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**Up to \$75,000,000**  
**Class A Common Stock**

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We have entered into a sales agreement (the “Sales Agreement”), with TD Securities (USA) LLC (“TD Cowen”), relating to shares of our Class A common stock (the “Class A common stock”) offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our Class A common stock having an aggregate offering price of up to \$75,000,000 from time to time through TD Cowen acting as our agent.

Our Class A common stock is traded on The Nasdaq Global Select Market (the “Nasdaq”) under the symbol “WGS.” On April 26, 2024, the last reported sales price of our Class A common stock was \$11.08 per share.

Sales of our Class A common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be an “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended (the “Securities Act”). TD Cowen is not required to sell any specific number or dollar amount of securities, but will act as a sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between TD Cowen and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to TD Cowen for sales of Class A common stock sold pursuant to the Sales Agreement will be an amount up to 3.0% of the gross proceeds of any shares of Class A common stock sold under the Sales Agreement. In connection with the sale of the Class A common stock on our behalf, TD Cowen will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of TD Cowen will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to TD Cowen with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

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**We are an “emerging growth company” as defined in Section 2(a) of the Securities Act of 1933, as amended, and a “smaller reporting company” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, and, as such, have elected to comply with certain reduced disclosure and regulatory requirements. Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading “Risk Factors” on page 8 of this prospectus supplement, as well as the sections entitled “Risk Factors” beginning on page 20 of our Annual Report on Form 10-K for the year ended December 31, 2023 and beginning on page 32 of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, which reports are incorporated by reference in this prospectus supplement and the accompanying prospectus, before investing in our securities.**

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

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**TD Cowen**

The date of this prospectus supplement is April 29, 2024.

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## ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus dated September 7, 2022 are part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. Under this shelf registration process, we may from time to time sell any combination of the securities described in the accompanying prospectus in one or more offerings having an aggregate offering price of up to \$300,000,000. Under this prospectus supplement, we may from time to time sell shares of our Class A common stock having an aggregate offering price of up to \$75,000,000, at prices and on terms to be determined by market conditions at the time of the offering.

This prospectus supplement describes the terms of this offering of Class A common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus and any document incorporated by reference into this prospectus supplement and the accompanying prospectus that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference into this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

Neither we nor TD Cowen has authorized anyone to provide you with any information other than that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus or, if permitted, any related free writing prospectus to which we have referred you. Neither we nor TD Cowen takes any responsibility for, and can provide no assurance as to the reliability of, any other information others may give you. Neither we nor TD Cowen is making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus supplement and the accompanying prospectus, the documents incorporated by reference herein and therein and, if permitted, any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement and the accompanying prospectus, the documents incorporated by reference herein and therein and, if permitted, any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

Unless the context otherwise requires, references in this prospectus supplement to:

- “GeneDx Holdings” refers to GeneDx Holdings Corp., a Delaware corporation (f/k/a Sema4 Holdings Corp.);
- “Legacy GeneDx” refers to GeneDx, LLC, a Delaware limited liability company (formerly, GeneDx, Inc., a New Jersey corporation), which we acquired on April 29, 2022 (the “Acquisition”);
- “Legacy Sema4” refers to Mount Sinai Genomics, Inc. d/b/a as Sema4, a Delaware corporation, which consummated the business combination with CM Life Sciences, Inc. (“CMLS”) on July 22, 2021 (the “Business Combination”); and
- “we,” “us” and “our,” the “Company” and “GeneDx” refer, as the context requires, to:
  - o Legacy Sema4 prior to the Business Combination, and GeneDx Holdings and its consolidated subsidiaries following the consummation of the Business Combination; and
  - o Legacy GeneDx prior to the Acquisition, and GeneDx Holdings and its consolidated subsidiaries following the consummation of the Acquisition.

## WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

### Available Information

We file reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

Our website address is <http://www.genedx.com>. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus supplement.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Statements in this prospectus supplement and the accompanying prospectus about these documents are summaries, and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

### Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus supplement and the accompanying prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement and the accompanying prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus supplement and the accompanying prospectus incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on [February 23, 2024](#);
- our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2024, filed with the SEC on [April 29, 2024](#);
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on [April 29, 2024](#) (but only with respect to information required by Part III of our Annual Report on Form 10-K for the year ended December 31, 2023); and
- the description of our Class A common stock contained in our Registration Statement on Form 8-A filed with the SEC on [August 31, 2020](#), as updated by the description of our Class A common stock contained in Exhibit 4.5 to our Annual Report on Form 10-K for the year ended [December 31, 2023](#), including any subsequent amendments or reports filed for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act pursuant to this prospectus supplement and the accompanying prospectus, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and the accompanying prospectus and deemed to be part of this prospectus supplement and the accompanying prospectus from the date of the filing of such reports and documents.

We will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus supplement is delivered, upon written or oral request of such person, a copy of any or all of the documents incorporated by reference in this prospectus supplement, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents. Requests may be made by telephone at 1 (888) 729-1206, or by sending a written request to GeneDx Holdings Corp., 333 Ludlow Street, North Tower, 6th Floor, Stamford, Connecticut 06902, Attention: Investor Relations.

## PROSPECTUS SUPPLEMENT SUMMARY

*This summary highlights information contained in other parts of this prospectus supplement and the accompanying prospectus, or incorporated by reference herein and therein from our filings with the SEC listed under the heading “Where You Can Find More Information; Incorporation by Reference.” This summary may not contain all the information that you should consider before investing in our Class A common stock. You should read the entire prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, including “Risk Factors” and the financial data and related notes and other information incorporated by reference, before making an investment decision. See “Cautionary Note Regarding Forward-Looking Statements.”*

### Company Overview

GeneDx sits at the intersection of diagnostics and data science, pairing decades of genomic expertise with an ability to interpret clinical data at scale. We believe we are well-positioned to accelerate the use of genomics to enable precision medicine as the standard of care. Our initial focus is in pediatric and rare diseases, two areas in which we believe we have competitive advantages and can deliver on our vision today.

GeneDx was founded in 2000 by scientists from the National Institutes of Health whose mission was making genetic testing accessible for patients with rare diseases. The company quickly became a leader in genomics, creating the foundation for how to provide genomic information at scale and pioneering exome and genome sequencing for rare and ultra-rare genetic pediatric disorders. More than 20 years later, we have amassed one of the world’s largest rare disease data sets and remain a leader in genomics.

Today, we are powered by our industry-leading genomic interpretation platform, and we believe exome and genome testing will become the standard for diagnosis of genetic disease, with the potential to transform healthcare and improve patients’ quality of life.

### Corporate Information

We were incorporated on July 10, 2020 as a special purpose acquisition company and a Delaware corporation under the name CM Life Sciences, Inc. On September 4, 2020, CMLS completed its initial public offering. On July 22, 2021, CMLS consummated the Business Combination with Legacy Sema4. In connection with the Business Combination, CMLS changed its name to Sema4 Holdings Corp. On April 29, 2022 Sema4 Holdings Corp. acquired Legacy GeneDx and on January 9, 2023, Sema4 Holdings Corp. changed its name to GeneDx Holdings Corp. following the exits from the Legacy Sema4 somatic tumor testing and the reproductive and women’s health testing businesses during the fourth quarter of 2022 and the first quarter of 2023, respectively.

Our address is 333 Ludlow Street, North Tower, 6th Floor, Stamford, Connecticut 06902. Our telephone number is 1 (888) 729-1206. Our website address is <http://www.genedx.com>. Information contained on our website or connected thereto does not constitute part of, and is not incorporated by reference into, this prospectus supplement or the registration statement of which it forms a part.

### Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, on the effectiveness of our internal controls over financial reporting;
- reduced disclosure obligations regarding executive compensation arrangements in our periodic reports and proxy statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We will remain an emerging growth company until the earliest to occur of: (i) the last day of the fiscal year in which we have more than \$1.07 billion in annual revenue; (ii) the date we qualify as a “large accelerated filer,” with at least \$700 million of equity securities held by non-affiliates; (iii) the date on which we have issued, in any three-year period, more than \$1.0 billion in non-convertible debt securities; and (iv) December 31, 2025.

