



FY2022 Venture Report

Medical Alley Venture Report

The Medical Alley Venture Report is published quarterly, and this report represents a year-end summary of investment, M&A and other factors driving growth in Medical Alley®, the epicenter of health innovation and care®.

We first present full-year results, and then examine the Q4/2022 data.

If you're leading a startup, managing acquisitions, or looking to invest in one of the world's leading health innovation ecosystems – contact [Filip Kostal](#) or [Kylle Jordan](#).



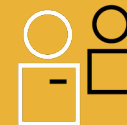
**Medical Alley Starts
& Global highlights**



**Private and public
markets activity**



SBIR/STTR funding



**Job growth in
Medical Alley**

Medical Alley Starts

Venture platform to lower the cost of starting, scaling and pivoting new ventures



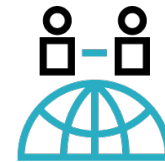
Medical Alley Global

Bringing Medical Alley to the world and the world to Medical Alley



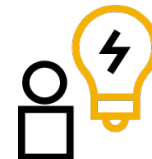
Global Investor Network:

Connecting Startups to investors from pre-seed to growth.



Global Corporate Partner Network:

Facilitating partnership, M&A, JVs and other engagements with healthcare's global leaders



Ready Reserve Entrepreneur Volunteers:

A network of experienced entrepreneurs ready to lend their expertise to your venture



Medical Alley Starts & Global 2022 Full-Year Statistics

- Served **900** companies and delivered;
 - **211** investor introductions
 - **523** supplier connections
 - **253** corporate development connections
 - **275** peer connections
- **878** stories shared through Medical Alley channels



2,090

Total services

900

Companies served

Medical Alley Starts 2022



- Served **60% more companies** and made **45% more referrals**
- Introductions led to **checks being written, technologies licensed, and partnerships formed**
- Expanded investor network to **over 200** groups investing across healthcare verticals and stages
- Continued to be a trusted partner for **strategics searching for transformative technologies**



Medical Alley Global 2022

- Signed **memoranda of understanding** with **MTP Connect**, Australia's Growth Centre for medical technologies, and the **UK Government**
- Completed the **second US Go-to-Market Accelerator** with the Québec Government, supporting **10 companies** with their US market entry goals
- Welcomed **7 international delegations in-person**, as well as **2 digital**
- Connected with **28 different national government representatives** to discuss deeper trade and internationalization partnerships
- Welcomed **13 internationally-based healthtech** firms to Medical Alley for their first US offices



Medical Alley Starts & Global – Q4/2022

- Served 311 companies and delivered;
 - 46 investor introductions
 - 126 supplier connections
 - 63 corporate development connections
 - 67 peer connections
- 225 stories shared through Medical Alley channels



FY2022 – Key Takeaways

- Despite the uncertain market, venture funding exceeded \$1 billion in 2022, more than doubling 2021.
- Investments trended to later stage as average deal was \$12.5 million.
- Medical device and biopharma companies both had near record years.
- Medical Alley companies secured almost \$1.7 billion in total funding.



Startup Funding – FY2022

Medical Alley Remains a Destination for Investors

- Whether it was through venture funding, public markets, or SBIR/STTR grants, Medical Alley companies continued to find capital, raising a total of \$1.692 billion.
- Late-stage and growth deals were prevalent in 2022, with SBIR/STTR grants supplementing early-stage funding.

FY2022 Startup Funding	
Private Capital	\$1,051,472,563.00
Public Capital	\$609,055,350.00
SBIR/STTR	\$31,244,053.00
Total	\$1,691,771,966.00



Private Funding – FY2022

Over \$1 Billion in Private Capital

Medical Alley companies raised over \$1 billion in private capital in 2022, more than doubling last year's total.

It was a record-breaking year for medical device and biopharma companies – both sectors raised more money than any year since our tracking began in 2012.



\$602,293,537

Medical device

\$195,256,156

Biopharma

\$220,134,335

Digital health

Private Funding – FY2022

Average Deal Size Nearly Triples Year-over-Year

- Of the 84 publicly announced private raises in 2022, the 10 highest raises by volume accounted for 63% of all private funding.
- Saluda Medical and Histosonics topped the \$100M mark and 9 other companies raised \$30M or more.
- Last year's largest raise (Francis Medical's \$55M) would be the 7th largest raise this year.
- While the number of companies raising private capital in 2022 (84) was lower than in 2021 (93), the average deal size of \$12.5M nearly tripled 2021 average, showing investors' preference of late-stage deals.

