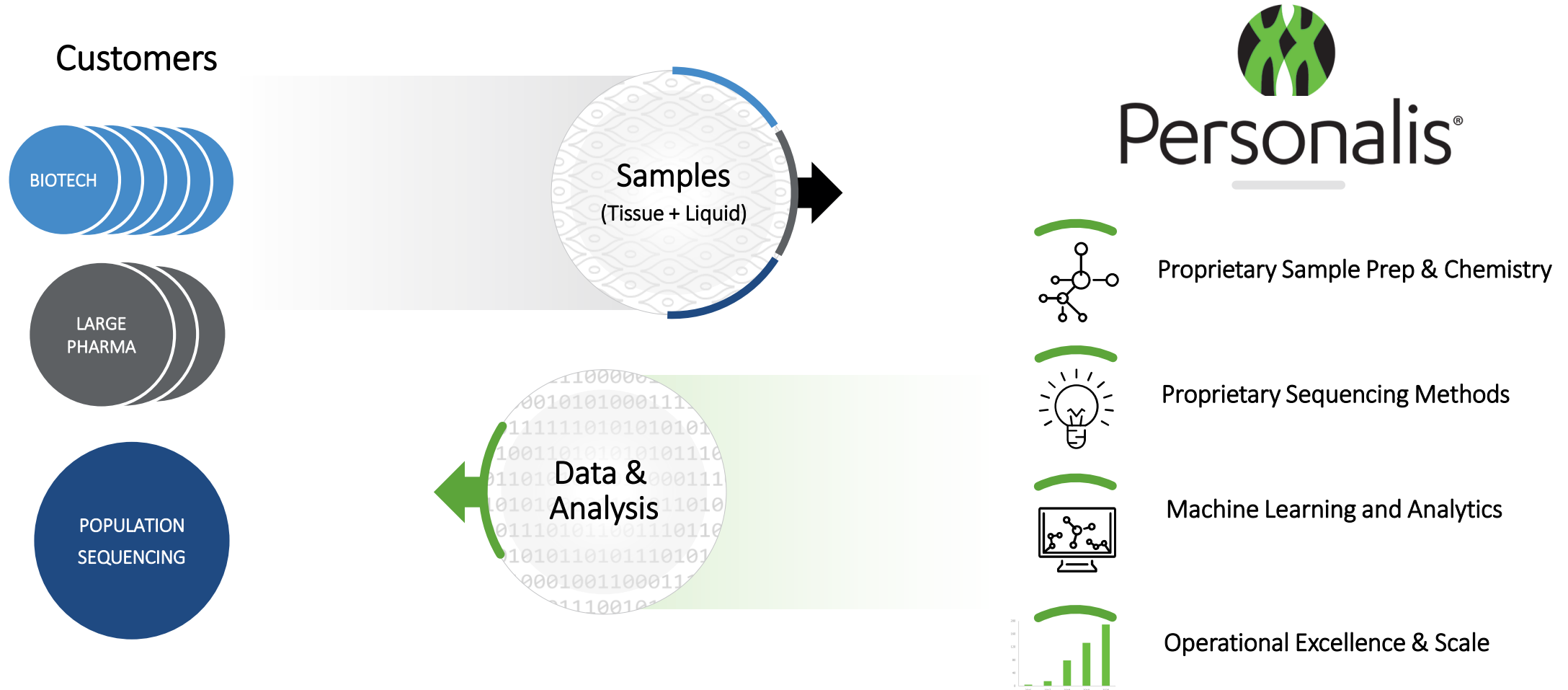
Personalis®

*Cancer drug development & population sequencing
are increasingly about data...*

... and Personalis is positioned to be a key part of that ecosystem

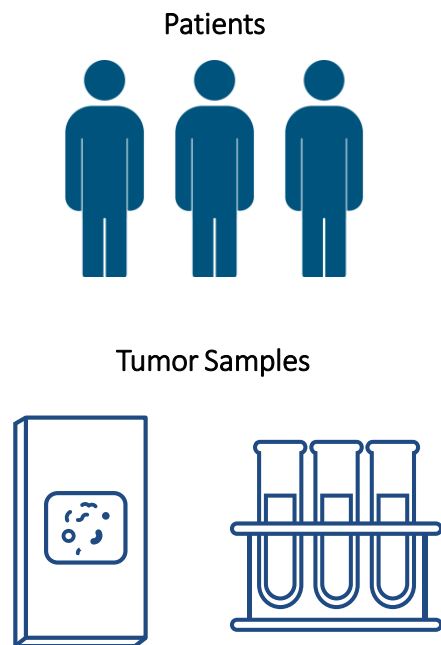
Personalis Provides Proprietary Genomic Information to Customers

Efforts to develop better cancer drugs increase demand for genomic information



Personalis is Transforming the Development of Next-Generation Cancer Therapies

Providing biopharma with more comprehensive molecular data about patient tumors



Comprehensive
Molecular Data

~20,000

TUMOR GENES + IMMUNE SYSTEM

Customer Base

50+

BIOPHARMA CUSTOMERS as of 2Q'20
NO REIMBURSEMENT

Substantial
Growth

2019 REVENUE: **\$65.2MM** (+73% YoY)
2Q'20 REVENUE: \$19.5MM (+23% YoY)

WITH CAPITAL-EFFICIENT BUSINESS MODEL

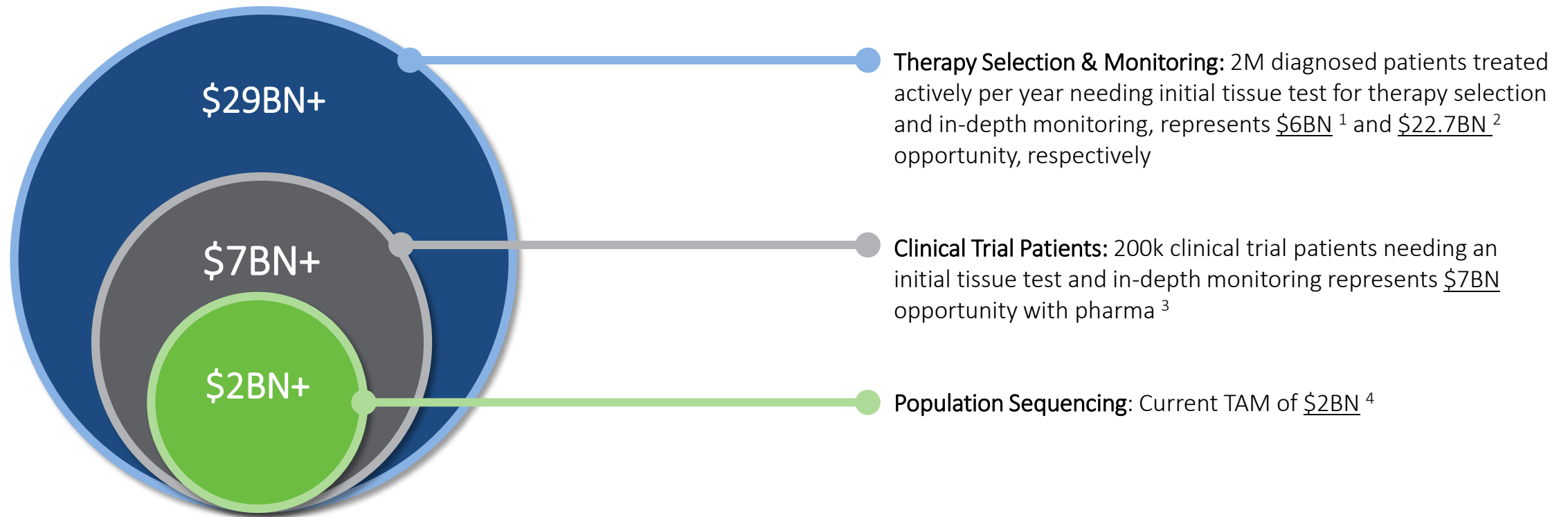
Large Market

~\$40 billion

ESTIMATED TAM WITH BIOPHARMA, Dx,
CDx, AND POPSEQ CUSTOMERS¹

Large Market Opportunity Across Therapy Selection, Monitoring, Clinical Trials, and Population Sequencing

Comprehensive Product Offering in ~\$40BN Current TAM Categories



Therapy Selection, Monitoring, Clinical Trials TAM Build-Up

	Estimated # of Cancer Patients	x Assumed Testing Needed	x Indicative Price	= Market Opportunity
Clinical Trial Patients	200k/Year ¹	1 Initial Tissue Test	~\$3,000 ⁵	~\$600M
		8x/yr in-depth monitoring ³	~\$4,000 ³	~\$6.4BN
Therapy Selection	2M/Year ²	1 Initial Tissue Test	~\$3,000 ⁵	~\$6BN
Monitoring	2M/Year ²	4x/yr in-depth monitoring ⁴	~\$2,840 ⁶	~\$22.72BN

Operational Excellence

100,000+ human samples
sequenced to date

Significant focus on process development
including with laboratory automation, to drive margin expansion

Differentiated QMS and Regulatory Credentials
CLIA / CAP, NY State¹ & FDA² - all at exome scale