We have elected to take advantage of certain of the reduced disclosure obligations in the documents incorporated by reference in this prospectus supplement. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates was less than \$250.0 million as of June 30, 2023. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250.0 million or (ii) our annual revenue is less than \$100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we have presented only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 incorporated by reference in this prospectus supplement and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

## THE OFFERING

Class A common stock offered by us	Shares of our Class A common stock having an aggregate offering price of up to \$75,000,000.
Class A common stock to be outstanding immediately after this offering	Up to 19,353,395 shares (as more fully described in the notes following this table), assuming sales of 6,768,953 shares of our Class A common stock in this offering at an offering price of \$11.08 per share, which was the last reported sale price of our common shares on The Nasdaq Global Select Market on April 26, 2024. The actual number of shares issued will vary depending on the sales price under this offering.
Plan of distribution	“At the market offering” that may be made from time to time through our sales agent, TD Cowen. See “Plan of Distribution.”
Use of proceeds	We currently intend to use the net proceeds of this offering primarily for general corporate purposes. General corporate purposes may include additions to working capital, financing of capital expenditures, repayment or redemption of existing indebtedness, and future acquisitions and strategic investment opportunities. See “Use of Proceeds.”
Risk factors	Investing in our Class A common stock involves significant risks. See the disclosure under the heading “Risk Factors” in this prospectus supplement and under similar headings in other documents incorporated by reference into this prospectus supplement and the accompanying prospectus.
Nasdaq Global Select Market symbol	“WGS”

The number of shares of our Class A common stock shown above to be outstanding after this offering is based on 26,122,348 shares of our Class A common stock outstanding as of March 31, 2024, and excludes:

- 1,466,515 shares of Class A common stock issuable upon exercise of warrants outstanding as of March 31, 2024, with a weighted average exercise price of \$174.21 per share;
- 429,793 shares of Class A common stock issuable upon exercise of options outstanding as of March 31, 2024, with a weighted average exercise price of \$41.20 per share;
- 2,156,250 shares of common stock issuable upon vesting and settlement of restricted stock units (“RSUs”) outstanding as of March 31, 2024; and
- 2,475,940 shares of Class A common stock reserved and available for future issuance as of March 31, 2024, under our equity incentive plans, consisting of (1) 1,658,606 shares of Class A common stock reserved and available for issuance under our Amended and Restated 2021 Equity Incentive Plan (the “2021 Plan”), (2) 596,604 shares of Class A common stock reserved for issuance under our 2021 Employee Stock Purchase Plan (the “2021 ESPP”), and (3) 220,730 shares of Class A common stock reserved for issuance under our 2023 Equity Inducement Plan (the “2023 Plan”).

Except as otherwise indicated, the information in this prospectus supplement assumes no equity awards were issued under our equity incentive plans after March 31, 2024, that no outstanding warrants or options were exercised or terminated, and no outstanding RSUs vested and settled or were terminated, after March 31, 2024.

## RISK FACTORS

An investment in our securities involves a high degree of risk. You should consider the risk factors described in the “Risk Factors” sections of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, which reports are incorporated herein by reference, in addition to the factors set forth below and other information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus before purchasing any shares of our Class A common stock. We may face additional risks and uncertainties that are not presently known to us, or that we currently deem immaterial, which may also impair our business or financial condition. See “Where You Can Find More Information; Incorporation by Reference” and “Cautionary Note Regarding Forward-Looking Statements.”

### **Risks Relating to this Offering**

***If you purchase shares of our Class A common stock sold in this offering, you may experience immediate and substantial dilution in the net tangible book value of your shares. In addition, we may issue additional equity or convertible debt securities in the future, which may result in additional dilution to you.***

The price per share of our Class A common stock being offered may be higher than the net tangible book value per share of our outstanding Class A common stock prior to this offering. Assuming that an aggregate of 6,768,953 shares of our Class A common stock are sold at a price of \$11.08 per share, the last reported sale price of our Class A common stock on The Nasdaq Global Select Market on April 26, 2024, for aggregate gross proceeds of approximately \$72.6 million, and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will incur immediate dilution of \$6.84 per share. For a more detailed discussion of the foregoing, see the section entitled “Dilution” below. To the extent outstanding stock options or warrants are exercised, there will be further dilution to new investors. In addition, to the extent we need to raise additional capital in the future and we issue additional shares of Class A common stock or securities convertible or exchangeable for our Class A common stock, our then existing stockholders may experience dilution and the new securities may have rights senior to those of our Class A common stock offered in this offering.

