

UTILIZATION AND REIMBURSEMENT OF COVID-19 MOLECULAR MULTIPLEX TESTING IN THE COMMERCIAL HEALTH INSURANCE MARKET

Commissioned by Pfizer, Inc.

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COVID-19 led to 900,000 hospitalizations in the U.S. in 2023 alone.¹ There are several types of COVID-19 tests approved in the U.S. Testing may consist of COVID-19 only or multiplex (which includes COVID-19 and an additional target such as influenza) and may involve molecular² or antigen methods. We examined utilization and reimbursement patterns of COVID-19 tests³ in the commercially-insured population.

¹ <https://www.cdc.gov/ncird/whats-new/changing-threat-covid-19.html>. Accessed July 10, 2024.

² Molecular testing refers to nucleic acid amplification technology such as reverse transcription polymerase chain reaction (RT-PCR) and rapid isothermal amplification.

³ This analysis is limited to testing performed by healthcare providers as captured in administrative claims data; results do not reflect over-the-counter tests self-administered by individuals at home.

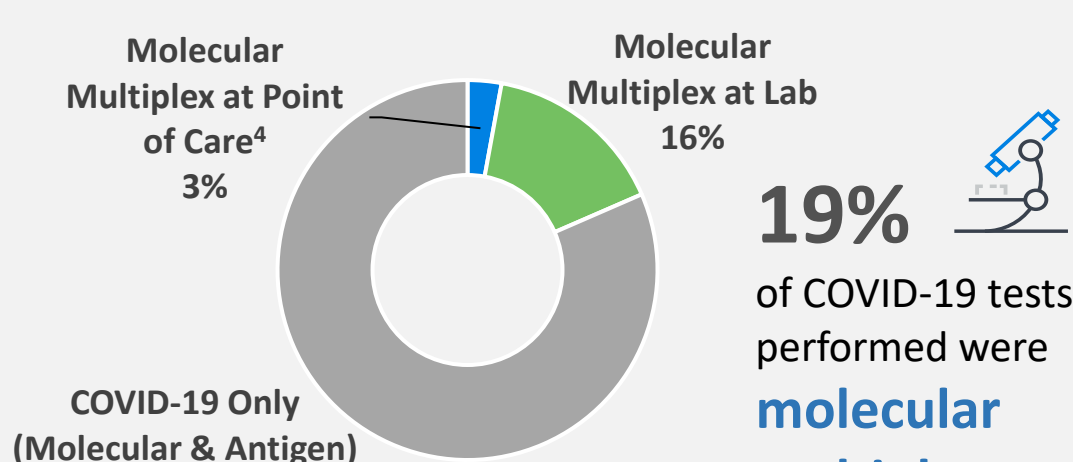
THE LANDSCAPE OF COVID-19 TESTING IN THE COMMERCIAL POPULATION

55%

of COVID-19 tests performed in 2023 were for people with **commercial health insurance**



SOURCE: Milliman analysis of Consolidated Health Sources Database (CHSD) 2023 Commercial, Medicare Advantage, and Medicaid enrollment and claims data and 2023-2024 CMS 100% Innovator Research (IR) data.