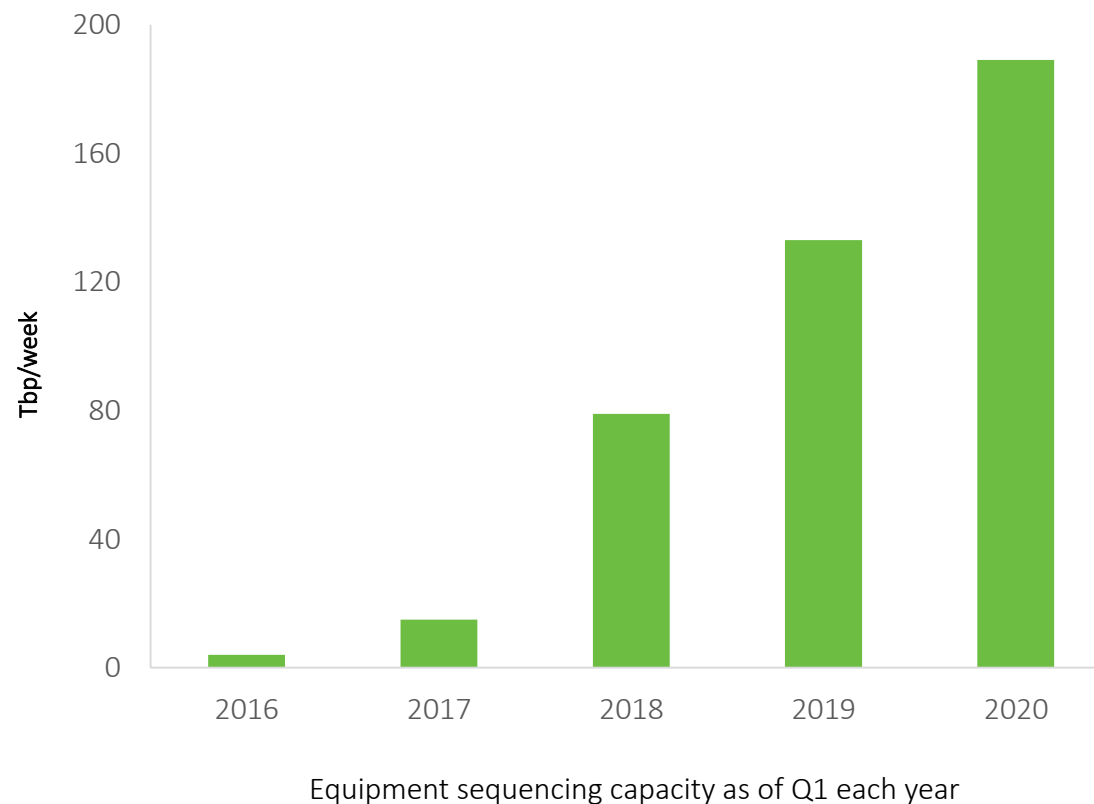
Headquartered
in Menlo Park, CA

Over 200 employees

Specialized commercial team has grown >75% since
IPO

Intellectual Property Protection
including 10 issued U.S. and 2 issued foreign patents

Growth of Personalis' Sequencing Capacity
Sequencing capacity at Q1



Experienced Leadership Team



John West

President, Chief Executive Officer & Director



Richard Chen, M.D., M.S.

Chief Scientific Officer



Stephen Moore

General Counsel



Aaron Tachibana

Chief Financial Officer



MANAGEMENT TEAM

Christian Haudenschild, Ph.D.	VP Operations
Stephane Mouradian	VP Business Development
Carol Tillis	VP Finance and Administration
Rena McClory, Ph.D.	VP Marketing
Lloyd Hsu	VP Software Engineering
Xavier Paliard, PharmD, Ph.D.	VP Immunology and R&D



NON-EMPLOYEE DIRECTORS

Jonathan MacQuitty, Ph.D.	Chairman of the Board
Patrick Balthrop	Director
A. Blaine Bowman	Director
Alan Colowick, M.D.	Director
Karin Eastham	Director
Kenneth Ludlum	Director
Paul Ricci	Director



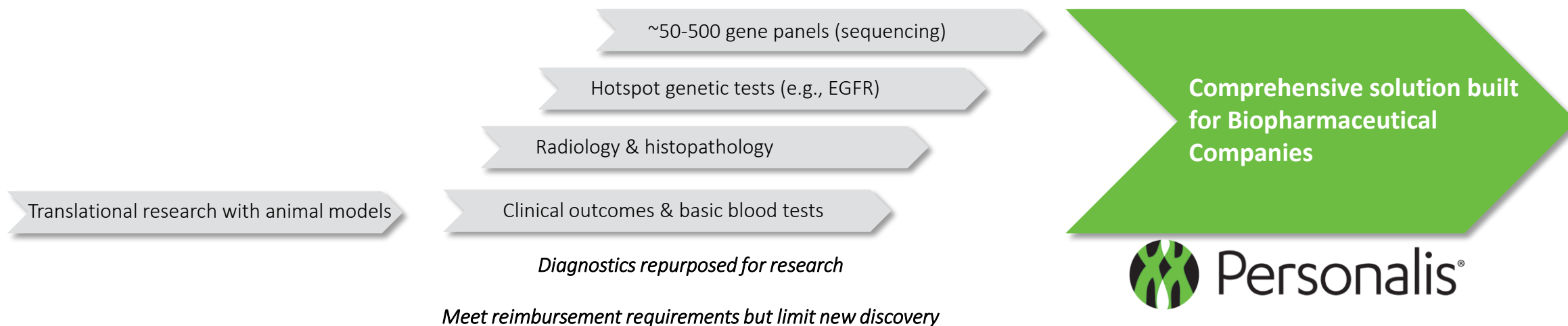
Oncology



Personalis®

Personalis is Purpose-Built for Biopharma

Our comprehensive solution represents the next step in biopharmaceutical research



Diagnostic Panels Utilize Human Tissue But Aren't Comprehensive

Typical Cancer Panels
Narrow Coverage
~50–500 genes
Traditional cancer drivers

NeXT Platform
Comprehensive Coverage
~20,000 genes

DNA Sequencing

~50–500 Genes

~20,000 Genes for Tumor Tissue DNA



Require Additional Samples

RNA Sequencing	■
+	
Immune Cells	■ TCR-β Only
+	
Tumor Infections	■ Human Only

~20,000 Genes for Tumor Tissue RNA

T-cells, B-cells and Innate Immune Cells

Human + Oncoviruses









Proprietary Platform Maximizes Insights from a Single Sample

Patient Tumor Samples Are Often Extremely Limited



Traditional Process

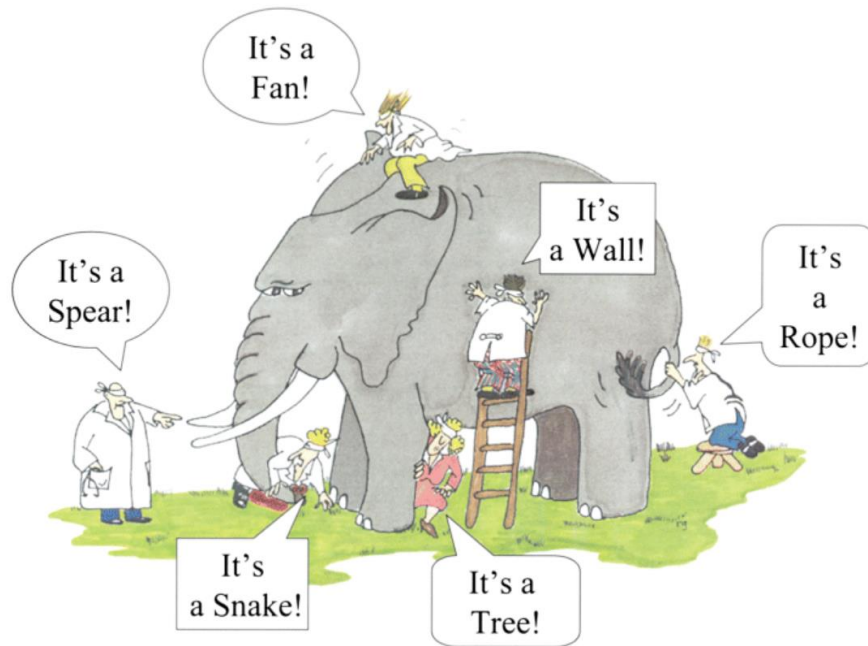
Multiple Samples | Multiple Vendors | Multiple Assays

-  Targeted Therapy Panel (often 50 to 500 genes)
-  Neoantigen Identification from Exome
-  Expression Data from Array
-  TCR / Immune Cell Repertoire
-  MSI-Testing
-  Oncoviral Testing
-  Remaining Sample, if any, Sent to Discovery and Translational Teams
-  HLA-Testing

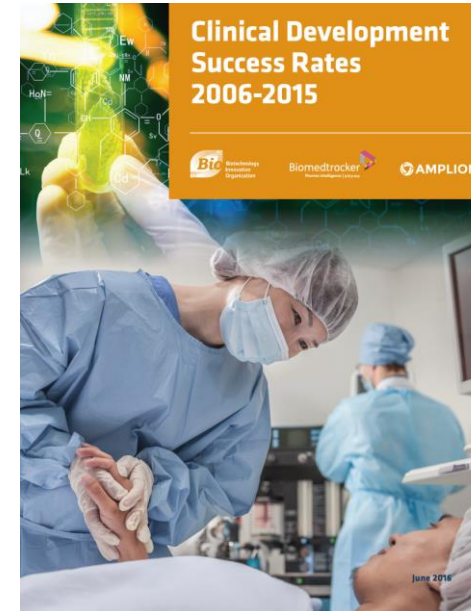


**Comprehensive Data with a Limited Sample
Higher Success Rate and Lower Costs**

Personalis Provides a More Complete Picture of the Cancer, Which is Expected to Lead to Improved Clinical Development Success Rates



Viewing a singular aspect of tumor biology limits conclusions



5.1%

The likelihood of FDA approval from Phase I clinical trial for oncology developmental candidates¹