***We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.***

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment. We expect to use the net proceeds from this offering for general corporate purposes. The failure by our management to apply these funds effectively could harm our business. Pending their use, we plan to invest the net proceeds from this offering in short-term or long-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

***The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.***

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a placement notice to TD Cowen at any time throughout the term of the Sales Agreement. The number of shares that are sold by TD Cowen after delivering a placement notice will fluctuate based on the market price of the shares of Class A common stock during the sales period and limits we set with TD Cowen. Because the price per share of each share sold will fluctuate based on the market price of our Class A common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued.

***The Class A common stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.***

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.



***Because we have no current plans to pay cash dividends on our Class A common stock for the foreseeable future, you may not receive any return on investment unless you sell your Class A common stock for a price greater than that which you paid for it.***

We intend to retain future earnings, if any, for future operations and expansion of our business and have no current plans to pay any cash dividends for the foreseeable future. The declaration, amount and payment of any future dividends on shares of Class A common stock will be at the sole discretion of our board of directors. Our board of directors may take into account general and economic conditions, our financial condition and results of operations, our available cash and current and anticipated cash needs, capital requirements, contractual, legal, tax and regulatory restrictions, implications on the payment of dividends by us to our stockholders or by our subsidiaries to us and such other factors as our board of directors may deem relevant. In addition, our ability to pay dividends may be limited by covenants in connection with any indebtedness we or our subsidiaries may incur. As a result, you may not receive any return on an investment in our Class A common stock unless you sell our Class A common stock for a price greater than that which you paid for it.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain matters discussed in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, may constitute forward-looking statements for purposes of the Securities Act and the Exchange Act, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from the future results, performance or achievements expressed or implied by such forward-looking statements. The words “anticipate,” “believe,” “estimate,” “may,” “expect” and similar expressions are generally intended to identify forward-looking statements. Our actual results may differ materially from the results anticipated in these forward-looking statements due to a variety of factors, including, without limitation, those discussed in the section entitled “*Risk Factors*,” and elsewhere in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, as well as other factors which may be identified in the documents where such forward-looking statements appear. All written or oral forward-looking statements attributable to us are expressly qualified in their entirety by these cautionary statements. Such forward-looking statements include, but are not limited to, statements about:

- our expected application of the net proceeds from this offering;
- our estimates of the sufficiency of our existing capital resources combined with future anticipated cash flows and future capital requirements to finance our operating requirements, and capital expenditures;
- our expectations for generating revenue, incurring losses, and becoming profitable on a sustained basis;
- unforeseen circumstances or other disruptions to normal business operations arising from general economic and political conditions such as recessions, rising inflation and interest rates, supply chain interruptions and manufacturing constraints, public health emergencies such as but not limited to the COVID-19 pandemic, natural disasters, acts of terrorism or other uncontrollable events;
- our expectations regarding our ability to scale to profitability, our plans to pursue a new strategic direction, and the cost savings and impact on our gross margins from exiting our reproductive and women’s business and our somatic tumor testing business;
- our ability to successfully implement our business strategy;
- our expectations or ability to enter into service, collaboration and other partnership agreements;
- our expectations or ability to build our own commercial infrastructure to scale market and sell our products;
- actions or authorizations by the U.S. Food and Drug Administration, or other regulatory authorities;
- risks related to governmental regulation and other legal obligations, including privacy, data protection, information security, consumer protection, and anti-corruption and anti-bribery;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- our ability to compete against existing and emerging technologies;
- third-party payor reimbursement and coverage decisions, negotiations and settlements;
- our reliance on third-party service providers for our data programs;
- our accounting estimates and judgments, including our expectations regarding the adequacy of our reserves for third party payor claims and our conclusions regarding the appropriateness of the carrying value of intangible assets;
- our stock price and its volatility; and
- our ability to attract and retain key personnel.

