**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**WASHINGTON, D.C. 20549**

**SCHEDULE 14A**

**PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE SECURITIES EXCHANGE ACT OF 1934**

Filed by the Registrant ☒ Filed by a party other than the Registrant ☐
Check the appropriate box:

☐ Preliminary Proxy Statement

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# Sema4 Holdings Corp.

**(Name of Registrant as Specified In Its Charter)**

**(Name of Person(s) Filing Proxy Statement, if other than the Registrant)**

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**EXPLANATORY NOTE**

This Schedule 14A filing relates to the proposed acquisition of GeneDx, Inc., a New Jersey corporation ("GeneDx"), by Sema4 Holdings Corp. ("Sema4" or the "Company") pursuant to that certain Agreement and Plan of Merger and Reorganization (the "Merger Agreement") between the Company, GeneDx, and the other parties thereto (the transactions contemplated by the Merger Agreement, the "Acquisition").

The following communications were distributed on March 14, 2022 and are filed herewith:

- Fourth Quarter and Full Year 2021 Earnings Conference Call Transcript
- Investor presentation dated March 2022

**EARNINGS CALL TRANSCRIPT**

**Sema 4(Q4 2021 Earnings)**

**March 14, 2022**

**Corporate Speakers:**

a. Joel Kaufman; Sema4 Holdings Corp.; VP of Finance & Corporate Development
b. Eric Schadt; Sema4 Holdings Corp.; Founder, CEO & Director
c. Isaac Ro; Sema4 Holdings Corp.; CFO

**Participants:**

a. Brandon Couillard; Jefferies LLC; Research Division, Equity Analyst
b. Max Masucci; Cowen and Company, LLC; Research Division, Senior Analyst
c. Mark Massaro; BTIG, LLC; Research Division, MD & Life Science & Diagnostic Tools Analyst
d. Unidentified Participant; Goldman Sachs; Analyst

**PRESENTATION**

Operator^ Thank you for standing by, and welcome to the Sema4 Fourth Quarter 2021 Earnings Conference Call. I would now like to turn the call over to Joel Kaufman, Vice President of Finance and Corporate Development. Please go ahead.

Joel Kaufman^ Thank you. Good afternoon, everyone. Thank you all for participating in today's conference call. Participating for the company today will be Eric Schadt, Founder and Chief Executive Officer; and Isaac Ro, Chief Financial Officer. Earlier today, SMA4 released financial results for the fourth quarter and full year ended December 31, 2021. A copy of the press release is available on the company's website.

Before we begin, I'd like to remind you that management will make forward-looking statements within the meaning of federal securities law, which are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Any statements contained in this call that relate to expectations or predictions of future events, results or performance that are forward-looking statements.

Actual results may differ materially from those expressed or implied in the forward-looking statements due to a variety of factors. Additionally, these forward-looking statements particularly our 2022 financial guidance involve a number of risks, uncertainties and assumptions.

For a list and description of the risks and uncertainties associated with Sema4's business, please refer to the Risk Factors section of our Form 10-K filed with the Securities and Exchange Commission on March 14, 2022. We urge you to consider these factors and you should be aware that these statements should be considered estimates only and are not a guarantee of future performance.

During the call, we may discuss certain non-GAAP financial measures. For reconciliations of the non-GAAP measures to GAAP financial measures as well as other information regarding these

measures, please refer to our earnings release and other materials in our Investor Relations section of our website.

This conference call contains time-sensitive information and is accurate only as of the live outcast today, March 14, 2022. Sema4 disclaims any intention or obligation, except as required by law, to update or revise any financial projections or forward-looking statements, whether because of new information, future events or otherwise. And with that, I'll turn the call over to Eric.

Eric Schadt^ Thank you, Joel, and thank you, everyone, for joining us on our fourth quarter and full year 2021 financial results conference call. I will begin with an overview of our performance, including the recent drivers of our success and future drivers of growth before passing the call to Isaac for a financial update. We will then open the call for questions.

2021 was a transformative year for Sema4, during which we drove record test volumes and grew our clinical molecular and patient databases listed on NASDAQ as a public company and advanced our strategic objectives to accelerate the growth of our platform of algorithms. Overall, I'm very excited by our organizational progress during a year that had more disruptive macro issues than I would have imagined heading into 2021.

Sema4 continues to build capabilities anchored in clinically relevant genomic and patient data with artificial intelligence and machine learning. We continue to establish Sema4 as the partner of choice for health systems, therapeutic innovators and other health care companies.

At Sema4, we are building a unique company focused on delivering clinically actionable insights based on longitudinal data analysis that will help inform clinical decision-making across a broad spectrum of diseases and health conditions. We are delighted that our Health Intelligence platform is being increasingly recognized for its potential ability to predict more accurate and clinically meaningful outcomes.

In the fourth quarter, we delivered revenue of $47.3 million, excluding COVID, representing 24% growth compared to $38.2 million in the same period a year ago. Importantly, we continue to make substantial progress advancing key initiatives as evidenced by the nearly 83,000 resulted tests in the quarter, representing 37% growth compared to 61,000 resulted tests in the same period a year ago.

We exited 2021 well positioned to grow our data engine with 4 health system partnerships, 47 petabytes of data from more than 20 million patients, including approximately 12 million patients for which we have access to high-quality longitudinal electronic medical record information.

We believe that Centrellis is the most extensive and fastest-growing database of clinically relevant patient data in the industry. Meanwhile, our next-gen sequencing capacity continues to expand, where we are expecting to grow genomic patient records more than 50% in 2022 over 2021.

While we are pleased with our performance in the fourth quarter and are well positioned for growth in 2022, we will remain conservative in our full year 2022 revenue guidance of $215 million to $225 million.

Building upon the success that has propelled Sema4, we recently announced our plans to acquire GeneDx, a world leader in the delivery of clinical genomic solutions for rare disorders. The acquisition of GeneDx will transform Sema4 into a larger and stronger company with a faster path to profitability.

Together, we will create a company that is changing the landscape of how patient care is delivered while leveraging efficiencies that are unparalleled in our industry. We believe that becoming a larger and stronger company gives us a clear and achievable path to 50% gross margin.

We expect to accelerate our pathway to profitability with a pro forma revenue growth profile in excess of 30% and accomplish positive free cash flow by the end of 2025. We remain on track to close the acquisition in the second quarter of 2022. On a pro forma basis, we project that the combined company will deliver annual revenue of approximately $350 million in 2022.

We are excited to partner with Katherine Stueland, CEO of GeneDx and the team from GeneDx, who share our vision of leveraging genomics in large-scale clinical and multiomic data to enhance the standard of care through precision medicine in partnership with patients and providers. Combining GeneDx's clinical genomic solutions with our core women's health business allows us to better serve health system and pharmaceutical and biotech partners in a more holistic way.

This transaction will significantly enhance the power of our Centrellis database by adding more than 2.1 million expertly curated phenotypes and well over 300,000 clinical exomes that GeneDx has generated to date. Following the close of the acquisition, Sema4 will have the most comprehensive clinically relevant data set available for our research and development purposes.

Turning back to our performance in 2021. I would like to provide a detailed update on our progress towards advancing our strategic objectives, starting with our health system partnerships.

As you know, Sema4 has partnered with 4 health systems, 3 of which were added during 2021. These partnerships span across our key targeted geographic areas, and we continue to be very pleased with the performance of the relationships and traction we are gaining toward our mission to standardize precision medicine within these systems.

Earlier this month, we held our first founder health system consortium meeting with all 4 of our health system partners. The goal of this meeting was to establish a formal network dedicated to sharing our collective approaches to implementing precision medicine as a standard of care. By bringing these groups together, we aim to foster a learning-based culture across our partners that we think will enable a virtuous cycle as our health system partnerships expand.

The event was successful in these goals and very well received by our partners. Some of our and our partners aligned on the fact that we share many common challenges that can be better addressed collectively, particularly as the network expands over time. This was encouraging as

each of our partners have different areas of initial focus and maturation levels of their previous precision medicine initiatives.

We believe this network is now building a combined point of view that will help the industry understand the power of shared data, develop a standard implementation methodology, including ways to overcome significant educational needs and provide evidence of improved clinical care, providing headlights into the future of health care.

We expect to meet quarterly, starting with our next session focusing on creating a formal charter and priorities for the network of partners to focus on as a group.

Since we updated you last quarter, Sema4 has continued to work with NorthShore University Health System to scale their population health program. This program is focused on understanding the needs of primary care providers and their mission to advance care by leveraging genomic information within their patient population.

Not only have more than 90% of primary care physicians order a test as part of this program, but 80% of those physicians report a substantially improved standard of care as a result.

The total number of patients who have been offered the program in the past 11 months now exceeds 46,000. To date, we have identified over 11,000 patients with positive family history and over 1,800 patients have moved forward with hereditary cancer testing, meaning NCCN guidelines for being at high risk for heritable cancer. These results represent a 78% increase in adoption versus results of a similar program not powered by Sema4.

Evidence from this study will now inform Sema4 and NorthShore University Health System on how to introduce insights at the point of care to ensure patients receive standard of care treatment among other insights gained through this study and expansion of additional studies to understand how to leverage the insights gain to improve care.

Turning to Avera. In November of 2021, Sema4 and Avera Health launched the Avera Health Sema4 Oncology and Analytics protocol, referred to as the ASAP protocol. The purpose of this study is to understand the breadth of molecular characteristics present among patients within a large integrated community-based health care system.

Using comprehensive genomic profiling and proteomics, we are identifying the underlying genomic drivers of premalignant or malignant growth in patients across different stages of disease development and cancer types. The comprehensive molecular profiling consists of somatic tumor testing using Sema4's whole exome, whole transcriptome, proteomics and in selected instances, whole genome sequencing.

In addition, we are performing broad heritable cancer testing and effective patient populations. Hereditarian cancer has implications in screening, prognosis and therapeutics for effective patients as well as broad implications for genetic counseling and cascade testing.