Enabling Comprehensive Data for Precision Medicine



Clinical Trials

Translational Research & Clinical Trials, Advanced Biomarker Discovery



Diagnostics

Path from Translational Research to CDx on the Same Platform



Biobanks & Databases

Enabling Comprehensive Tumor Immuno-Genomics Database







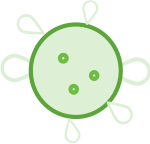
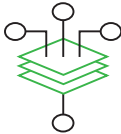



Personalized Diagnostics & Therapies

Genomics Engine for Personalized Cancer Therapies & Diagnostics

Proprietary Assay and Analytics for the Many Elements of Tumor Biology

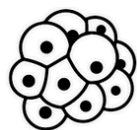
ImmunID NeXT

	DNA & RNA Coverage over 20,000 genes	Neoantigens	Tumor Escape & Immuno-modulators	HLA Type & Mutations	Immune Repertoire	MSI	Oncoviruses	Immunocellular Deconvolution	Diagnostic Report
									
Proprietary Assay & Content	ACE assay technology enhances accuracy	ACE assay technology Proprietary mass spec data	ACE assay technology	Proprietary design to enhance accuracy	Proprietary design boosts CDR3	Enhancement in MSI regions not covered by exomes	Proprietary design	Proprietary RNA signatures*	Boost >1000X in clinical footprint for clinical grade coverage
Proprietary Analytics & Validation	Validated analytics for DNA and RNA mutations True TMB	Proprietary neural networks	Integrated DNA & RNA analytics	Validated high accuracy algorithms	Analytics for TCR and BCR	Both canonical and exome based MSI computation Clinical validation*	Sensitive and specific detection*	Immune cell signature scores*	Clinically validated analytics and reporting*

Personalis customers can select features of the platform to meet their particular needs. An * denotes next-generation feature in development.

Differentiated Analytics Driven by Proprietary Content

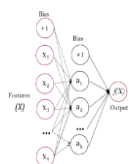
Engineered cell lines train neural networks to make predictions



Genetically engineered cell lines



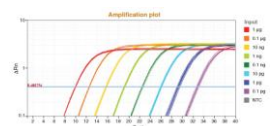
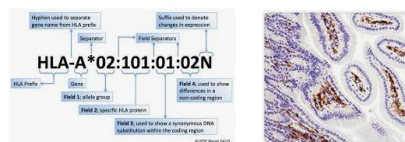
Mass spectrometry



Neural networks

Neoantigen prediction

Sequencing approach validated with orthogonal technologies



HLA, IHC, QPCR...

Foundation for regulatory compliance

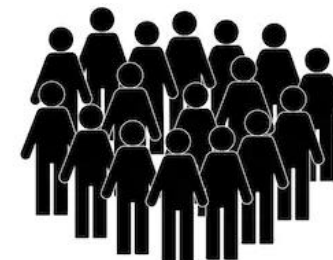
Clinical & research collaborations



PARKER INSTITUTE
for CANCER IMMUNOTHERAPY

Demonstrate clinical utility of the platform

Growing database from patient samples

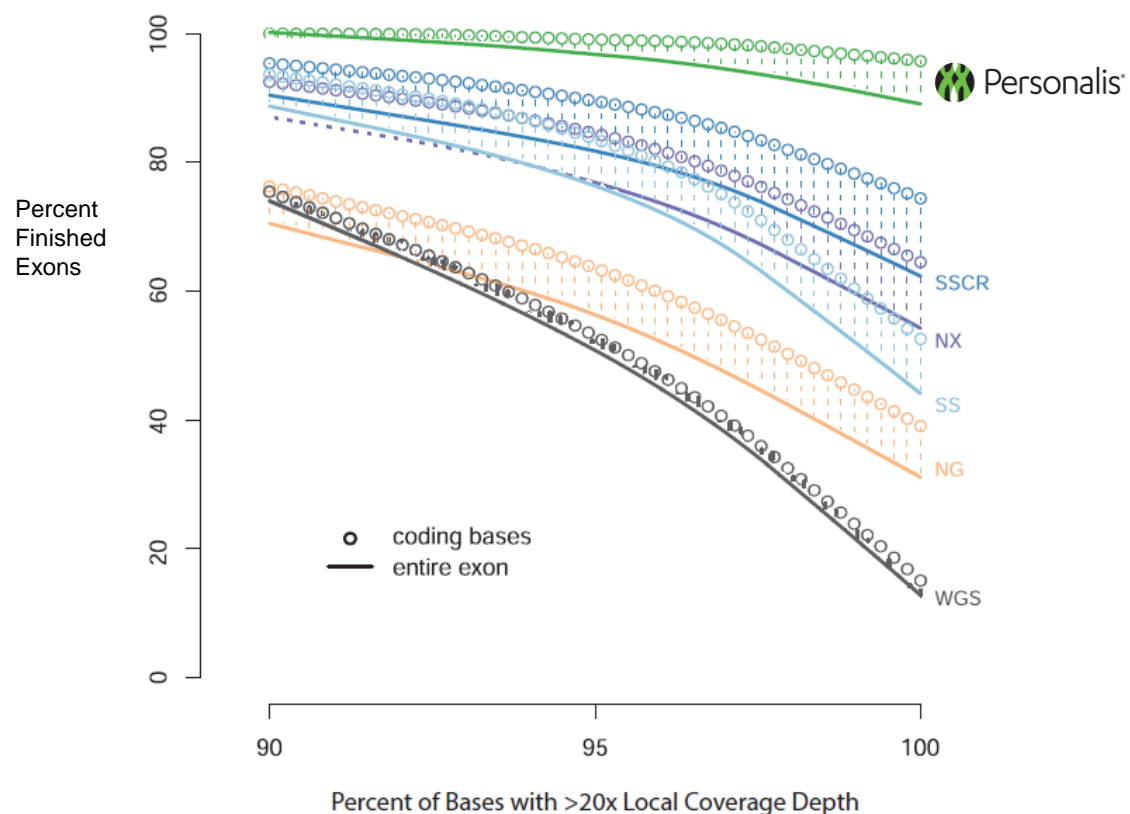


Provides customer with additional information and opportunity for discovery of unique drug targets

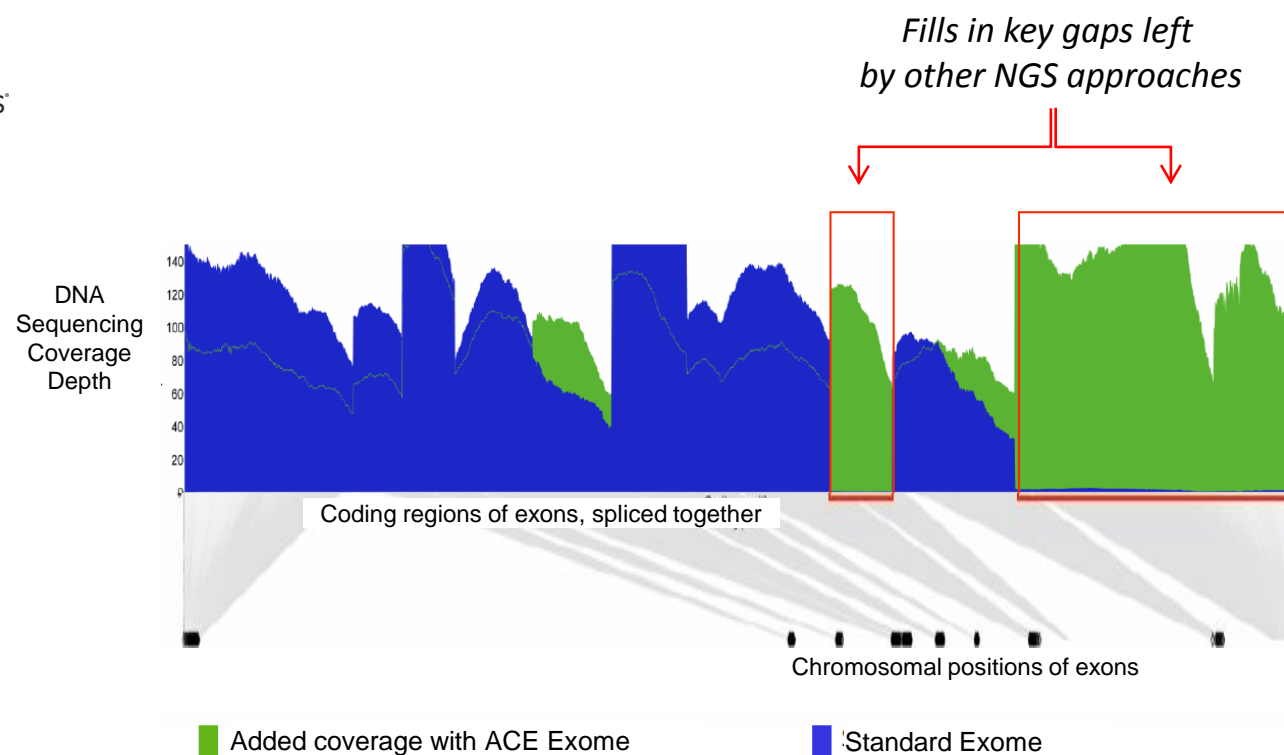
Proprietary Sequencing Methods Achieve Superior Coverage and Gene Finishing