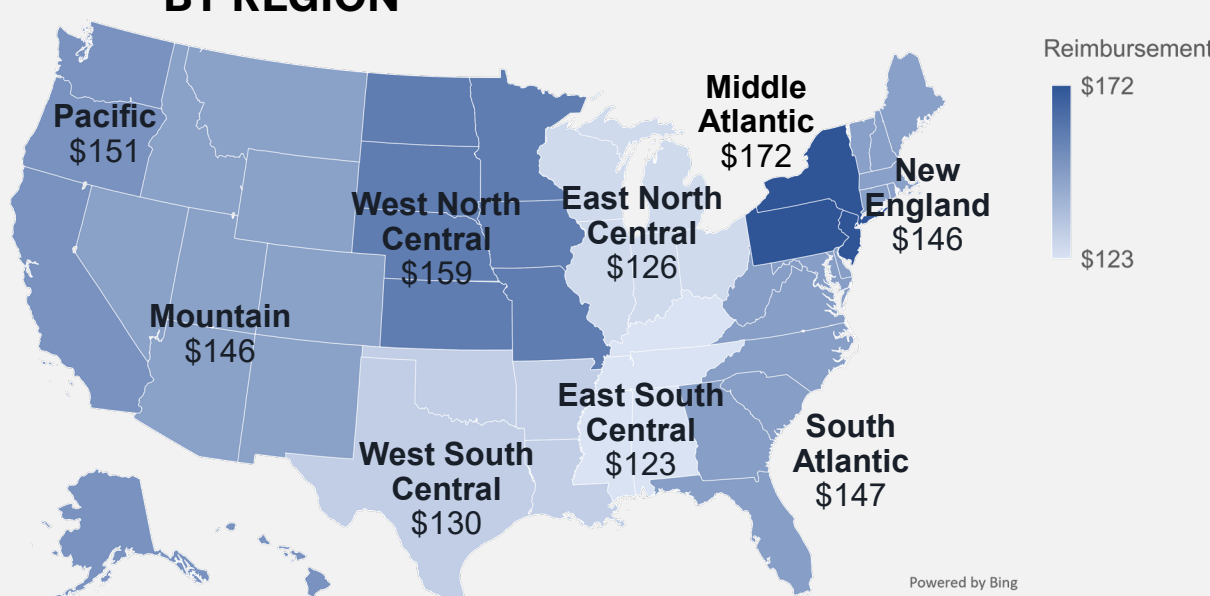
19% of COVID-19 tests performed were **molecular multiplex**



SOURCE: Milliman analysis of CHSD 2023 Commercial claims data.
⁴ Point of care = Healthcare providers deliver healthcare products and services to patients at the time of care.

COMMERCIAL REIMBURSEMENT FOR MOLECULAR MULTIPLEX TESTING VARIES BY REGION

Mean commercial reimbursement⁵ for the most common molecular multiplex at point of care (CPT 87636 with QW modifier⁶) ranges from **\$123 to \$172**

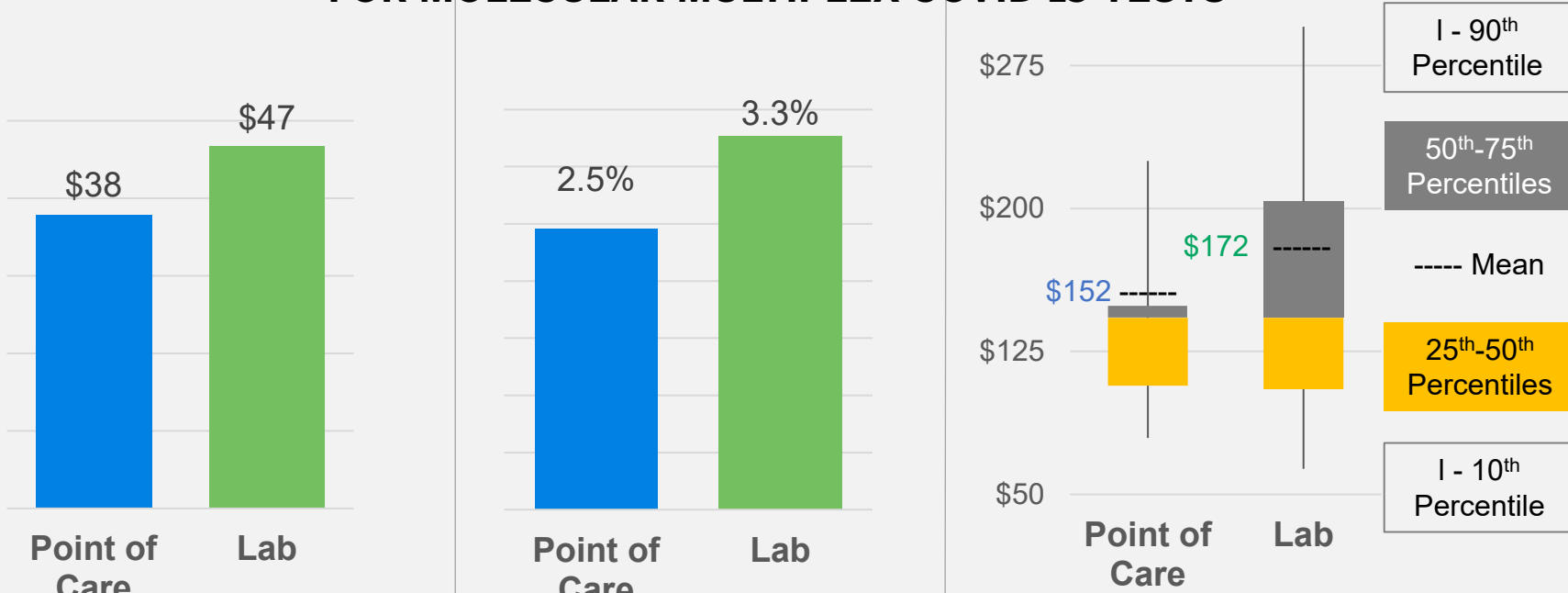


SOURCE: Milliman analysis of CHSD 2023 Commercial claims data.