Information collected across the patient population will aid in advancing our knowledge of cancer biology, discovering and validating biomarkers associated with clinical outcomes and sharing collaborative projects in order to promote the study of cancer.

We have curated the initial clinical data set by combining it with the genomic findings and creating initial clinical quality dashboards which will provide additional insights to Avera Health providers.

We look forward to leveraging GeneDx to expand existing partnerships and enhance discussions with future partners. I am confident our ability to integrate within health systems and provide state-of-the-art care will ultimately position us as a preferred partner of choice to an increasing number of systems. We are well on track to achieve our plan of partnering with a total of at least 5 systems by year-end 2023.

Our strong connection to the health systems and patients is a significant point of differentiation when pharmaceutical companies are looking for partners. Our sophisticated platform draws upon clinically relevant, longitudinal patient information to provide unique insights to pharmaceutical companies looking to leverage big data to support direct development.

We can be a partner of choice for research as well as clinical development and imposed market surveillance. A component of our long-term strategy is to partner with pharmaceutical innovators to help improve the efficiency and accuracy of drug development and therapeutic delivery. During the fourth quarter, we increased our engagement with several potential pharmaceutical partners to gain a better understanding of their needs.

We are pleased to have recently announced our partnership with BioSymmetrics focusing on data-driven drug discovery to advance precision medicine. Together, we will leverage our proprietary health intelligence platforms in TELUS in combination with Elian, Bio symmetrics phenotypic drug discovery platform to both experimentally validate our AI-based disease and risk models and to discover new treatments initially in cardiovascular, rare and neurological diseases.

We will look to launch up to 10 new therapeutic programs in areas of high unmet need where multi-ailments offers a differentiated approach to discovering drugs and leverage these programs to drive enhanced collaboration between Sema4 and biopharma companies.

We expect biopharma partner contributions to grow throughout 2022 as we work to demonstrate the tangible value of the Sema4 platform. Our partnerships with patients and health systems are also crucial for providing us with access to information that allows us to develop deep and information-based relationships to continuously drive improved knowledge and understanding within our platform.

Our ability to receive strong patient consent provides us with confidence that our strategy to build a platform of algorithms is being accepted in the marketplace.

Following the fourth quarter, patient consent remained strong at greater than 80% in 2021 for those who engage our digital platforms through the testing process. This ability to acquire, manage and leverage this scale of individual patient data is what feeds our platform of algorithms and differentiates us in the market.

This brings me to an update on our expanding data platform. We are pleased to see our growing patient and provider engagement translate into increasing test volumes with a total of 292,000 tests resulted in 2021, excluding COVID. This represents annual growth of 41% when compared to 208,000 has resulted in 2020.

All areas of our core business are contributing to test volumes, including our recently launched product, Sema4 Elements. Sema4 Elements as part of our women's hub portfolio and enables providers to treat patients holistically during their reproductive cancer and generational health journeys.

During the fourth quarter, our sales team increased uptake and began addressing the backlog of pent-up demand from existing customers as well as new users. Initial feedback has been very positive, and we look forward to increasing utilization and adoption.

Lastly, in mid-December, we announced our plans to exit the COVID-19 testing business. Today, while the pandemic still lingers, circumstances relating to testing are very different than when we joined the fight against COVID-19 in early 2020.

And we want to continue to drive innovative solutions to other pressing medical needs in the core components of our business, such as oncology and reproductive health. We, therefore, believe it is now appropriate for us to dedicate our resources to Sema4's core mission.

In 2021, we made key investments in our organization and infrastructure to build our platform of algorithms. In January of 2021, we hired renowned oncologists Dr. William El, to help establish our leadership in delivering data-driven precision oncology solutions that support improved patient outcomes.

In June, we hired help data expert and precision medicine scientists, Andrew Kataras, as Chief Data Officer to help optimize our data strategy and security to drive continued innovations of our health intelligence platform. In September, we hired Gustavo Stolovitzky, a world-leading computational biology expert as Chief Science Officer, as we look to accelerate development and monetize our platform of algorithms.

To validate our platform of algorithms and support growing adoption, we remain committed to bringing industry guidelines together with our data to demonstrate the clinical benefits of data-driven insights and potential to improve patient outcomes.

In November 2021, we published a pair of studies in collaboration with the Mount Sinai Health System that demonstrated the utility of our health intelligence platform to predict more accurately clinically meaningful outcomes. The studies were specifically focused on improving the prediction of risk of postpartum hemorrhage, the leading cause of maternal mortality globally over current standard care assessments.

The results demonstrated the potential for health care providers to improve postpartum hemorrhage risk assessment and medical management for their pregnant patients resulting in better health outcomes when implementing Sema4's predictive model into the clinical standard of care.

The publication of these results in the Journal of the American Medical Informatics Association marks an important advancement for the industry as we are among the first to use large-scale comprehensive real-world data to both accurately digitally phenotype patients and then predict clinically meaningful outcomes in pregnant women.

These advances are happening in oncology as well, where among many papers, a recent study of Sema4 was just accepted in Nature Communications, which identified a molecular biomarker that could not only stratify early-stage lung adenocarcinoma patients into different subtypes of disease, but identified erokinases as a novel target for treating this disease at an early stage.

Publications and leading journals will also help support our reimbursement initiatives. Recently, we hired Gerry Conway, to strengthen our market access team and drive improvement in our relationships with payers.

In addition to the team's focus on commercial and reimbursement capabilities, the team will also look to develop new partnerships and strengthen existing relationships with payers and clinicians and establish broader patient access. We are also honored to have recently been included in Fast Company's prestigious annualis of the world's most innovative companies for 2022.

We were named as one of the top 3 most innovative companies in the data science category. Fast Company recognized Sema4 for closing the gap between the practice of medicine and the availability of more clinically actionable guidance, allowing for enhanced decision-making by physicians and patients to improve the prevention, management and treatment of diseases.

2021 has been a year of investing for growth. During the year, we expanded our entire team to over 1,200 employees as of the end of 2021. This includes commercial head count growth of roughly 50% since the beginning of 2021. We continue to see improvements in sales cycle and sales force productivity during the fourth quarter as our newly hired reps ramped towards full productivity.

With the opening of our Sema4 Lab, we have increased the square footage of our lab operations and support infrastructure by 138%. R&D was up 45% in 2021 when compared to 2020 to support growth and development within both our diagnostic testing solutions and health intelligence platform.

Looking toward the remainder of 2022, we believe we are adequately staffed and resourced to support our growth objectives. As we have discussed previously, we continue to make investments to improve operating efficiency and margins throughout the fourth quarter.

We made tangible progress across all priority areas, including portfolio optimization, implementing a new laboratory information management system and additional lab automation initiatives.

When combined with an improving reimbursement dynamic in oncology, our fastest-growing segment, we remain on the rate path towards more normalized margins through 2022. We do believe that the acquisition of GeneDx will help improve the combined company's operational excellence with best practices from each organization implemented in early days following the closing of the acquisition.

Overall, I'm excited with our progress in building the largest and most comprehensive integrated health information platform. The strategic objectives we have outlined and continue to advance provide a solid foundation for sustainable future growth. With the acquisition of GeneDx, we will further distance ourselves as a market leader in comprehensive reproductive health genomics testing solutions and will be positioned to revolutionize patient care delivery.

I am confident in our ability to deliver on our plans and drive differentiated insights with the potential to dramatically improve the standard of care for all. I would now like to turn the call over to Isaac for an update on our financial results and guidance. Isaac?

Isaac Ro^ Thank you, Eric. Turning to our fourth quarter and full year 2021 financial results. Total revenue for the fourth quarter of 2021 was $57.8 million, down 10% compared to $64 million in the fourth quarter of 2020. Diagnostic test revenue was $56.1 million in the fourth quarter of 2021, down 9% compared to $61.6 million in the same period of 2020.

COVID-19 testing revenue in Q4 was $10.5 million, down 59% year-over-year, but was up 151% sequentially from the third quarter of 2021. Other revenue totaled $1.7 million in the fourth quarter of 2021 compared to $2.4 million in the fourth quarter of 2020. Excluding COVID-19, total revenue for the company in the fourth quarter of 2021 was up 24% year-over-year.

Total revenue for 2021 was $212.2 million, up 18% compared to $179.3 million in 2020. Diagnostic test revenue was $205.1 million in 2021, up 17% compared to $175.4 million in 2020. COVID-19 testing revenue in 2021 was $34.4 million, representing an annual increase of 4.8%.

For the full year, other revenue totaled $7.1 million in 2021 compared to $4 million in 2020. The increase was mainly attributable to growth in collaboration service activities related to new partnerships with Biopharma. Excluding COVID-19, total revenue for the full year of 2021 was up 21%.

Turning to volumes. We resulted approximately 83,000 diagnostic tests during the fourth quarter of 2021, excluding COVID-19. That was up 37% compared to the same period in 2020. We recorded 142% volume growth in oncology and this category now accounts for 6% of our total volume, excluding COVID-19.

Women's health volumes grew 33% in the fourth quarter compared to the same period in 2020. For the full year of 2021, we resulted approximately 292,000 diagnostic tests, excluding COVID-19, up 41% compared to the full year of 2020.

I would now like to spend a minute discussing our path to driving improved gross margins. I'm pleased to report that we have reclassified certain P&L expenses in conjunction with the filing of our 2021 10-K. Please see the reclassification section of the 10-K for additional detail.

The following items reflect these reclassifications. Cost of services was $16.6 million in the fourth quarter of 2021 compared to $69.6 million in the same period of 2020. The decrease was driven by lower volumes in our COVID-19 business and lower stock-based compensation

expense, partially offset by increased headcount, investments in systems, higher logistical and supply costs due to increased volumes in our non-COVID-19 business.

We anticipate these new investments will enable us to support continued volume growth with significantly higher cost efficiencies over time.