Coverage, depth and accuracy are key in oncology

Superior sequencing performance¹



Coverage of difficult-to-sequence gene regions

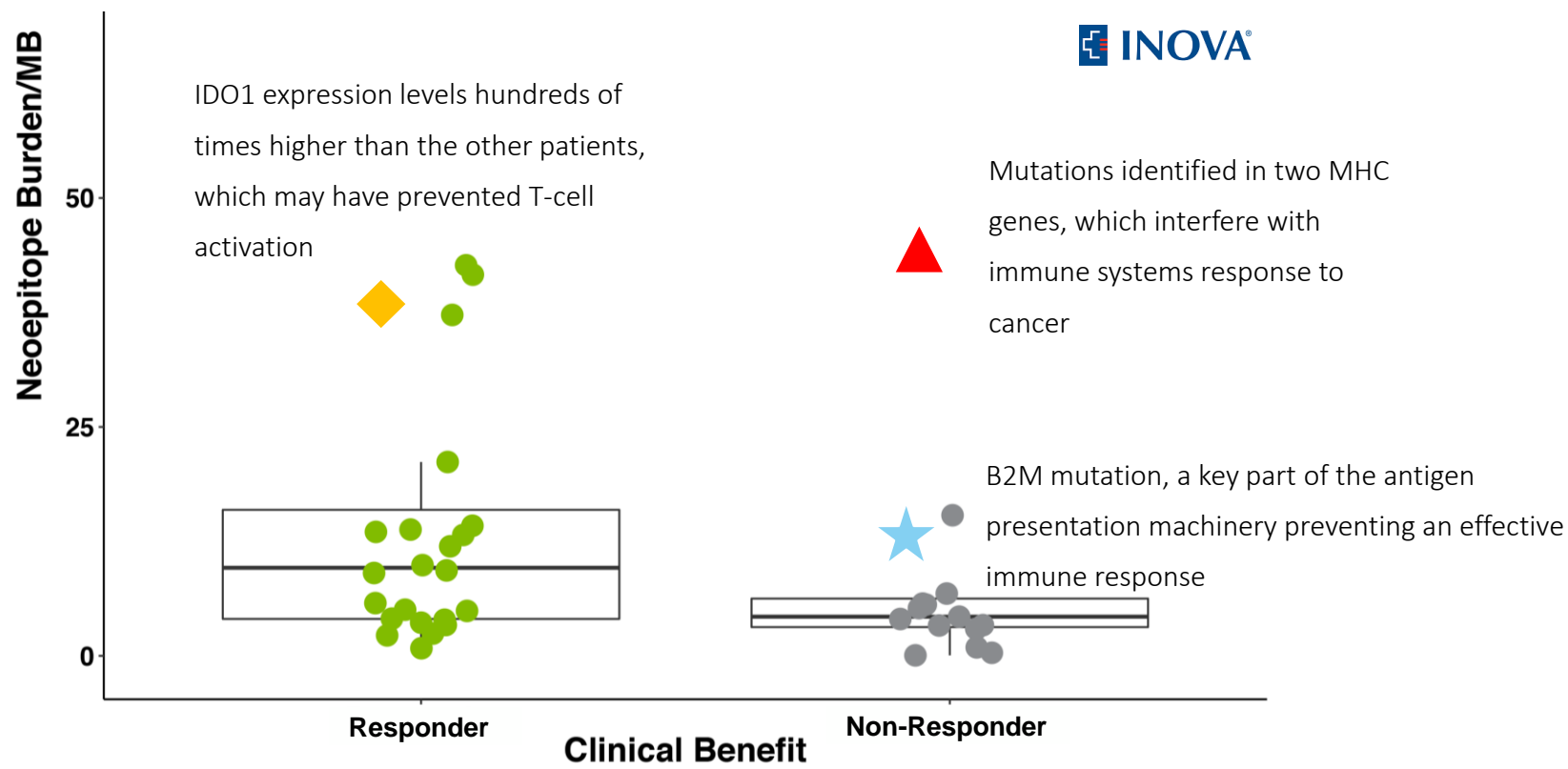


Comprehensiveness Allows Customers to Better Understand Why Patients Respond

At an average cost of ~\$60,000 per patient in oncology clinical trials,¹ understanding why patients do or don't respond is critical

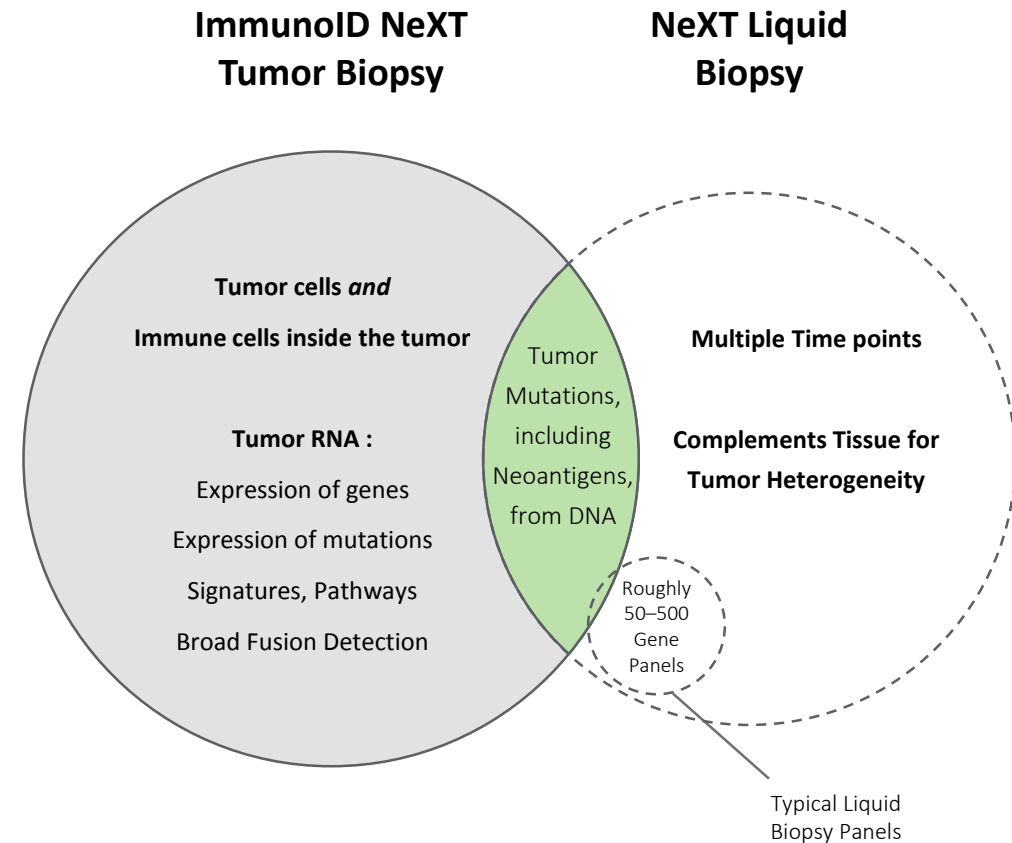
Improve enrollment criteria in clinical trials

Discover new biological mechanisms underlying therapeutic response and tumor resistance



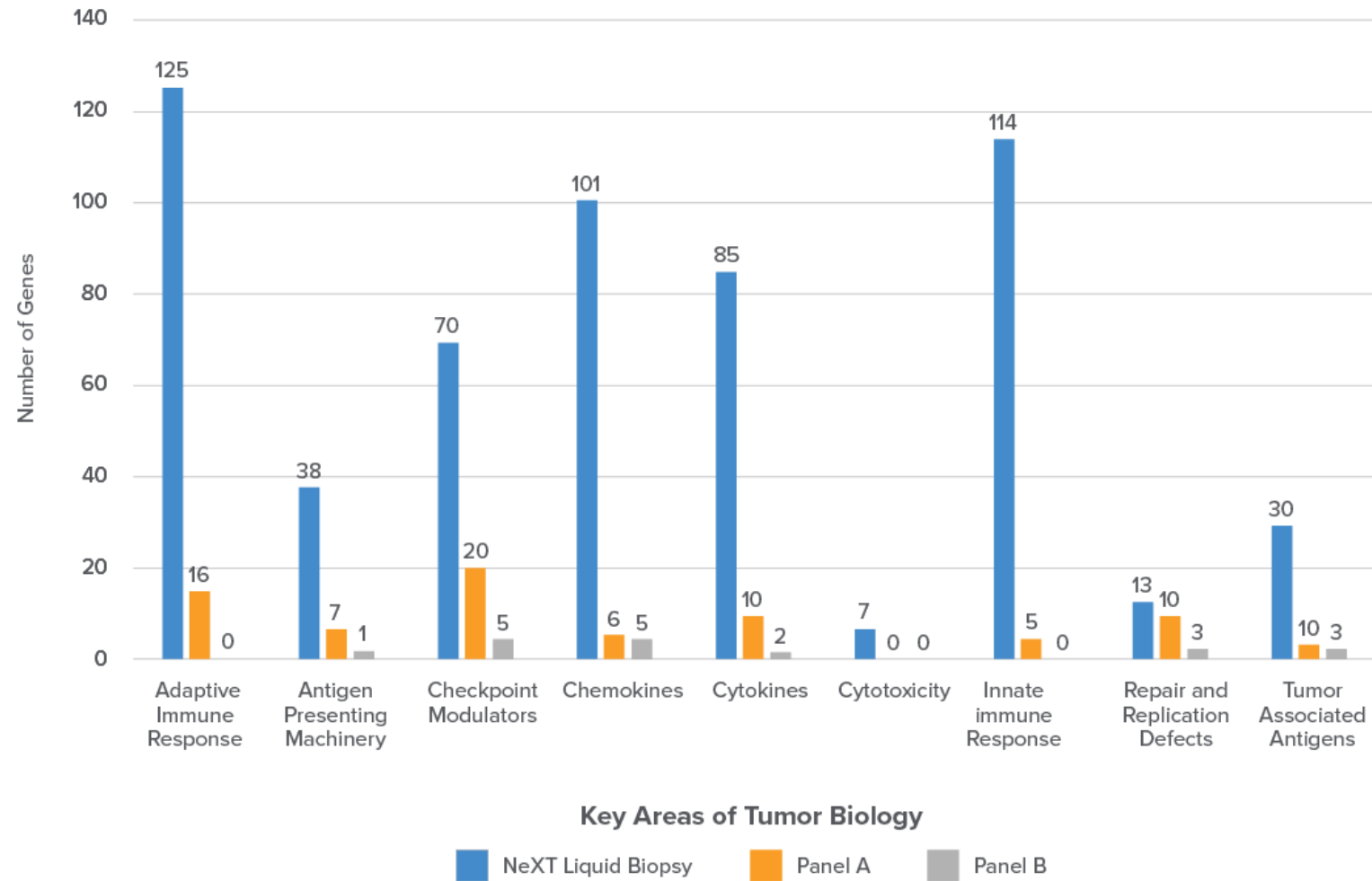
NeXT Liquid Biopsy Capabilities to Complement Immunoid NeXT Tumor Profiling