The forward-looking statements contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein reflect our views and assumptions only as of the date of this prospectus supplement, the accompanying prospectus or such document as applicable. Except as required by law, we assume no responsibility for updating any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

## **USE OF PROCEEDS**

We may issue and sell shares of our Class A common stock having aggregate sales proceeds of up to \$75,000,000 from time to time. Because there is no minimum offering amount required pursuant to the Sales Agreement, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will sell any shares under or fully utilize the Sales Agreement with TD Cowen as a source of financing.

We will retain broad discretion over the use of the net proceeds to us from the sale of our Class A common stock under this prospectus supplement and the accompanying prospectus. General corporate purposes may include additions to working capital, financing of capital expenditures, repayment or redemption of existing indebtedness, and future acquisitions and strategic investment opportunities. Pending the application of net proceeds, we expect to invest the net proceeds in investment grade, interest-bearing securities.

## DILUTION

If you invest in our Class A common stock, your interest may be diluted to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our Class A common stock immediately after this offering. Our net tangible book value of our Class A common stock as of March 31, 2024 was approximately \$38.1 million, or approximately \$1.46 per share of Class A common stock based upon 26,122,348 shares outstanding as of March 31, 2024. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the total number of shares outstanding as of March 31, 2024.

After giving effect to the sale of our Class A common stock in the aggregate amount of \$75,000,000 at an assumed offering price of \$11.08 per share, the last reported sale price of our Class A common stock on The Nasdaq Global Select Market on April 26, 2024, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2024 would have been approximately \$110.7 million, or \$4.24 per share of Class A common stock. This represents an immediate increase in net tangible book value of \$2.78 per share to our existing stockholders and an immediate dilution in net tangible book value of \$6.84 per share to new investors in this offering.

The following table illustrates this calculation on a per share basis. The as-adjusted information is illustrative only and will adjust based on the actual price to the public, the actual number of shares sold and other terms of the offering determined at the time shares of our Class A common stock are sold pursuant to this prospectus supplement and the accompanying prospectus. The as-adjusted information assumes that all of our Class A common stock in the aggregate amount of \$75,000,000 is sold at the assumed offering price of \$11.08 per share, the last reported sale price of our Class A common stock on The Nasdaq Global Select Market on April 26, 2024. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed public offering price per share	\$	11.08
Net tangible book value per share as of March 31, 2024	\$	1.46
Increase in net tangible book value per share attributable to the offering		2.78
As adjusted net tangible book value per share after giving effect to the offering		4.24
Dilution per share to new investors participating in the offering	\$	6.84

The number of shares of our Class A common stock shown above to be outstanding after this offering is based on 26,122,348 shares of our Class A common stock outstanding as of March 31, 2024, and excludes:

- 1,466,515 shares of Class A common stock issuable upon exercise of warrants outstanding as of March 31, 2024, with a weighted average exercise price of \$174.21 per share;
- 429,793 shares of Class A common stock issuable upon exercise of options outstanding as of March 31, 2024, with a weighted average exercise price of \$41.20 per share;
- 2,156,250 shares of common stock issuable upon vesting and settlement of RSUs outstanding as of March 31, 2024; and
- 2,475,940 shares of Class A common stock reserved and available for future issuance as of March 31, 2024, under our equity incentive plans, consisting of (1) 1,658,606 shares of Class A common stock reserved and available for issuance under the 2021 Plan, (2) 596,604 shares of Class A common stock reserved for issuance under the 2021 ESPP, and (3) 220,730 shares of Class A common stock reserved for issuance under the 2023 Plan.

Except as otherwise indicated, the information in this prospectus supplement assumes no equity awards were issued under our equity incentive plans after March 31, 2024, that no outstanding warrants or options were exercised or terminated, and no outstanding RSUs vested and settled or were terminated, after March 31, 2024.