Cost of services was $228.8 million for full year 2021 compared to $175.3 million for the full year of 2020. The increase was driven by increased stock-based compensation expense, increased headcount and increase in logistical expenses as a result of our expanded operations.

As a result of the reclassifications mentioned earlier, our adjusted gross margin in Q4 was 0% and positive 3% for the full year 2021. On a dollar basis, adjusted cost of services, which excludes stock-based compensation expense and other onetime COVID-19 related expense, was $58 million for the fourth quarter of 2020 compared to $43.5 million in the same period of 2020. Adjusted cost of services was $206.2 million for the full year of 2021 compared to $142.8 million for the full year of 2020.

Operating expenses for the fourth quarter of 2021 were $113 million compared to operating expenses of $119 million for the fourth quarter of 2020. The decrease in operating expenses was due in part to higher personnel-related costs as we built out our laboratory operations and further invested in our Health Intelligence platform as well as incremental public company expense, offset by lower stock-based compensation expense.

Operating expenses for the full year of 2021 were $429.5 million compared to operating expenses of $246 million for the full year of 2020. Adjusted operating expenses, which excludes stock-based compensation for the fourth quarter of 2021 were $78.6 million compared to $38.9 million for the same period of 2020.

Adjusted operating expenses, which excludes stock-based compensation expense and other nonrecurring transaction expenses for the full year of 2021 were $227.2 million compared to $138.7 million for the full year of 2020.

Net loss for the fourth quarter of 2021 was $40.2 million as compared to a net loss of $125.7 million for the same period of 2020. Fourth quarter 2021 net loss included other income of $76.2 million, tied to the decrease in liabilities associated to warrant and earn-out contingent liabilities recorded in connection with the merger with CM Life Sciences.

Net loss for the full year 2021 was $245.4 million compared to a net loss of $241.3 million for the full year of 2020. Turning to the balance sheet. Total cash and cash equivalents was $400.6 million as of December 31, 2021.

Now turning to guidance. Our current revenue volume and gross margin guidance excludes any contribution from the pending acquisition of GeneDx. We expect our full year 2022 resulted volume growth will exceed 20% versus full year 2021, excluding COVID-19 testing. Full year 2022 adjusted gross margin is expected to exceed 10%.

We expect gross margin to improve throughout the course of the year with gross margin higher in the second half of 2022 than the first half of 2022, with Q4 being the highest gross margin for

2022. Turning to share count. We estimate the full year 2022 weighted average basic share count for Sema4 will be in the range of 247 million to 250 million shares on a stand-alone basis.

Regarding GeneDx, we continue to expect to close in the second quarter of 2022. On a pro forma basis, we expect the 2 companies would deliver a combined total of approximately $350 million in revenue for the full year 2022. This implies $220 million for Sema4 and the midpoint of our guidance range and $130 million for GeneDx.

We have provided these figures to illustrate the scale of the combined company's revenue base as if they were combined retroactive to January 1, 2022.

As a reminder, Sema4 revenue for 2022 will only include a prorated amount of GeneDx's $130 million in 2022 revenue based on the expected timing of the acquisition's closing. We will provide formal 2022 revenue guidance for the combined company after the deal closes.

On a pro forma share count -- our pro forma share count will incorporate an additional 130 million shares that will be issued in conjunction with the closing of the GeneDx acquisition. Meaning our share count at the time of deal close will be approximately $377 million to $380 million.

Our full year 2020 weighted average share count will be lower based on the timing of the deal close. This includes 80 million shares issued OpCo, a parent of GeneDx and 50 million shares that will be issued to investors that have subscribed to our $200 million pipe, which we funded upon the closing of the GeneDx acquisition.

This does not include any shares that may be issued in conjunction with potential milestone payments for OpCo after the closing. Long term, we continue to expect the combined company will deliver compounded revenue growth of 30% or higher, 50% gross margins and positive free cash flow by the end of 2025. Now I'll turn it back to our Founder and CEO, Eric Schadt.

Eric Schadt^ Excellent, Isaac. In summary, I am proud of our substantial progress during the year. We are on the right path to build and leverage the most comprehensive clinically relevant data set and make precision medicine as standard of care for health systems.

I would now like to open the call to any questions. Operator?

**QUESTIONS AND ANSWERS**

Operator^ (Operator Instructions) Our first question comes from Brandon Couillard of Jeffries.

Brandon Couillard^ Maybe just start with Eric. In terms of the health systems, it'd be great to just maybe get some more detail, some more color on how you think those relationships are progressing? And I'm just trying to get a feel for how much these are contributing today, what the right metrics are that we should look at and where you kind of see those partnerships that you have today advancing over the next 12 months?

Eric Schadt^ Yes. Again, we're like super pleased with the health system partnerships we formed today and the performance between the Mount Sinai system, North Shore and Avera in

terms of testing volume now accounts for a substantial percentage of the testing volume. So the uptake and drive into those systems is going well.

We talked about the level of uptake in the North Shore system with respect to the genomic health screening as part of their population health program and the amount of translation of those screenings into heritable cancer screening. So that's all gone amazing and having over 90%.

Not only 90% of those primary care physicians ordering that testing, but over 80% indicating changes, substantial increases in standard of care, like are amazing.

We've launched as well as a protocol, precision oncology protocol with Avera that's now recruiting at a really good clip. And so all of that kind of standardizing the genomic testing across a broad array of diseases and conditions continues to go very well and increasing engagement as well around the data and collaborating with the systems around the data and how the kind of restructuring and annotation and Sema4 can do can drive value back.

So in my view, we're straight on track. And what I would look for over the next 12 months or first of all, bringing on 1 or a couple of new systems and then also growing the information asset, getting more and more partnership around the data, growing also the patient base and the volume of testing.

Isaac Ro^ Yes. Brandon, I'd just add one more thing to that answer, which is that Eric called out in the script, this founder Health System Consortium that we held at the beginning of March. I want to underscore that event as something that's really special in the industry because it was really a unique opportunity to get all of these health systems with whom we're partnered together in the same room multiple representatives from each institution.

And that really, we think, is going to start creating this flywheel effect in this go-to-market strategy that we have because now you've got partners that we're working with, helping each other, take advantage of our technology, figure out ways to apply it and implement it.

And so that's something that we think we can build upon, and we're going to be doing those quarterly. I just want to mention that because it's something that you just haven't seen before in this industry and the feedback from the partners was awesome.

Eric Schadt^ Yes, it's a great color, Isaac. -- just the ability, again, with the health system data driving that in a common data model, harmonizing those data, unifying across systems, enabling systems to cross-leverage those data to have learnings or validate learnings from other systems. So like super exciting to see that come together.

Operator^ Our next question comes from Max Masucci of Cowen and Company.

Max Masucci^ I would just be curious to start, was the deal with Biosymmetrics driven more by Sema4's core capabilities with Centrellis? Or did GeneDx's whole exome database play factor?

Eric Schadt^ Yes, driven initially completely by the Centrellis platform, engaging our partner with significant high-content screening type capabilities, the ability to experimentally validate across a broad array of experimental systems, the kinds of predictions we make and the complex

models we put together for disease, so helping validate and progress those models for better actionability, whether it's in clinical test, the clinical genomic testing or in the drug discovery partnerships we have with pharmaceutical companies, but then also better leveraging from our information assets to progress targets on our own in partnership with Biosymmetrics.

The add of GeneDx into the mix just kind of accelerates in my view, the utility of that platform, especially in the rare disorder arena where the scales of data GeneDx brings to the table and the breadth of their testing across all of the children's hospitals and kind of that rare disorder space kind of gives us definitely a strategic advantage in kind of from identifying and prioritizing targets that we may progress to finding the right patient populations to further assess those models.

Max Masucci^ That's great. And it's a bit unique. It's not necessarily sequencing as a service that's more focused around drug discovery. So I'd be curious if there is a downstream economics component of the partnership.

Eric Schadt^ Yes. So downstream, what we see is we'll have more to say on this in coming quarters, but it's advancing some of these drug discovery programs ourselves, kind of moving the ball further down the field in terms of getting to a clinically validated or preclinical model to carry forward into the clinic and then we envision pharmaceutical partners or partners in biopharma to then take up what will be deemed a much more valuable and progressed asset for faster clinical studies.

So that's kind of the -- where I would expect us to drive the most value from that program. But don't underestimate the need to have that kind of experimental platform to be validating models that we're using to deliver clinically actionable guidance as well through the genomic testing solutions so think cancer and the ability to better match patients based on their molecular profiling to the most appropriate kind of therapeutic intervention or a clinical trial like there will be utility for that platform in that arena as well.

Max Masucci^ Great. Final one for me. If you look at the attractive COGS profile in the GeneDx facility. It seems like you're well positioned to enter new liquid biopsy applications on your own or you could partner with liquid biopsy players that stand to benefit from the whole exome capability. So it would be great to hear whether you think the GeneDx lab operations opens up some new opportunities for partnerships in the liquid biopsy space?

Eric Schadt^ Yes. Yes, definitely. And exactly along the 2 fronts, you had indicated both progressing internal programs we have around liquid biopsy, and I'll know that, that exploration is not necessarily just in the oncology arena that has reproductive health components as well.

And the -- so I would say we're actively exploring and driving some internal research that way, but also partnerships, strategic partnerships with others to help progress their programs where, again, the lower COGS profile to generate some of the upfront data so you might need for MRD is highly attractive. So we have a number of those discussions going on.

Operator^ Our next question comes from Mark Massaro of BTIG.

Mark Massaro^ I guess first one is for Isaac, pretty basic, but you did report about $6 million above where you preannounced earlier in the year with nearly 3,000 tests above. Do you have visibility as to what constituted the change in actual versus pre-announced?