Tissue is critical for immune cells and RNA, but cfDNA complements with new insights and serial time points

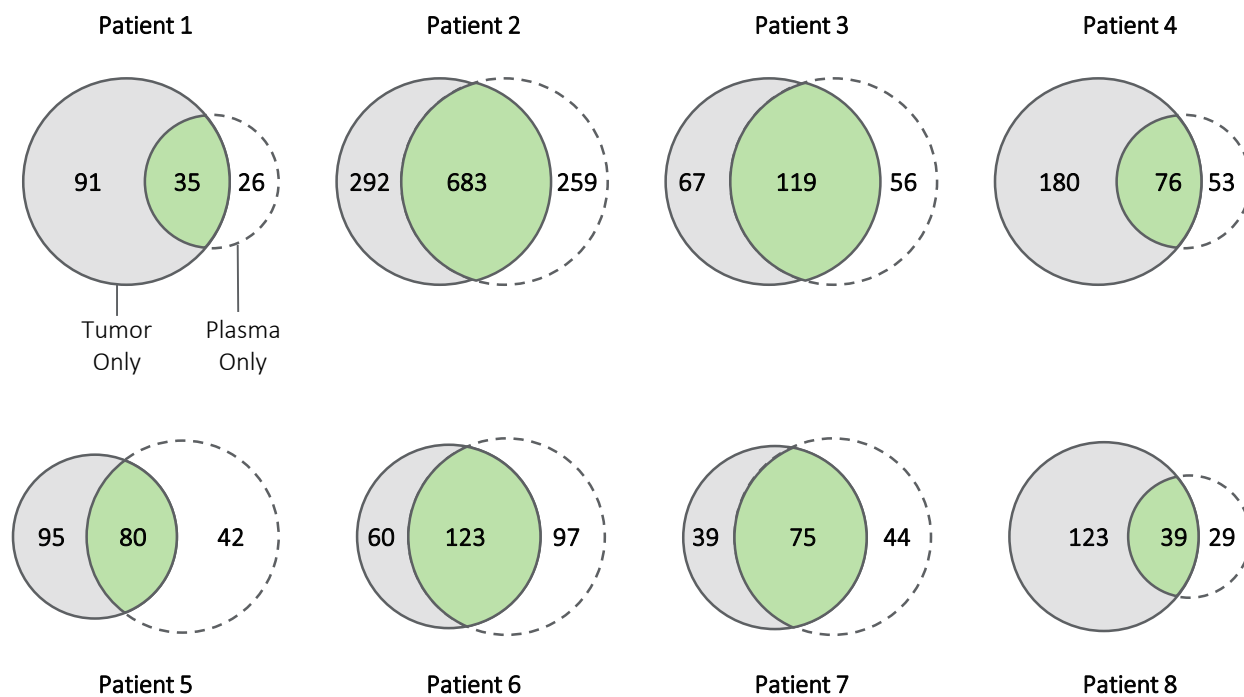


NeXT Liquid Biopsy (LB) Enables a Broader View of Tumor Biology Compared to Panels ¹

NeXT LB Covers substantially more genes relevant to immunotherapy

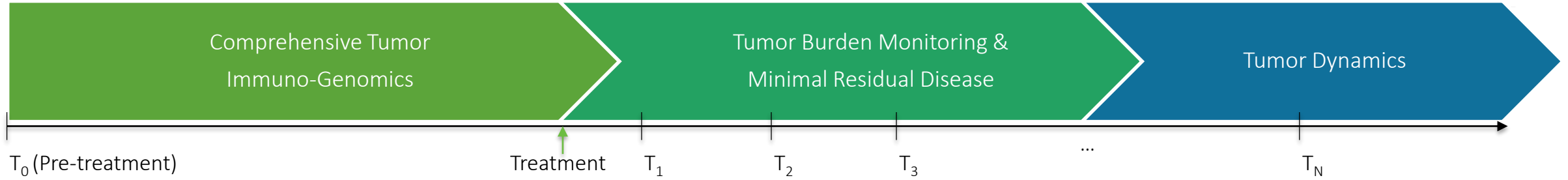


Mutations Found in Tissue Samples and cfDNA are Important for Drug Development



Numbers indicate variants detected in the tumor only, plasma only, or in both.

Liquid Biopsy Roadmap



ImmunoID NeXT Or NeXT Dx



- ~20,000 genes
- DNA and RNA Seq
- Tumor & Immune
- Tumor & Normal
- Whole Genome (future option)

Identify up to thousands of mutations; design panel.

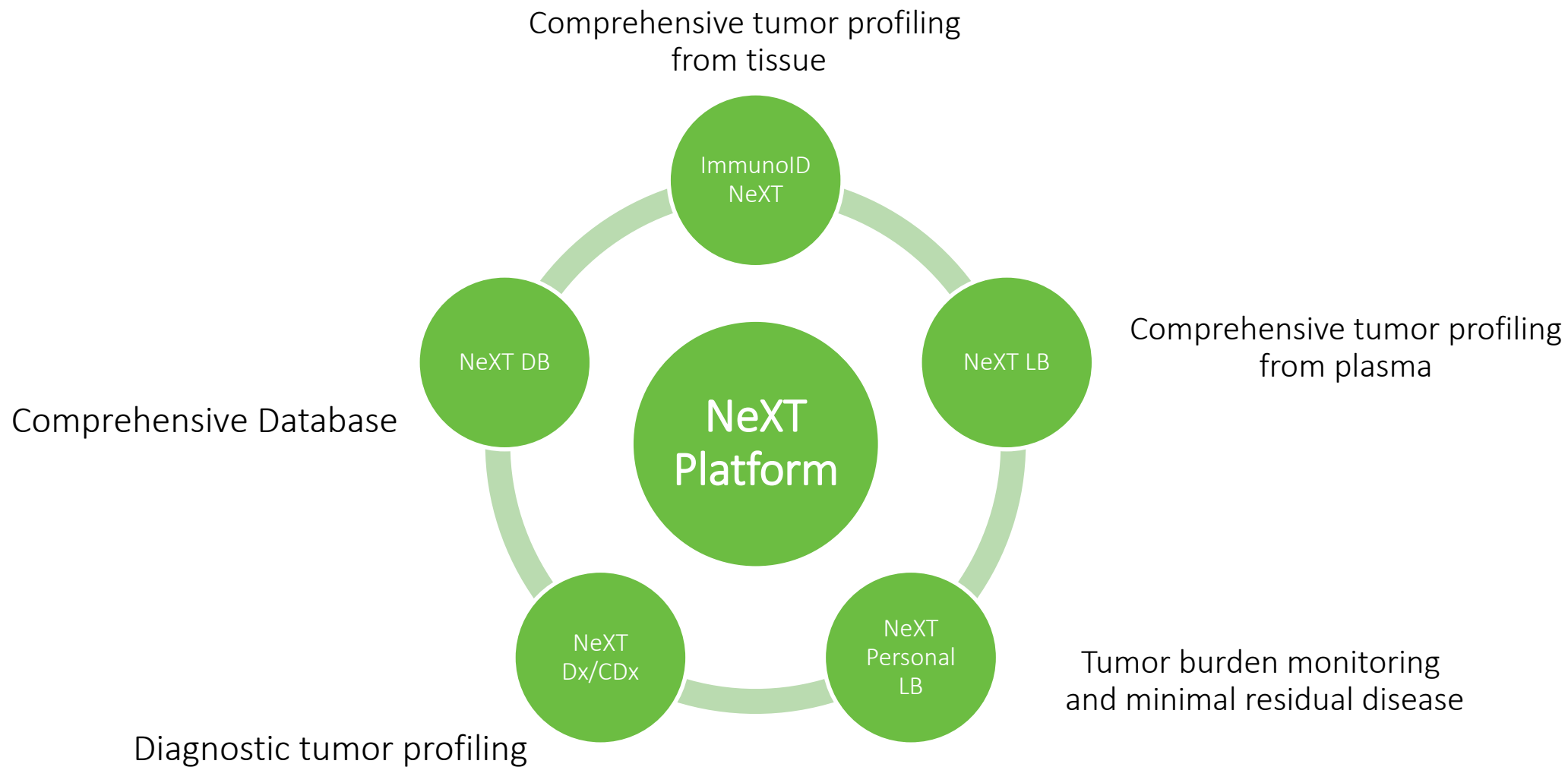
NeXT Personal *(in early R&D)*

- Personalized tumor tracking for each patient
- Up to thousands of mutations
- High sensitivity
- May use less plasma