⁵ Reimbursement represents the allowed costs observed on the claim, which includes the amount paid by the payer and patient.

⁶ The QW modifier indicates the test was performed by a lab with a Clinical Laboratory Improvement Amendment (CLIA) certificate of waiver.

PATIENT OUT-OF-POCKET, DENIAL RATES, AND REIMBURSEMENT DISTRIBUTION FOR MOLECULAR MULTIPLEX COVID-19 TESTS



Mean **patient out-of-pocket⁷** costs and **claim denial rates** were both **lower** when molecular multiplex test at the point of care was used.

Payer costs were **lower** and **less variable** for molecular multiplex point of care tests, compared to lab.

SOURCE: Milliman analysis of Consolidated Health Sources Database (CHSD) 2023 Commercial.

⁷ Out-of-pocket costs were measured in the period June-August 2023 to reflect patient cost sharing after the end of the Public Health Emergency.



Multiplex at point of care's shorter turnaround time may lead to **quicker evaluation** and **earlier diagnoses** and **treatment**.^{8,9,10}

⁸ Shirley JD, Bennett SA, Binnicker M. Current regulatory landscape for viral point-of-care testing in the United States. *J Clin Virol.* 2023;164:105492.

⁹ Pedersen CJ, Rogan DT, Yang S, Quinn JV. Using a novel rapid viral test to improve triage of emergency department patients with acute respiratory illness during flu season. *J Clin Virol.* 2018;108:72-76.

¹⁰ Basile K, Kok J, Dwyer DE. Point-of-care diagnostics for respiratory viral infections. *Expert Rev Mol Diagn.* 2018 Jan;18(1):75-83.

METHODS AND DATA SOURCES

We performed a retrospective analysis of administrative claims data using Milliman's Consolidated Health Sources Database (CHSD) and the CMS 100% Innovator Research (IR) Database. The CHSD is a multi-year, multi-line-of-business, longitudinal claims and enrollment data structure with annual enrollment and claims detail for over 55 million commercially insured lives, as well as over 10 million Medicare Advantage and Medicaid lives. The IR database contains Parts A, B and D enrollment and claims. We identified and grouped COVID-19 test procedures into three types, according to CPT codes in claims data:

- Molecular multiplex at point of care (CPT codes: 87631, 87636 and 87637 all with CPT modifier code QW)
- Molecular multiplex at lab (CPT codes: 87631, 87636 and 87637 all without CPT modifier code QW)
- COVID-19 only, at point of care and lab (CPT codes: 86328, 87426, 87635, 87811 and U0002 all with and without CPT modifier code QW)

We summarized volume of procedures, reimbursement levels, patient out of pocket costs, and claim denials¹¹ for all medically-administered COVID-19 tests performed between January 2022 and September 2023 (CHSD) or February 2024 (IR). Self-administered tests were not included in this analysis. To determine the payer-mix of COVID-19 tests, we extrapolated sample sizes to nationwide estimates based on enrollment figures published by the American Community Survey.¹²

¹¹ Defined as claims with either negative or \$0 net allowed amounts.

¹² Available at <https://www.census.gov/programs-surveys/acs/microdata.html>

LIMITATIONS

Results presented here are based on analysis of 2022 thru Q3 2023 Milliman's CHSD and 2022 through February 2024 CMS's IR data. Different data sets, time periods, and methodologies may produce different results. These results are representative of patients with commercial health insurance. Results for other populations will be different from those presented here.

Gabriela Dieguez, Tyler Engel and James Burke are employees of Milliman, Inc. The American Academy of Actuaries requires its members to identify their credentials in their work product. Gabriela Dieguez and Tyler Engel are members of the American Academy of Actuaries and meet its relevant qualification requirements.

This analysis was commissioned by Pfizer, Inc., a manufacturer of molecular multiplex COVID-19 tests.