Isaac Ro^ Yes. Sure, Mark. Good question. So the good news there is the upside relative to our preannouncement was both within the core business as well as COVID-19. So yes, COVID-19 was the majority of the upside because we obviously had a huge bump in volume related to the Omicron wave like probably most companies in our testing group. And so that was the biggest single source.

And when we preannounced in January, we were still working through the revenue recognition piece of it. But the underlying core business of testing, likewise upside. So I would just attribute it to straight across the business relative to the plan, a little bit of market dynamic with Omicron. And I would say all that in the context of a preannouncement in mid-January when it's tough to ensure proper rev rec. So here we are in March, the books are closed and we're happy with where we landed.

Mark Massaro^ Perfect. So it sounds like you pretty much reiterated all of the numbers for the pro forma combined company with your base business and GeneDx. One nuance just to ask on, I think you initially talked about a 16% pro forma gross margin and now I think you've guided to a pro forma gross margin in excess or to exceed 10%, should we think of those 2 numbers as substantially equivalent?

And then maybe can you just expand a little bit more, Isaac, about what types of specific initiatives you have in place to really to expand gross margins in '22 and beyond.

Isaac Ro^ Yes, sure. Thanks for asking that question to clarify. So just to be very clear, the 16% number that you're referring to was pro forma for the combined company. And recall that GeneDx has higher gross margin than we do. So there was a gross margin accretion just by way of merging the companies.

Embedded within that percent number was a single-digit gross margin full year assumption for Sema4 stand-alone, right? So what that means is the 10% number that we're guiding to for stand-alone Sema4, we're actually raising our gross margin outlook a little bit for the year, in part because of the reclassification work that just got done.

So just to simplify it, we're actually raising gross margin this year that we were really working on. The first was really an accounting effort, which is now concluded with the 10-K, where we've reclassified a lot of expenses out of COGS into other areas of P&L so that we're consistent with other public companies in our peer group.

So this is a great opportunity for us to sort of catch up to best practice across the peer group so that we're more comparable to everyone else. And the result of that is a material improvement. You saw in Q3, we had a substantially negative adjusted gross margin. And then in Q4 were coming in about flat. And a lot of that -- not all of it, but a lot of it was related to the reclassification. So that's sort of the accounting piece that's done with and on a go-forward basis, our guidance reflects that.

The second category of gross margin improvement really relates to the more classical kind of operational things that you would expect that actually impact cash flow, right? The first category has no bearing on cash flow, revenue, net income. It was just classification within P&L.

But to really operationally improve the business, we're doing a bunch of things. Number 1 is we're reducing our COGS on a unit basis by focusing really on labor and reagents. I mean those are really the 2 major input costs to our business as it stands today in testing, right?

So we've made a lot of progress. We hired Tony Perez, who's our head of -- SVP of LabOps last fall, and he has spent the last 6 or so months, making a ton of progress on our lab efficiency. So I want to recognize the team for ramping a new product cycle while also getting more efficient. And so the labor piece of it is coming down significantly. -- there's room to go there with automation and that's something that's to come this year.

And then on the reagent side, we've done a lot of work to start trimming down our vendor list, get more efficient with inventory, negotiate more and in many cases, for the first time with our counterparties.

And so I certainly don't want to ignore the fact that we're facing like everybody an inflationary backdrop. But I would say for us this year, most of the conversation around input costs should be going down, not up on a unit basis because of all the opportunities in labor and in reagents and all that. So those are the things that we're doing.

I think separate from all that would be sort of what the pro forma company looks like over time. We're going to have a world-class facility that's capable of over 0.5 million NGS, clinical NGS tests a year, and we want to take advantage of that the right way, but that's nothing specific to say today that obviously, for after the deal closes.

Mark Massaro^ Perfect. So I know you're well capitalized with $400 million of cash on the balance sheet. We saw last week, I think Adaptive announced a little bit of a restructuring of their workforce.

I guess, with this decline in multiples across the industry, does that at all impact how you think about running the business either inorganically as you think about additional M&A? Or even as you look at your own operating model, to what extent are you examining costs? And I guess with that, how should we think about adjusted EBITDA playing out throughout the year?

Isaac Ro^ Yes. Good question, Mark. So a couple of things. Number one, certainly, we are very focused on ensuring that our strong position of liquidity continues, and we feel like we're in a good spot there.

And we'll certainly update the guidance that we've given around cash flow positivity over the coming months and quarters. But we've reiterated today, our goal of being cash flow positive by the end of 2025. And we think it's important to give investors that visibility on the horizon, and that's what we're building towards.

I think from there, when I -- when we think about capital deployment, we said this before as well, we've undertaken a transformative deal with GeneDx. It's a significant commitment. It's a

significant focus for us. It's critically important that we close it on a timely basis and out upon the integration really well. So that is by far mission 1 and 2 for us operationally this year.

And I think as a result, M&A, while I would never say never, it's just really a very, very high bar, extremely high for us to consider doing anything else here. We really want to focus on getting GDX right, and that's really where we're putting our energy.

So with all that said, I think your last question had to do with the pacing for the year. So I'll just say that our cash burn for the year will come down dramatically over the course of the year as we execute upon a lot of the things we've talked about, especially improving gross margin.

So I would expect there to be sort of a peak cash burn for the year and for going forward in Q1, and it should come down significantly in Q2, Q3 and Q4. And so we'll give more details on that as the year progresses. But we are very much focused on driving a clear path towards profitability and self sustainment.

Mark Massaro^ Okay. Great. And maybe just one last one (technical difficulty) or very much learning-based partnerships, right? It's learning how do we take all of the components we have, the components others have and wire together solutions for the system that delivers precision medicine as standard of care that involves advanced genomic testing solution against all diseases and conditions.

It involves helping structure and manage information and make it accessible and useful to better characterizing patients in hospital operations as well as research. So it's like there's a lot there, and we think that -- so that pipeline be thinking of it as just a handful of additional systems over the next couple of years to kind of fill out the range of possibilities that we're pursuing with respect to precision medicine and standard of care.

We think over the next year or so, especially with this consortium and having the systems working together and address common problems and ways to advance? What's common among the systems, what's idiosyncratic and requires customization and so on. So there's a lot of learnings that will happen, that will enable us to then come up with a model to scale.

And so I think until we're -- at that model, which we think will be over the next year or so, the plan is not to scale to as many systems as we can grab and it's worth noting that our LRP, everything we filed is really based on that 5 to 10 health system number and getting to the right level of uptake in partnership and driving a lot of that benefit into pharma relationships. I don't know if, Isaac, you have anything else to add?

Isaac Ro^ Yes. No, that's a great summary. Nothing to add.

Operator^ (Operator Instructions) Our next question comes from Matt Frykman of Goldman Sachs.

Unidentified Participant^ This is [Dave] on for Matt. Any additional updates you can give on progress in the biopharma business and expectations for the year?

Eric Schadt^ Yes. So we maintain a really aggressive degree of effort around discussions with a number of very large pharma around a more transformative deal that leverages or the kind of information asset we've built a high degree of interest in that, in addition to some of the drug discovery capabilities we've been demonstrating.

So I would say all of those discussions and interactions are going really well, and we continue to think that this will be a more transformative year for Sema4 with respect to pharma relationships.

That said, we also have some of the more modest moderate type deals that we keep driving around real-world evidence studies and clinical trial matching and continuing the relationship with Sanofi on helping identify the next generation of targets with and partnership with them for asthma and better characterization of asthma patients. So all in all, we're feeling really confident on that.

Unidentified Participant^ Great. And then looking forward to continued strong growth in your oncology business. Any additional color on the women's health versus oncology mix we can expect for the year?

Isaac Ro^ Yes. Maybe just high level, I would say that you're seeing the volume growth each of the last 2 quarters in oncology, triple digit. So while it's still relatively small absolute values versus the women's health business, you can clearly see that it is the fastest-growing part of our franchise, #1. And #2, we're growing much faster than the end markets. that we serve in that category.

So a lot of that's being enabled by the health system progress that we're making. Eric touched on a lot of that. So we feel really good about the opportunity for our oncology franchise going forward.

I should also remind you that from a reimbursement perspective, we had a bunch of irons in the fire this year to drive better payment so that the revenue attached with our volume starts to catch up. And if we do that, that will also be important to improving our gross margin profile in the second half of the year.

So lots going on in the oncology business on the internal side, that's really positive and worth highlighting. And as we think about the feedback that we're getting, again, the consortia that we held with our health system partners, they're really excited about what we're able to enable for them and their patients with the data that wraps around the test ourselves -- themselves.

Eric Schadt^ Yes. And maybe I just wanted to add a little on top of that, that it's -- on the women's health side, one of the big plays that we're making there and that are driving a significant part of that growth is through the oncology connection with women's health with diseases like breast and ovarian, endometrial cancer being reproductive health diseases and kind of offering our heritable cancer genomic testing solution in that arena where we're getting kind of the best uptake in more traditional OBGYN channels.

And of course, also the partnerships around the somatic tumor profiling connected that with respect to breast and ovarian. So there's a lot of connectivity, again, driving across those different channels and in particular, with the health systems.

And we'll also say to Isaac's point on the fast growth and uptake in these systems on the oncology solution is kind of representative. There is no full precision oncology solution today. Nobody really has that today.

And again, the testing is part of it, liquid biopsy may be part of it, the data as part of it, the patient engagement is part of it. But what the systems really need, what the physicians really need as a way to more effectively manage, engage that information, make decisions over time, and it's not a onetime episodic test that gets flipped. It's a way more holistic wraparound solution that we're providing.

Operator^ Thank you. I'm showing no further questions at this time. I'll turn the call back over to Eric Schadt for any closing remarks.

Eric Schadt^ Great. Thank you, Valerie, for your attention. I wanted to thank everybody on the call for the interest in Sema4 and joining us today on our fourth quarter and full year 2021 results. We look forward to keeping you all updated on our developments. So have a nice evening.