NeXT Liquid Bx

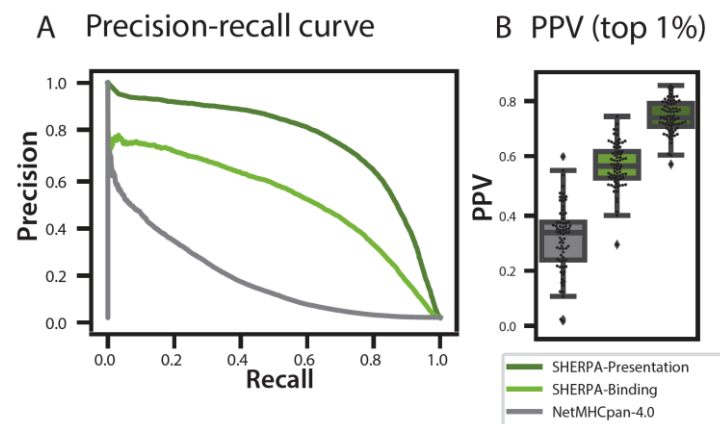
- New mutations
- Acquired Mechanisms of Resistance
- Biomarker dynamics
- Tumor Dynamics

Creating an Ecosystem of NeXT Products Over Time that Synergize to Drive Value

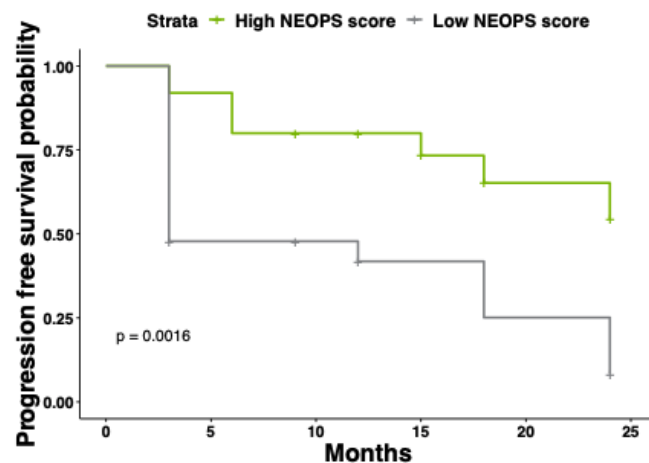


Harnessing Machine Learning For Leading Advanced Analytics & Biomarkers

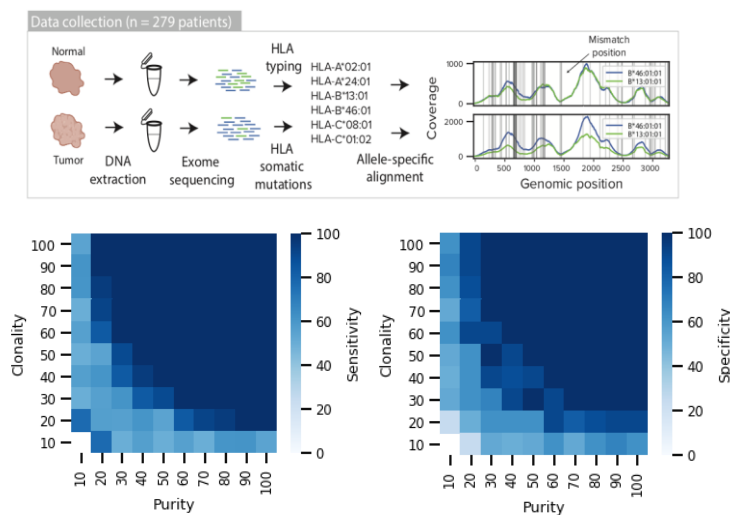
SHERPA Machine Learning Based Neoantigen Prediction



NEOPS Composite Neoantigen Presentation Score

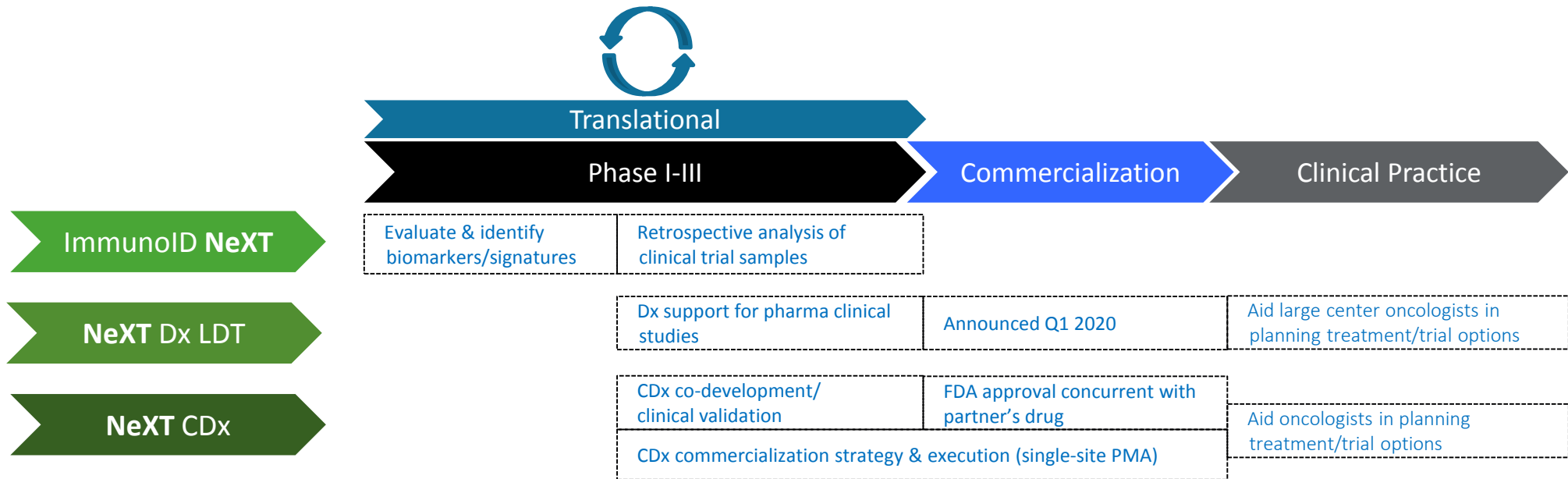


DASH Machine Learning HLA LOH Tool



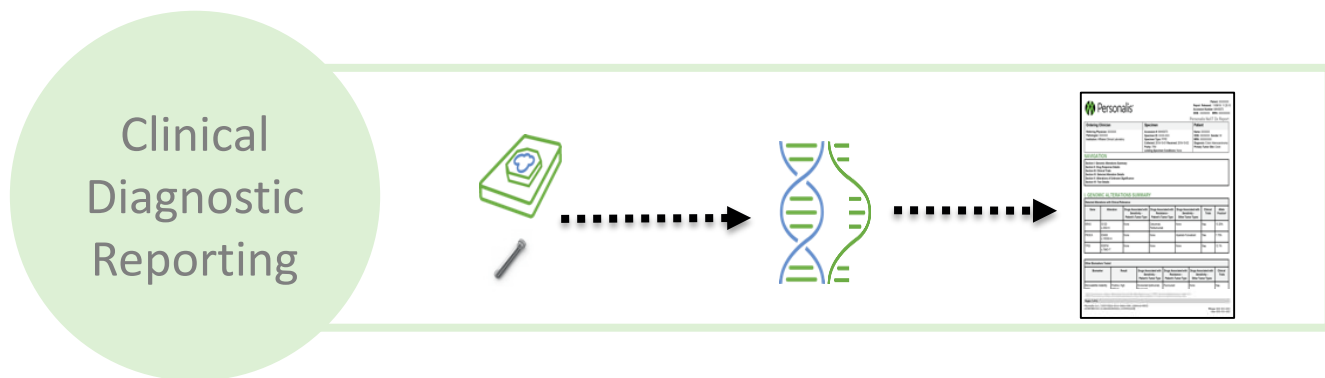
Figures from Personalis AACR 2020 Posters. Publication Manuscripts in Progress for the Above Findings.