## PLAN OF DISTRIBUTION

We have entered into a Sales Agreement with TD Cowen, under which we may issue and sell from time to time up to \$75,000,000 of our Class A common stock through or to TD Cowen as our sales agent. Sales of our Class A common stock, if any, will be made at market prices by any method that is deemed to be an “at the market offering” as defined in Rule 415 under the Securities Act. Sales pursuant to the Sales Agreement may be made through an affiliate of TD Cowen.

TD Cowen will offer our Class A common stock subject to the terms and conditions of the Sales Agreement on a daily basis or as otherwise agreed upon by us and TD Cowen. We will designate the maximum amount of Class A common stock to be sold through TD Cowen on a daily basis or otherwise determine such maximum amount together with TD Cowen. Subject to the terms and conditions of the Sales Agreement, TD Cowen will use its commercially reasonable efforts to sell on our behalf all of the shares of Class A common stock requested to be sold by us. We may instruct TD Cowen not to sell Class A common stock if the sales cannot be effected at or above the price designated by us in any such instruction. TD Cowen or we may suspend the offering of our Class A common stock being made through TD Cowen under the Sales Agreement upon proper notice to the other party. TD Cowen and we each have the right, by giving written notice as specified in the Sales Agreement, to terminate the Sales Agreement in each party’s sole discretion at any time.

The aggregate compensation payable to TD Cowen as sales agent equals up to 3.0% of the gross sales price of the shares sold through it pursuant to the Sales Agreement. We have also agreed to reimburse TD Cowen up to \$75,000 of TD Cowen’s actual outside legal expenses incurred by TD Cowen in connection with this offering. We estimate that the total expenses of the offering payable by us, excluding commissions payable to TD Cowen under the Sales Agreement, will be approximately \$0.3 million.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such Class A common stock.

TD Cowen will provide written confirmation to us following the close of trading on Nasdaq on each day in which Class A common stock is sold through it as sales agent under the Sales Agreement. Each confirmation will include the number of shares of Class A common stock sold through it as sales agent on that day, the volume weighted average price of the shares sold, the percentage of the daily trading volume and the net proceeds to us.

We will report at least quarterly the number of shares of Class A common stock sold through TD Cowen under the Sales Agreement, the net proceeds to us and the compensation paid by us to TD Cowen in connection with the sales of Class A common stock.

Until May 28, 2024, settlement for sales of Class A common stock will occur, unless the parties agree otherwise, on the second business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. After May 28, 2024, settlement for sales of Class A common stock will occur, unless the parties agree otherwise, on the first business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sales of our Class A common stock on our behalf, TD Cowen will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to TD Cowen will be deemed to be underwriting commissions or discounts. We have agreed in the Sales Agreement to provide indemnification and contribution to TD Cowen against certain liabilities, including liabilities under the Securities Act. As sales agent, TD Cowen will not engage in any transactions that stabilizes our Class A common stock.

Our Class A common stock is listed on Nasdaq and trades under the symbol “WGS.” The transfer agent of our Class A common stock is Continental Stock Transfer & Trust Company.

TD Cowen and/or its affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees.

## **LEGAL MATTERS**

Fenwick & West LLP, New York, New York, will pass upon certain legal matters relating to the issuance and sale of the shares of Class A common stock offered hereby on behalf of GeneDx Holdings Corp. TD Cowen is being represented in connection with this offering by DLA Piper LLP (US), San Diego, California.

## **EXPERTS**

The consolidated financial statements of GeneDx Holdings Corp. appearing in GeneDx Holdings Corp.'s Annual Report on Form 10-K for the year ended December 31, 2023, have been audited by Ernst & Young LLP, an independent registered public accounting firm, as set forth in their report thereon included therein, and incorporated herein by reference. Such financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated herein in reliance upon the report of Ernst & Young LLP pertaining to such financial statements (to the extent covered by consents filed with the Securities and Exchange Commission) given on the authority of such firm as experts in accounting and auditing.



**Up to \$75,000,000**

**Class A Common Stock**

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**PROSPECTUS SUPPLEMENT**

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**TD COWEN**

**April 29, 2024**

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