Operator^ Thank you. Ladies and gentlemen, this does conclude today's conference. Thank you all for participating. You may now disconnect. Have a great day.

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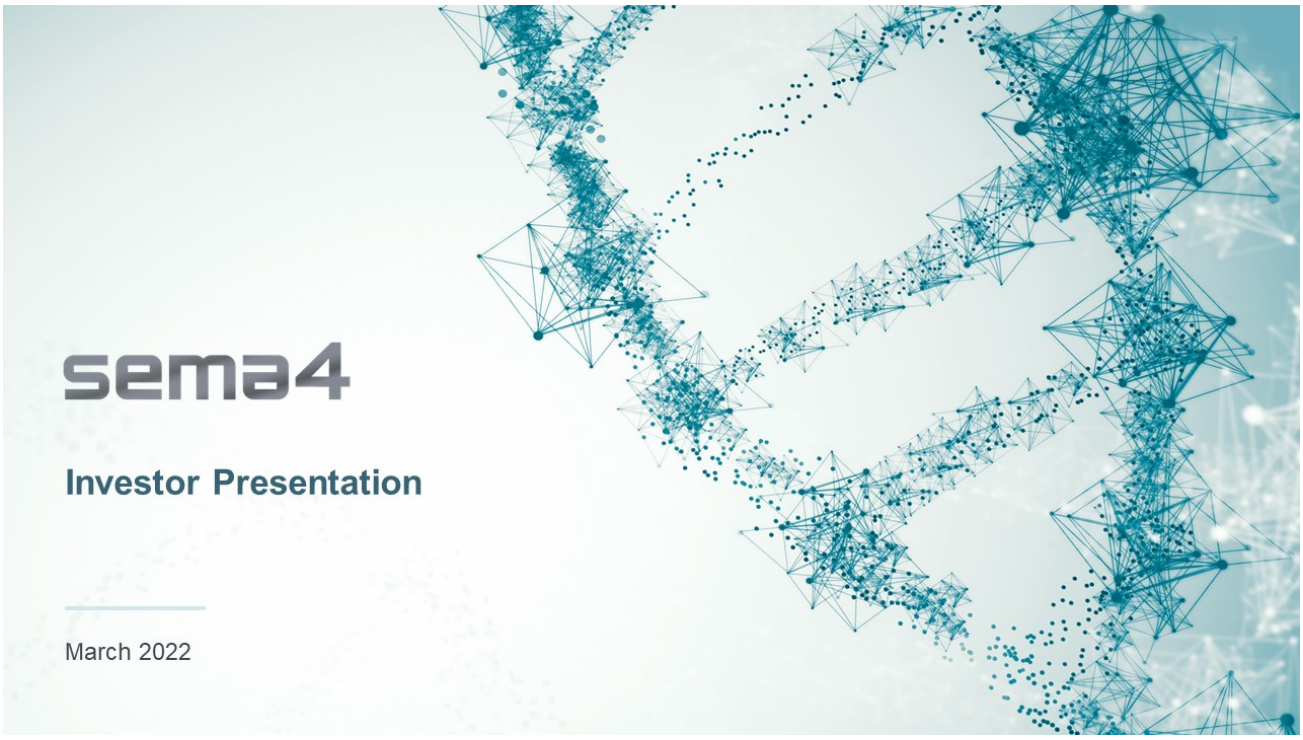
**INVESTOR PRESENTATION**

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This presentation includes non-GAAP financial measures, including Adjusted EBITDA, Adjusted Gross Profit and Adjusted Gross Margin. Adjusted EBITDA is defined (for us and GeneDx) as net loss adjusted for interest (income) expense, net, other (income) expense, net, provision for (benefit from) income taxes, gain on extinguishment of debt, depreciation and amortization and stock-based compensation expenses, and COVID-19 costs. Management believes that these non-GAAP measures of financial results are useful in evaluating the Sema4's operating performance compared to that of other companies in its industry, as this metric generally eliminates the effects of certain items that may vary from company to company for reasons unrelated to overall operating performance. Please refer to the Appendix for Non-GAAP to GAAP Reconciliation.

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## Corporate Snapshot

**World-class team**

1,200+ employees
160+ MDs/PhD's[1]

**2022 guidance**

$215-225M Sema4 standalone revenue[2]

**Unrivaled patient access**

12M de-identified records
500k+ w/ genomic profiles
300k+ clinical exomes sequenced

**Massive scale in data**

46+ petabytes managed growing at an accelerating rate

**Massive scale in NGS**

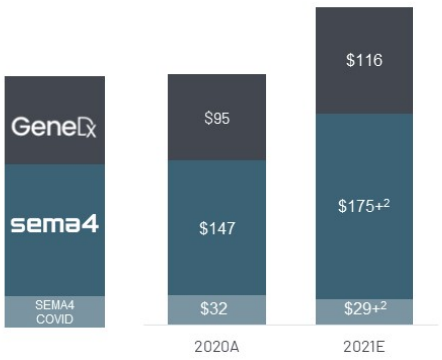
250,000+[3] tests annually



[1] Headcount as of December 31, 2021
[2] Sema4's guidance is subject to certain assumptions, risks and uncertainties. See Disclaimer on slide 2.
[3] Annualized Run Rate as of September 30, 2021

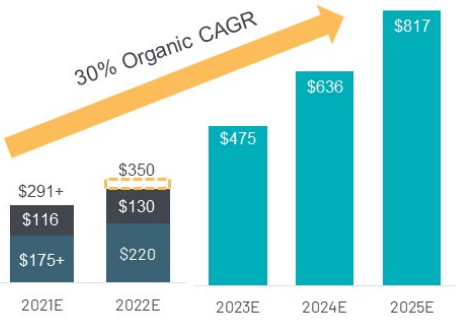
# Sema4 & GeneDx Combination Drives Growth & Profitability

**Standalone Revenue**
(Historical and Estimated, $ millions)




**Pro Forma** (ex-COVID, $ millions)

**Long-Term Growth**




| | 2021E | 2022E | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Revenue Growth[3] | +20% | +21% | +36% | +34% | +28% |
| Adjusted Gross Margin | 5% | 16% | 33% | 43% | 50% |
| Proforma FCF[4] ($mm) | ($226) | ($271) | ($199) | ($99) | $33 |

2022 GeneDx milestone target is $163M vs GeneDx revenue guidance of $130M[5]

[1] Estimated and pro forma results non-GAAP and are subject to certain assumptions, risks and uncertainties. See Disclaimer on slide 2.
[2] Based on Sema4's FY2021 Guidance of $204-206M which includes COVID-19 revenue
[3] Revenue growth excludes COVID-19 revenue
[4] Proforma FCF excludes one-time transaction and integration expenses
[5] Milestone payment triggers at 90% of threshold



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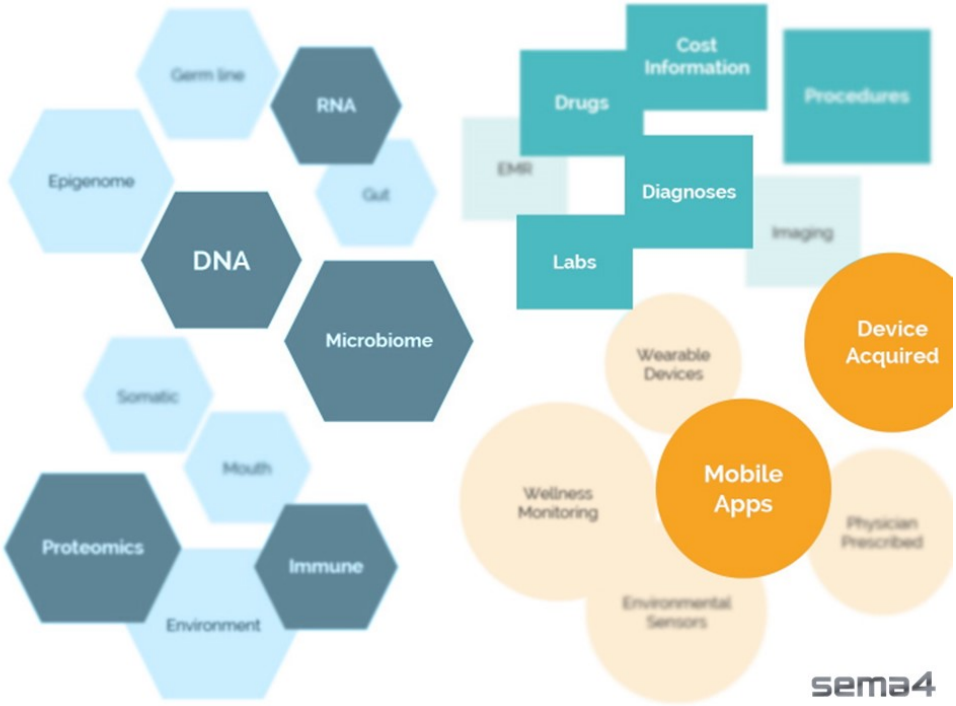
# The Problem