Driving Pharma Diagnostics Opportunities with NeXT Dx and NeXT CDx

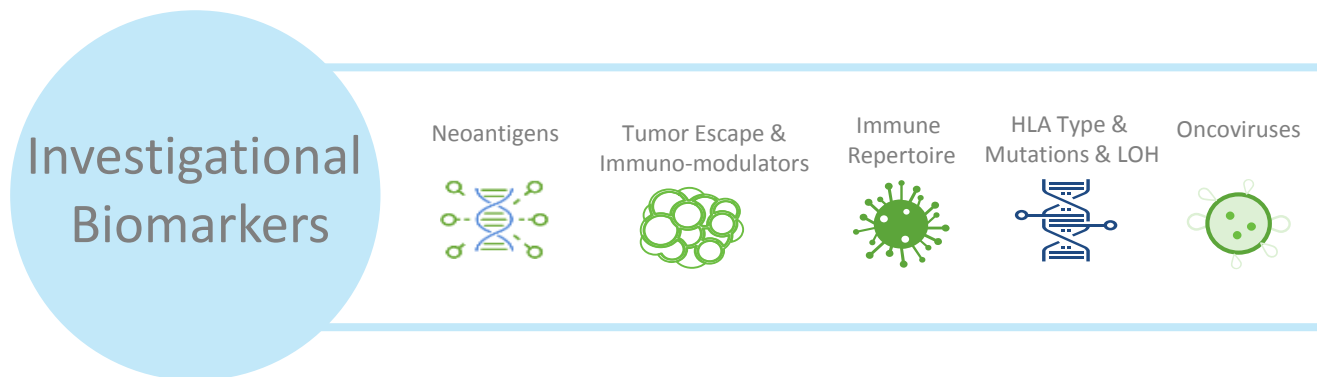


- Drive tighter relationships with Pharma and lead to additional translational business
- NeXT has the scalability to address today's markers and enable future I-O markers on a single platform

NeXT Dx : Diagnostic for Today, Data for the Future, from One Test

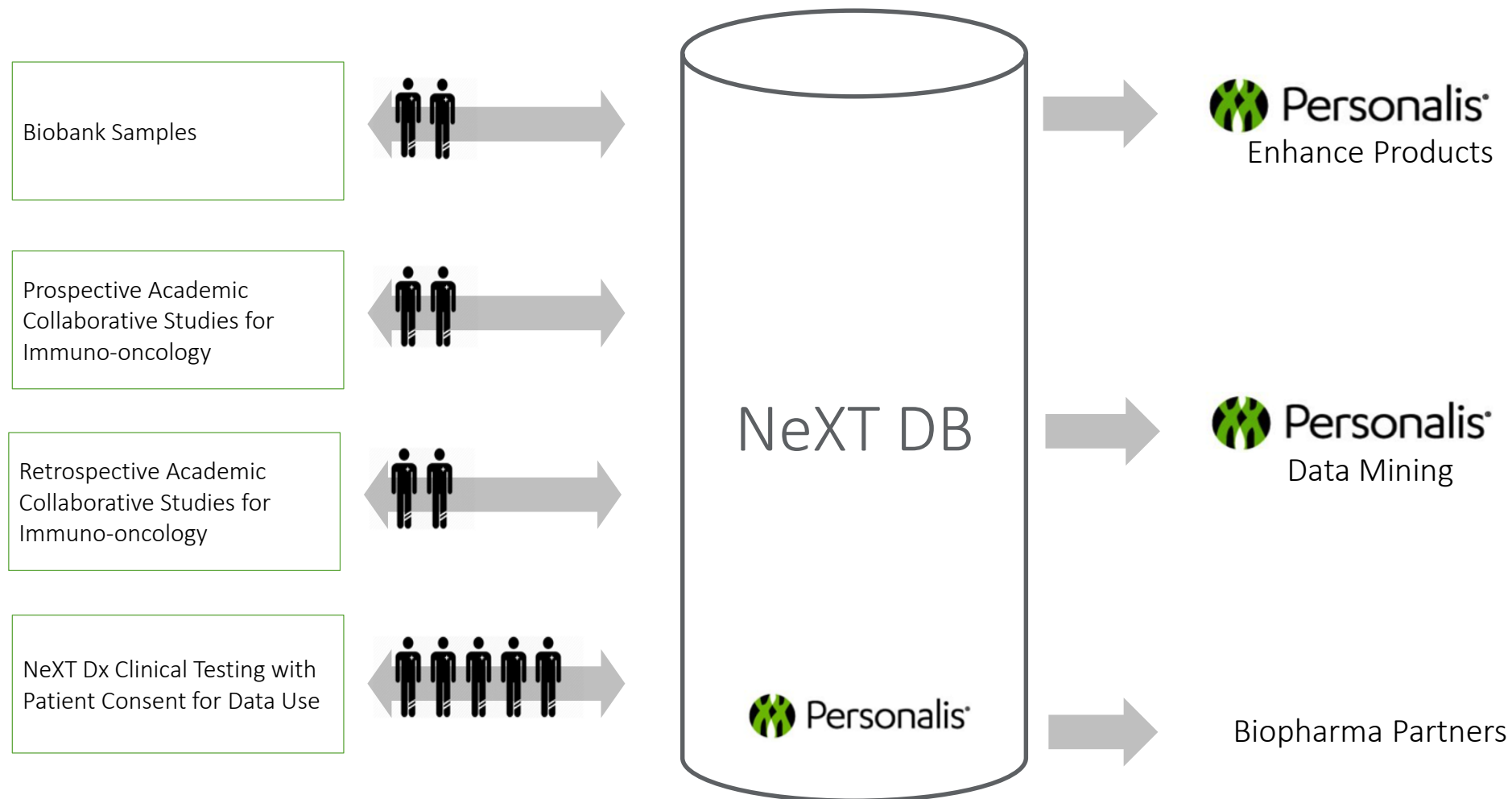


- Comprehensive diagnostic report
 - FDA approved drugs
 - Clinical trials matching
 - Small variants, fusions, CNVs
 - MSI, TMB
- Advanced features
 - Enhanced sensitivity for SNV, Indels
 - Fusions from RNA
 - Matched normal option
 - TMB from Exome



- Advanced cancer care
- Translational research
- Clinical studies
- Clinical trials
- Clinico-genomic database

NeXT Dx is a Catalyst for Building NeXT DB Tumor Immuno-genomics Database



Population Sequencing



Population Sequencing – U.S. VA Million Veteran Program

Research program to help improve the lives of Veterans and is in a very early stage

National research program to learn how genes, lifestyle, and military exposures affect health and illness.

- Enrolling veterans nationwide at a rate of approximately 100,000 a year
- 825,000 veterans enrolled in program to-date
- Overall enrollment goal has recently been increased to 2 million veterans¹



* As of March 2020, the VA MVP temporarily suspended sample collection due to the COVID-19 pandemic

Personalis is the whole genome sequencing provider to U.S. VA Million Veteran Program

Long-term partner

Working together since 2012 with approximately \$145M of orders to date

Significant customer offering stability and scale

2019A Revenue of \$43.5M

2Q'20 Revenue of \$14.8M

Personalis is currently contracted

to deliver ~116,000 samples;
has completed 75,000 & targets
100,000 (cumulative) by year-end

Awards to date expected

to be revenue into early 2021 (\$39.3M backlog)¹



MILLION
VETERAN
PROGRAM

DISCOVERY ★ INNOVATION ★ ADVANCEMENT

We have leveraged this experience sequencing germline whole genomes to introduce (2019) whole genome sequencing for cancer. We plan to leverage this further as a future option to detect ~20x more variants for NeXT Personal.

VA MVP Research – an example of how data is used

VA research during the COVID-19 pandemic

In response to the COVID-19 pandemic, VA Research has undertaken a wide array of activities to support and advance VA's clinical and research missions and help Veterans affected by the disease. These efforts have focused on establishing and taking part in **clinical trials** and **data analysis projects** aimed at understanding and treating the disease. VA Research has coordinated closely with internal VA and external partners—such as other federal agencies, and pharmaceutical companies—to identify the areas in which VA's nationwide research capacity, resources, and infrastructure could make the greatest contribution

COVID-19 Data Analysis Project

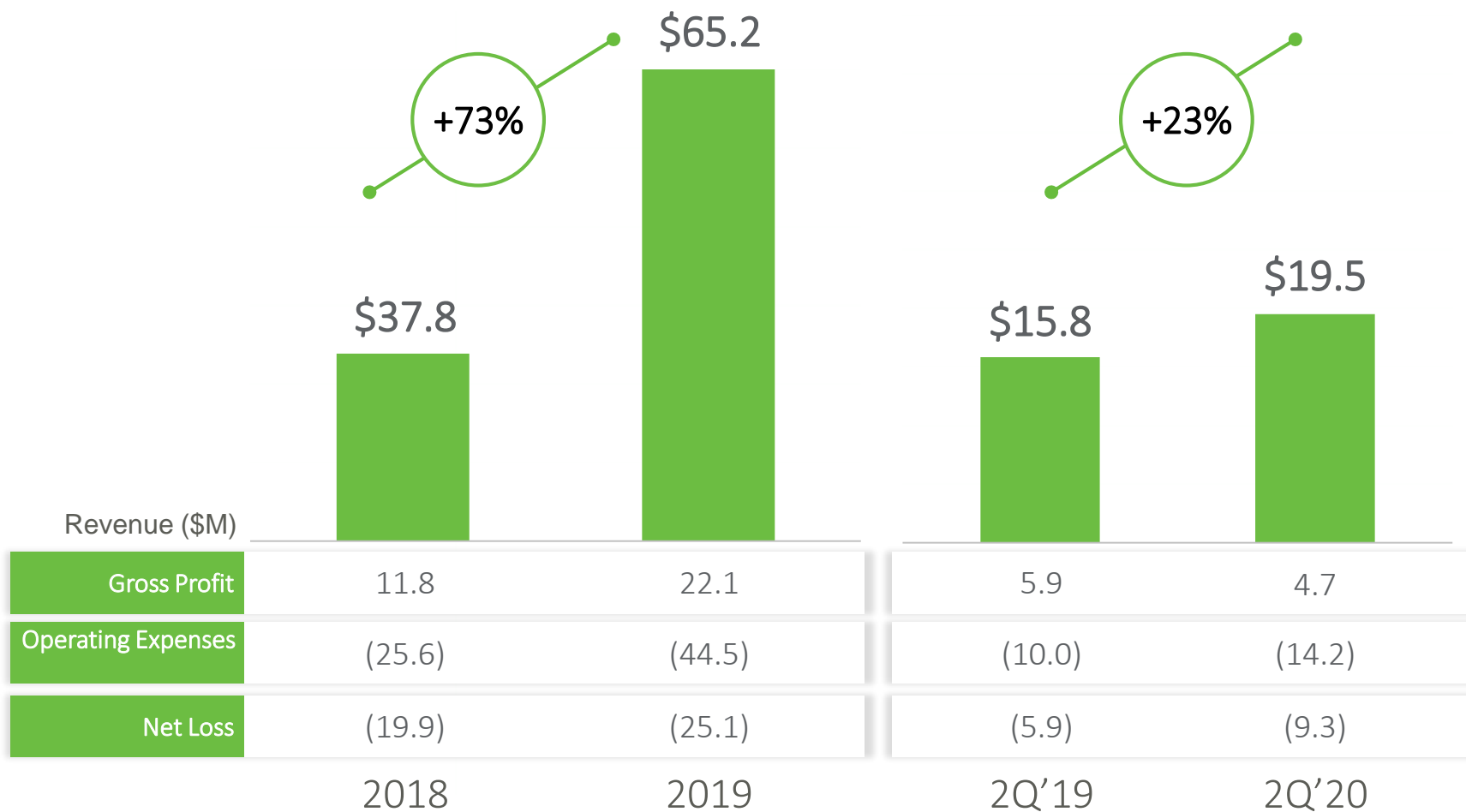
- VA MVP has a racially and ethnically diverse participant population (~20% African American and 7% Hispanic); will analyze the influence of race and ethnicity on disease susceptibility, severity, and outcomes will be an integral part of the analyses.
- Examine the genetic basis of infection by SARS CoV-2;
- Complications of infection;
- Disease severity and outcomes;
- Identify disease mechanisms and new treatment targets for COVID-19