## Rapid advances in Genomics & AI...

## ...but limited impact on patients



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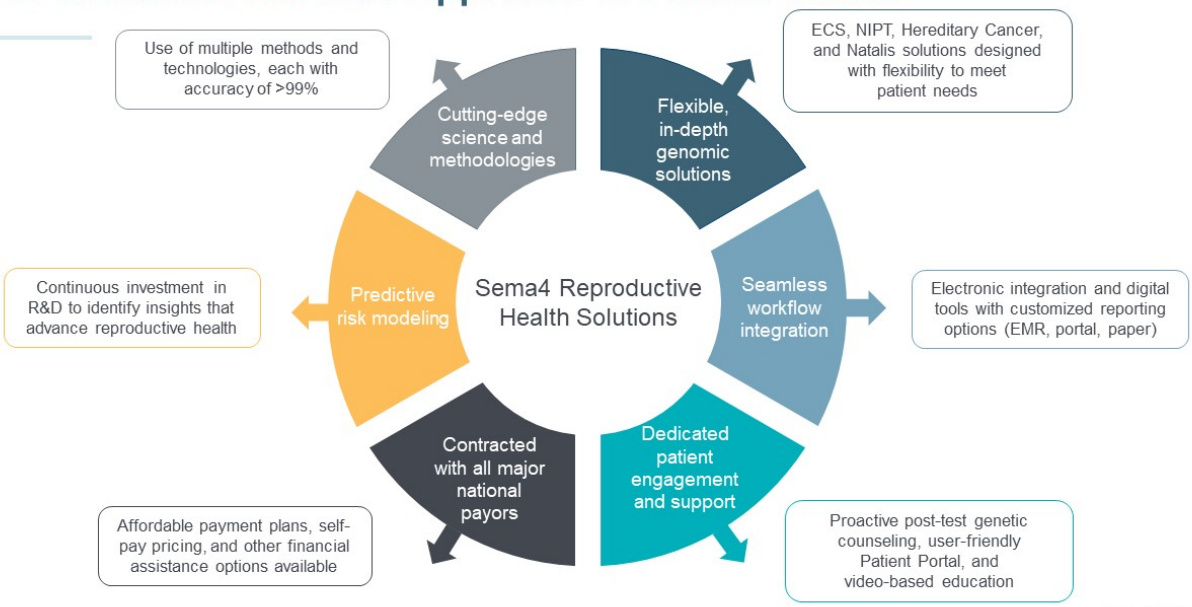
## Our Solution: A Holistic Approach to Patient Care…



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## …Combined with Centrellis, our Flywheel for Patient Data and Insights




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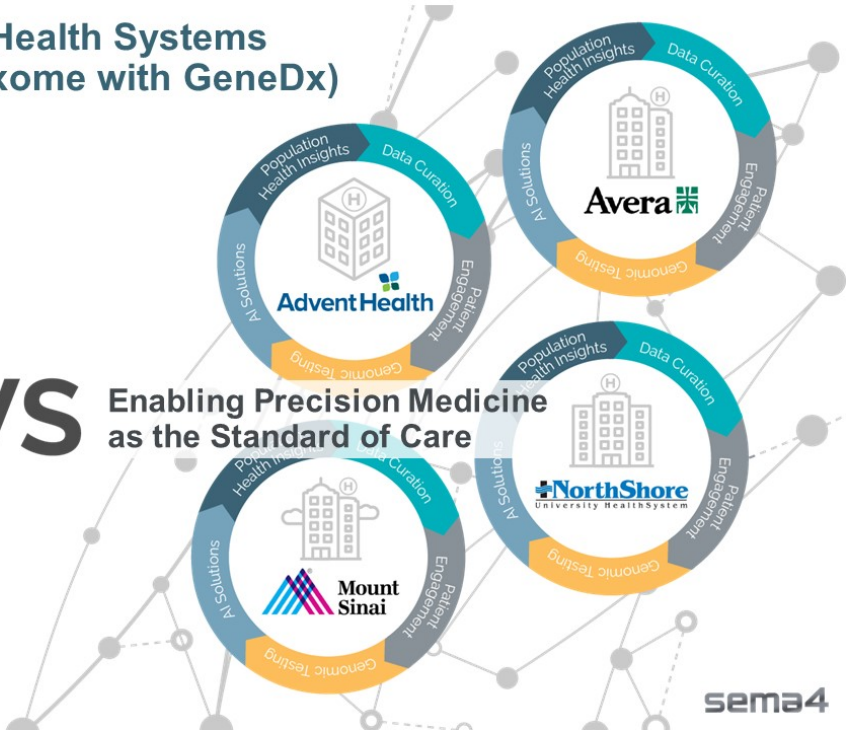
## Deep Partnership with Health Systems (Accelerating clinical exome with GeneDx)

**Conventional Genomics Model**

- narrow menu
- sold direct to physicians
- no (or limited) data integration
- no or limited patient engagement

VS

**Enabling Precision Medicine as the Standard of Care**



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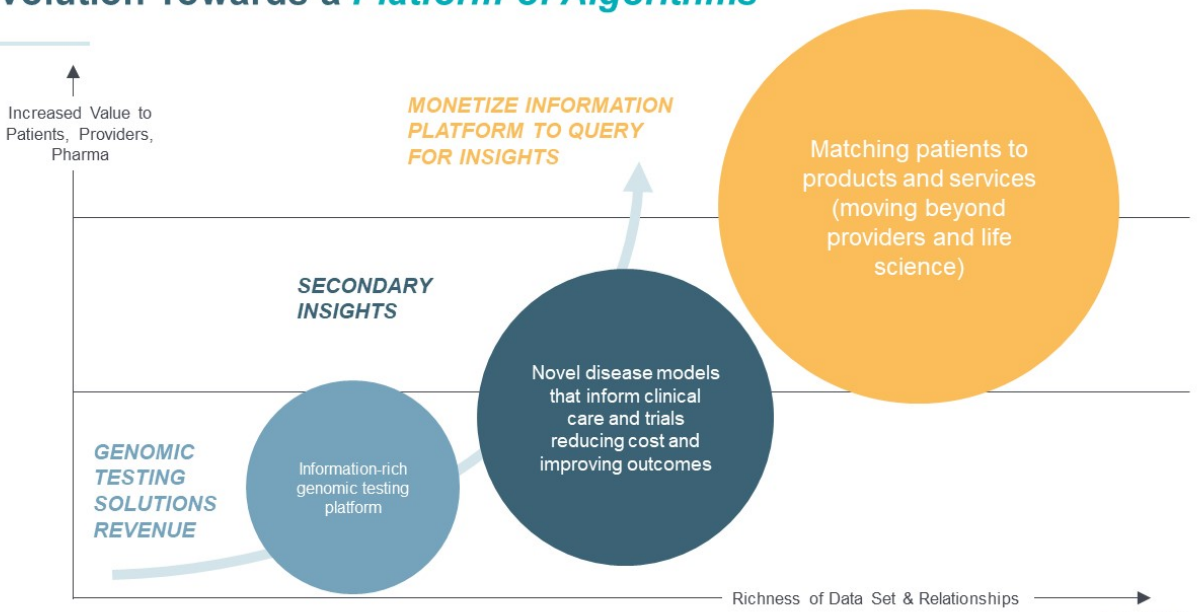
## Evolution Towards a *Platform of Algorithms*



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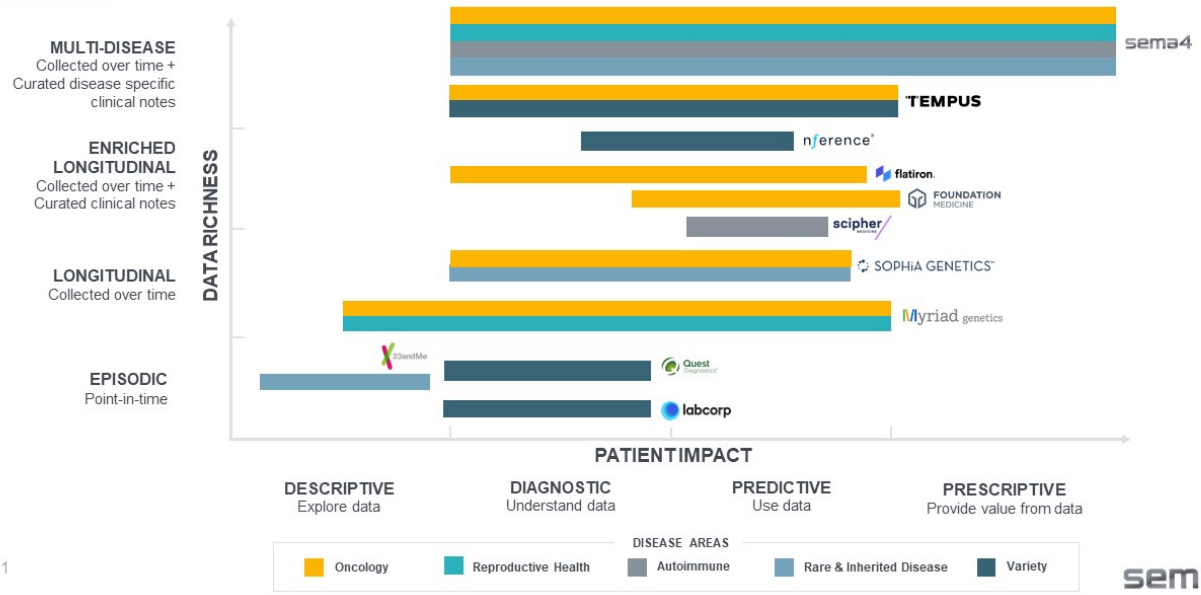
# The Value of Data: Must be Longitudinal and Prescriptive



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# Traction with Health Systems Remains Robust

**Founder Health System Consortium**

- Held 1st Founder Health System Consortium
- Network is building a combined point of view that will help the industry understand the power of shared data
- Meetings will be held quarterly

**NorthShore**

- Continuing to scale population health screening program
- Ran over 1,800 hereditary cancer screening tests for patients since the program's launch
- Leveraging insights to create new algorithms and care pathways to implement at NorthShore

**Avera**

- Launched ASAP (Avera Health/Sema4 Oncology and Analytics Protocol)
- Curated the initial clinical data set combining it with the genomic findings and creating initial clinical quality dashboards



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# Enabling Biopharma Partners and Customers

**SEMA4 OFFERING**

| Clinical trial matching | SaaS-based licensing | Deep Partnerships leveraging data science |
|---|---|---|

| LEAD IDENTIFICATION | EARLY CLINICAL | PROTOCOL OPTIMIZATION | REAL WORLD DATA |
|---|---|---|---|
| Drive increased probability of success and terminate bad molecules sooner | Reduce trial duration, minimize dose finding / escalation, better patient selectivity | Maximize trial opportunity, reduce time to market, and optimize market access | Characterize patient journeys and diagnostic odysseys |

| Research | Preclinical | Phase I | Phase II | Phase III | Phase IV / RWE |
|---|---|---|---|---|---|

DISCOVERY — DEVELOPMENT — COMMERCIALIZATION →



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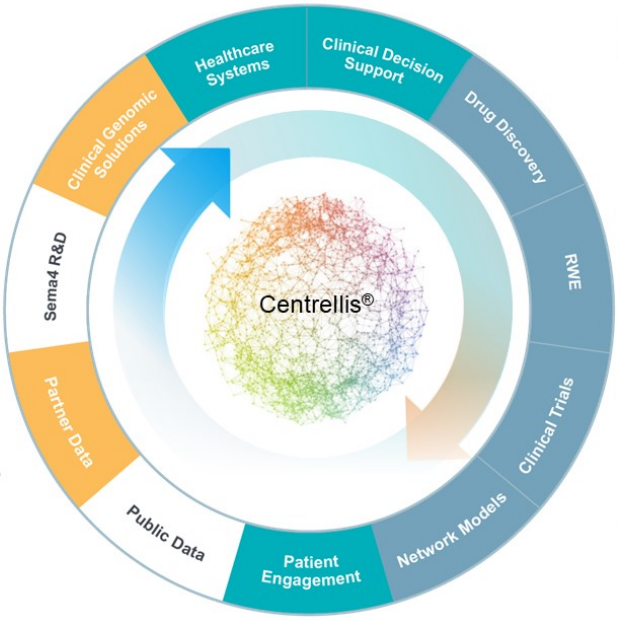
# Enhancing Our Reach into Health Systems & Biopharma

sema4 + GeneDx




- Health System Dominant Partnership
- Pharma Dominant Partnership
- HS-Pharm Synergistic Partnership

gsk
Molecular Profiling and Real-World Evidence

Merus
Patient ID and Recruitment

SANOFI
Drug Discovery Collaboration

janssen
Clinical Trial Match and Recruitment into Trials w/Health System Partners

Lilly
Precision Medicine Drug Screening Collaboration



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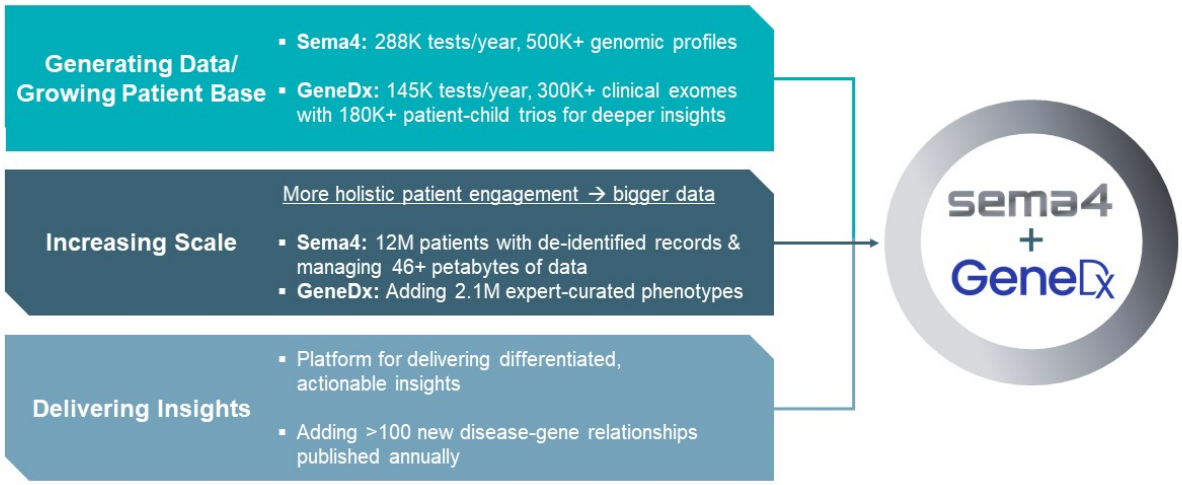
# A Market-Leading AI-Driven Genomic & Clinical Data Platform



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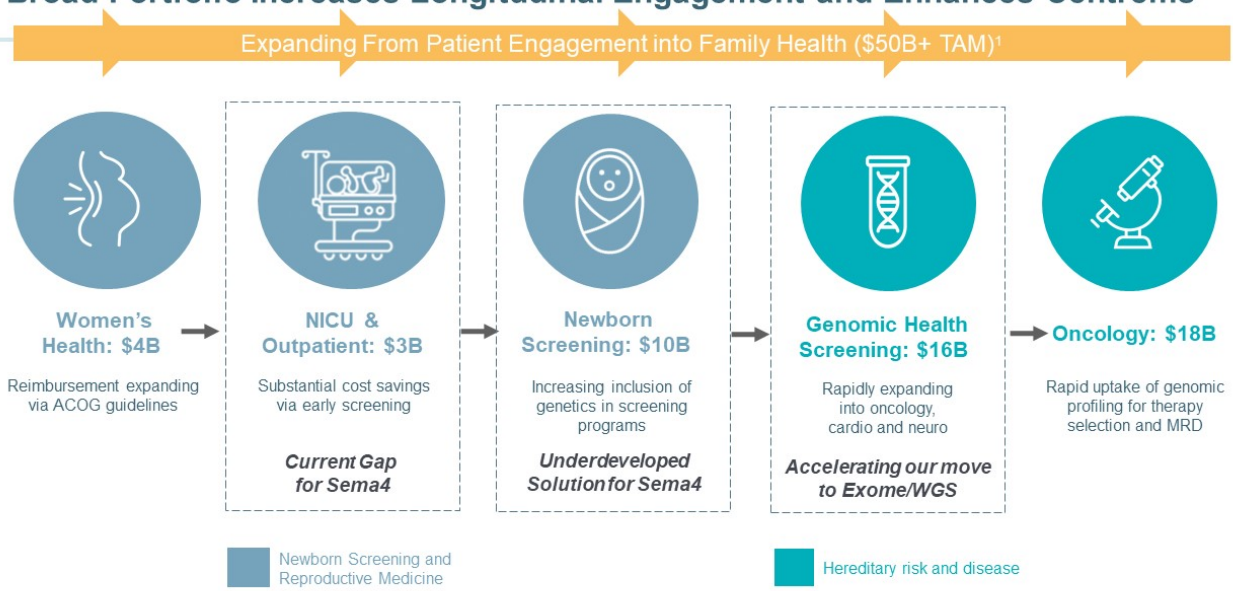
# Broad Portfolio Increases Longitudinal Engagement and Enhances Centrellis®






[1] Addressable Markets Source: Company Estimates

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## Strong Close to FY2021

**4Q Resulted Volume**

**Resulted approximately 83,000 tests excluding COVID-19**

*Implies volume growth of 37% YoY and 19% QoQ*

**4Q Total Revenue**

**Generated $58 million of revenue**

*24% growth YoY excluding COVID-19 revenue[1]*

**4Q Balance Sheet**

**$401 million in Cash & Cash Equivalents as of 12/31/21**

[1] 4Q21 Revenue excluding COVID-19 was $47.3 million



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## Operational Improvements: Key Highlights and Future Focus

### Lab Operations

**Key Actions**

- Hired seasoned SVP Lab Operations
- Key investments in Lab Automation

**Areas of Focus in 2022**

- Improve turn-around-times
- Portfolio optimization

### Commercial Reach

**Key Actions**

- Increased salesforce headcount by 84% in 2021

**Areas of Focus in 2022**

- New products open additional channel opportunities
- Health system entry points drive growth in oncology

### Pharma & Data

**Key Actions**

- Hired Chief Data & Chief Science Officers
- Announced hiring of Chief Medical Science Officer
- Submitted the Centrellis HITRUST validated assessment to HITRUST for final CSF certification in 2022

**Areas of Focus in 2022**

- C-Suite Focus shift to Pharma Development & Data Monetization



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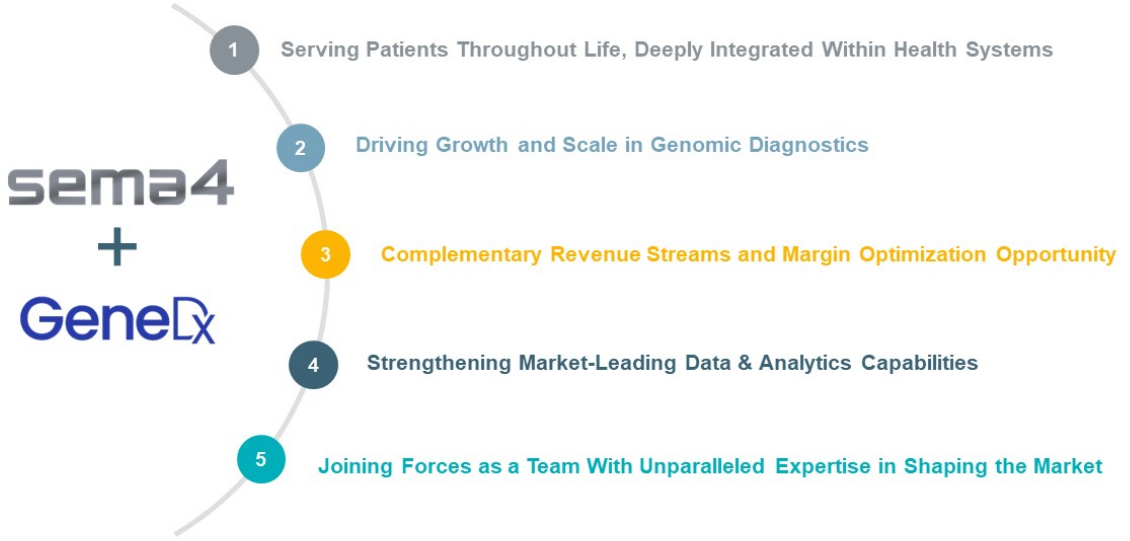
## Creating the Leading Genomic Data Platform, from Generation to Insights