Notes: <https://www.research.va.gov/covid-19.cfm>

Financials



Strong Financial Profile and Historical Growth



2Q'20 Balance Sheet

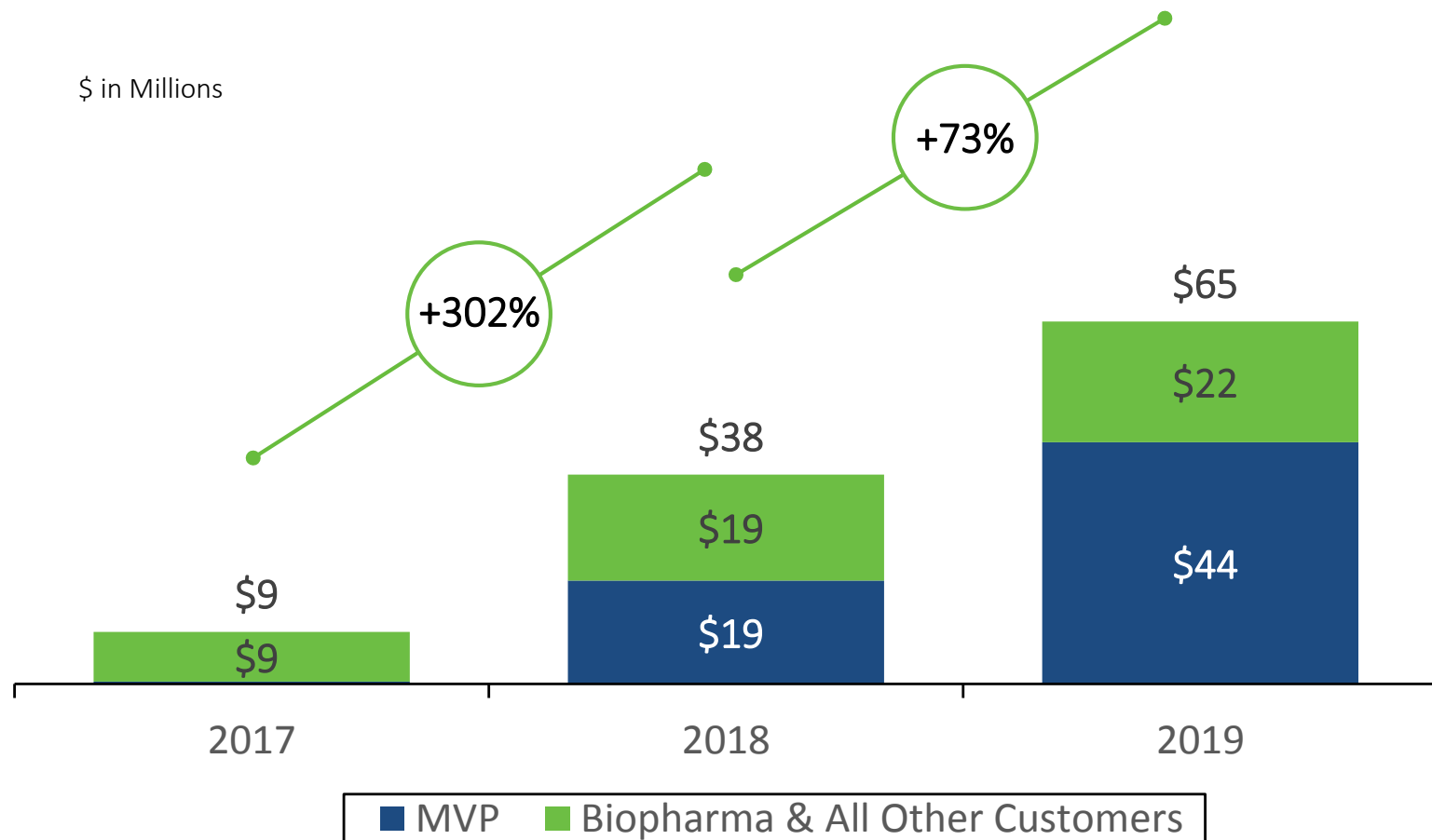
Total Cash¹: \$105.2M

No Debt

Customer Deposit
Liabilities: \$29.0M²

Personalis Revenue Growth

\$ in Millions



2020 Overview ²

Biopharma & All Other Customers
 Q2 2020: \$4.7M
 Strong customer orders Q3 '19 – Q2 '20 following introduction of our NeXT platform

Population Sequencing Business
 Q2 2020: \$ 14.8M
 At 6/30/20, \$39.3M in unfulfilled orders
 Many samples already received for processing in 2020

Endnotes

Page 5:

1. Based on year over year change for FY19 and FY18 revenue figures.

Page 10:

1. Please reference page 12 and 13 for market TAM.

Page 11:

1. Company estimate based on 2 million diagnosed cancer patients requiring an initial tissue test at a price of ~\$3,000 per test. See slide 13 endnotes 2 and 5 for additional detail on the inputs and assumptions used to arrive at this figure.
2. Company estimate based on 2 million diagnosed patients requiring in-depth monitoring at a test price of \$2,840 per test at a frequency of four times a year. See slide 13 endnotes 4 and 6 for detail on the inputs and assumptions used to arrive at this figure.
3. Company estimate based on 200,000 clinical trial patients requiring an initial tissue test at a price of ~\$3,000 per test and in-depth monitoring at a price of ~\$4,000 per test at a frequency of eight times per year. See slide 13 endnotes 3 and 5 for additional detail on the inputs and assumptions used to arrive at this figure.
4. Company estimate based on its VA MVP genome sequencing pricing and 2 million individuals per year, based on publicly available reports of population sequencing projects covering over 14 million individuals and an assumed 7-year average project duration.

Page 12:

1. Estimated 200,000 enrolled in clinical trials based on Company review of ClinicalTrials.gov data.
2. U.S. National Cancer Institute estimate that 2.2 million patients are actively receiving care. 2 million per year, net clinical trial patients.
3. Company estimate for pricing is based on the Company's historical standard pricing for tissue samples and anticipated pricing for liquid biopsy samples. Company estimate for frequency is based on frequency of monitoring in a clinical trial protocol used by Merck in a recent immune-oncology drug trial and assumes that monitoring would occur every six weeks.
4. Company estimate based on expected usage for Signatera, a personalized circulating tumor DNA monitoring assay to support optimal cancer treatment planning, reported by Natera on its Q2 2020 earnings call.
5. CMS payment rate for tissue-based cancer diagnostic test – based on CPT code 81455.
6. Currently no approved pricing for monitoring in cancer, but given the technical similarity to Natera's kidney transplant rejection monitoring test, Prospera, which also monitors cell free DNA from blood plasma and which receives coverage at \$2,840, based on assumption that similar coverage could be sought for cancer monitoring genetic tests not currently subject to coverage.

Page 13:

1. We maintain a current license with the New York State Department of Health for our laboratory.
2. We have filed a Device Master File with the FDA.

Page 19:

1. Biotechnology Innovation Organization (BIO), Biomedtracker, and Amplion "Clinical Development Success Rates 2006-2015" (Jun-2016).

Page 23:

1. Patwardhan et al. Genome Med. 2015.

Page 24:

1. Biopharmaceutical Industry-Sponsored Clinical Trials: Impact on State Economies, 2013.

Page 26:

1. Based on the company's comparative analysis of the gene coverage of its Liquid Biopsy product versus the gene coverage of the Illumina TSO500 (Panel A) or the Guardant360 "73-Genes Panel" (Panel B). Gene coverage data for Panel A and Panel B are based on publicly available information from websites.

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1. Based upon information from FedHealthIT.com article dated May 5, 2020 <https://www.fedhealthit.com/2020/05/va-to-award-million-veteran-program-mvp-support-contract/>

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1. As of June 30, 2020, the remaining performance obligations under contracts for which revenues are expected to be recognized over approximately the next two to three quarters was \$39.3 million.

Endnotes (Cont'd)

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1. Abbreviated for "Cash, Cash Equivalents, and ST Investments".
2. Represents customer deposits for the prepayment of a portion of services that the customer expects to order from us. If a customer that has prepaid us for future services cancels its contract with us or reduces the level of services that it expects to receive, we would generally be required to repay that customer's deposit.

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1. Based on 2Q 2020 publicly reported financials.