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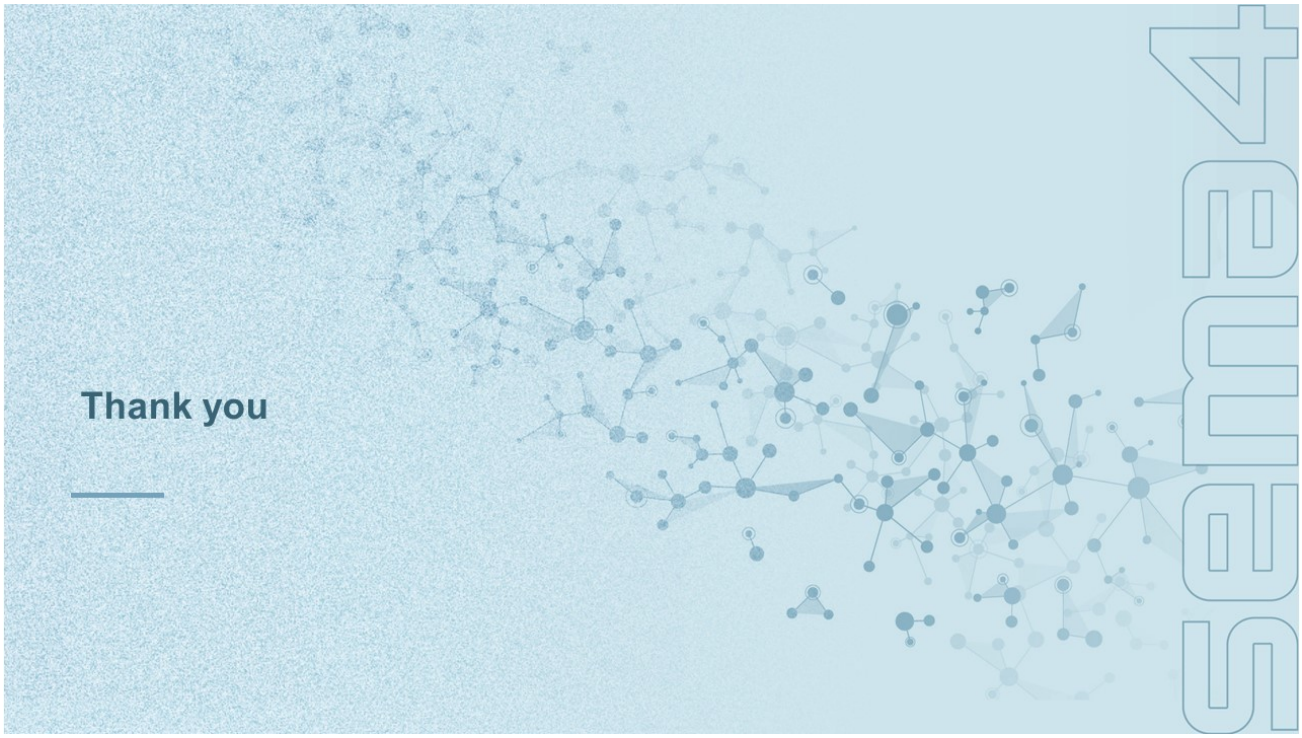


## Historical COVID Revenue Mix

% of Total Revenue[1]

| | 1Q20 | 2Q20 | 3Q20 | FY20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 |
|---|---|---|---|---|---|---|---|---|
| Diagnostic Test | 99% | 93% | 84% | 79% | 73% | 87% | 86% | 79% |
| COVID | 0% | 6% | 14% | 18% | 25% | 8% | 10% | 18% |
| Other | 1% | 1% | 2% | 2% | 2% | 4% | 4% | 3% |



[1] Certain periods do not add to 100% due to rounding

# Non-GAAP Gross Margin Reconciliation

USD in thousands

| | FY2020 (Restated[3]) | | | | | FY2021 (Restated[3]) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1Q | 2Q | 3Q | 4Q | FY | 1Q | 2Q | 3Q | 4Q | FY |
| Revenue | 46,655 | 30,102 | 38,608 | 63,957 | 179,322 | 64,201 | 47,015 | 43,178 | 57,801 | 212,195 |
| Cost of Service | 37,138 | 34,505 | 34,022 | 69,631 | 175,296 | 68,524 | 48,179 | 51,487 | 60,607 | 228,797 |
| **Gross (Loss) Profit** | **9,517** | **(4,403)** | **4,586** | **(5,674)** | **4,026** | **(4,323)** | **(1,164)** | **(8,309)** | **(2,806)** | **(16,602)** |
| Gross Margin | 20% | (15%) | 12% | (9%) | 2% | (7%) | (2%) | (19%) | (5%) | (8%) |
| Stock-based compensaton | 23 | (29) | 3,256 | 9,692 | 12,942 | 18,475 | (306) | 1,779 | 2,619 | 22,567 |
| COVID-19 costs [1] | - | 3,179 | - | - | 3,179 | - | - | - | - | - |
| Other [2] | - | - | - | 16,391 | 16,391 | - | - | - | - | - |
| **Adjusted Gross (Loss) Profit** | **9,540** | **(1,253)** | **7,842** | **20,409** | **36,538** | **14,152** | **(1,470)** | **(6,530)** | **(187)** | **5,965** |
| *Adjusted Gross Margin* | 20% | (4%) | 20% | 32% | 20% | 22% | (3%) | (15%) | (0%) | 3% |

(1) Represents labor costs in respect laboratory employees' downtime. During the second quarter of 2020, we did not reduce the workforce in our laboratory due to the COVID-19 pandemic. However, we suffered significantly due to the decrease in volume in Women's Health and other products. Accordingly, we have adjusted our Gross Profit to reflect the management-assessed impact from the decrease in productivity of existing laboratory employees due to the COVID-19 pandemic in the second quarter of 2020.

(2) Represents labor costs in respect of laboratory employees' time spent to support our laboratory move from New York City to Stamford, Connecticut in 2020. During the move, our laboratory employees dedicated their time to re-validating and re-establishing instruments and equipment, rebuilding interface, obtaining a CLIA license, and other tasks to make sure the move was done correctly. For GAAP purposes we included these activities in Cost of Services. However, as the laboratory move and effort spent by our employees are one-time activities, we adjusted our Gross Profit to reflect management's view of our normal operations.

(3) Certain expenses were previously misclassified as cost of services. These expenses are now reported as selling and marketing. This adjustment has no impact on total revenue, loss from operations, net loss and comprehensive loss or net loss per share. Refer to Note 2, "Summary of Significant Accounting Policies" to our consolidated financial statements that is included in our 2021 10-K that will be filed on March 14, 2022 for further information.



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# Non-GAAP EBITDA Reconciliation

USD in thousands

| | FY2020 (Restated[6]) | | | | | FY2021 (Restated[6]) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1Q | 2Q | 3Q | 4Q | FY | 1Q | 2Q | 3Q | 4Q | FY |
| Net Profit (Loss) | (26,990) | (32,052) | (56,615) | (125,683) | (241,340) | (191,775) | (46,161) | 32,731 | (40,185) | (245,390) |
| Interest expense, net [1] | 240 | 539 | 574 | 615 | 1,968 | 702 | 713 | 656 | 685 | 2,756 |
| Depreciation and amortization | 2,398 | 2,682 | 3,067 | 3,587 | 11,734 | 4,902 | 5,619 | 5,491 | 5,795 | 21,807 |
| Stock-based compensation expense | 815 | (195) | 29,453 | 90,158 | 120,231 | 164,962 | (519) | 18,011 | 36,967 | 219,421 |
| Transaction costs [2] | - | - | - | - | - | 1,954 | 3,151 | 391 | - | 5,496 |
| Change in fair market value of warrant and earn-out contingent liabilities [3] | - | - | - | - | - | - | - | (122,171) | (76,230) | (198,401) |
| Other (income) expense, net [4] | (22) | (2,617) | 26 | (9) | (2,622) | (5,584) | - | 343 | (50) | (5,291) |
| COVID-19 costs [5] | - | 3,179 | - | - | 3,179 | - | - | - | - | - |
| **Adjusted EBITDA** | **(23,559)** | **(28,464)** | **(23,495)** | **(31,332)** | **(106,850)** | **(24,839)** | **(37,197)** | **(64,548)** | **(73,018)** | **(199,602)** |

(1) Represents the total of interest expense related to our capital leases and interest-bearing loans and interest income on money market funds.

(2) Represents professional service costs incurred in connection with pursuing the business combination transaction that did not meet the requirement for capitalization.

(3) For the year ended December 31, 2021, represents the change in fair market value of the liabilities associated with our public warrants, private placement warrants and the earn-out shares issuable under the terms of the merger agreement for our business combination.

(4) For fiscal year 2020 and 2021, primarily consists of funding received under the CARES Act Provider Relief Fund.

(5) Represents labor costs in respect laboratory employees' downtime. During the second quarter of 2020, we did not reduce the workforce in our laboratory due to the COVID-19 pandemic. However, we suffered significantly due to the decrease in volume in Women's Health and other products. Accordingly, we have adjusted our Gross Profit to reflect the management-assessed impact from the decrease in productivity of existing laboratory employees due to the COVID-19 pandemic in the second quarter of 2020.

(6) Certain expenses were previously misclassified as cost of services. These expenses are now reported as selling and marketing. This adjustment has no impact on total revenue, loss from operations, net loss and comprehensive loss or net loss per share. Refer to Note 2, "Summary of Significant Accounting Policies" to our consolidated financial statements that is included in our 2021 10-K that will be filed on March 14, 2022 for further information.



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