Company	Amount Raised
Saluda Medical	\$125,000,000
Histosonics	\$100,000,000
Gravie	\$90,000,000
Monteris Medical	\$73,000,000
Nuvaira	\$60,000,000
Cerebral Therapeutics	\$40,000,000
4C Medical Technologies	\$35,400,000



Public Markets – FY2022

\$600 Million on Public Markets

- While no Medical Alley companies went public in 2022, public market activity was third highest since 2012 after \$3.2B in 2021, and \$743M in 2018.
- Inspire Medical's \$243.8M and Bright Health's \$175M were the two largest public market deals of 2022.
- Lack of IPOs reflects investors' wariness to take risks in an uncertain economy, and it remains to be seen if we'll see an improvement in 2023.

Quarter	Amount
Q1/2022	\$10,900,000.00
Q2/2022	\$100,000,000.00
Q3/2022	\$261,878,937.50
Q4/2022	\$236,226,412.50
2022 Total	\$609,005,350.00



NIH & SBIR/STTR Funding – FY2022

SBIR/STTR Funding Soars

- Medical Alley companies received \$446 million in NIH funding.
- The University of Minnesota (60%) and Mayo Clinic (34%) accounted for 94% of all NIH funding received by Medical Alley companies.
- The total SBIR/STTR funding for Medical Alley companies was more than \$30 million.
- As it continues to be a challenge to raise pre-seed and seed funding, SBIR/STTR grants will be a valuable supplement to private funding.
- Early numbers in 2023 indicate that we may see SBIR/STTR growth.



Spotlight – HISTOSONICS®

In a challenging economic environment, Histosonics continued to grow. How have you kept the momentum?

For a company at our stage, it starts with having a plan that investors believe in and support, and a team with a consistent track record of achieving past milestones and plans. Achieving our plans and being transparent about challenges builds trust, which is the foundation of all it. We are extremely fortunate to have a team who loves to build aggressive plans and prides themselves on achieving them. We acknowledge external challenges, like the current economic climate, and they are built into the plan. And then it's circular in terms of having investors who continue to support our growth and attracting new ones who want to join the team, because we have built that trust.

What were some of the key milestones you achieved in 2022?

We accomplished a great deal throughout the year, culminating in successfully treating patients from around the world and meeting our enrollment goals for our #HOPE4LIVER Trials. This data was used to support our De Novo Market Clearance submission to the FDA, which we filed in December. We also completed the preclinical translational work we needed for our pivotal kidney IDE trial, #HOPE4KIDNEY, which was approved by the FDA in early 2023. Operationally, we completed renovations to our 30,000+ square foot facility which will support our manufacturing and education efforts in what we feel are best in class facilities, and we added significant talent to our team across almost every function.

What are the next milestones for Histosonics?

FDA clearance of our Edison histotripsy system is anticipated in the first half of 2023 and will be the greatest achievement in the 12-year history of the company. This clearance will allow us to begin commercialization of Edison in the United States, and for the first time ever, provide access to our novel treatment to patients outside of our clinical trials, and many who need it most. Accordingly, we are expecting to begin training customers and supporting commercial use in the back half of the year. We are also very excited to begin clinical trials in the kidney which will represent our second clinical application, as well as begin working with the FDA on our plans in pancreas. And finally, we have platform development objectives to accelerate applications outside of the abdomen that are extremely exciting for our customers and address huge clinical needs and markets. It is going to be a very exciting year.



Spotlight – **RION** HEAL FROM WITHIN

What does Rion do?

Rion is a clinical-stage, cutting-edge biotechnology company Headquartered in the One Discovery Square Building in Rochester, MN, dedicated to bringing regenerative medicine to the forefront of modern healthcare. Rion was established in 2017 through the Mayo Clinic Employee Entrepreneur Program. With a team of more than 35 highly skilled employees possessing significant experience in the development and commercialization of biological therapeutics, Rion is utilizing the latest technological advancements to fundamentally transform the field of regenerative medicine and enhance patient outcomes.

At the core of Rion's innovation is its proprietary exosome platform technology. Exosomes are tiny vesicles with the ability to induce healing and regeneration of damaged tissues. Rion is harnessing the healing potential of exosomes to develop therapeutics for multiple clinical indications. This breakthrough technology has been engineered and purified using Rion's cutting-edge manufacturing processes, resulting in an allogenic, scalable, potent, and stable product that is cleared by the FDA for use in human clinical trials.

Where does the name Rion come from?

Rion (pronounced Ree on) takes its name from the town of Rion in Greece. It is in this region that one of our co-founders has family roots. Situated in the province of Achaia in the Peloponnese, the city of Rion symbolizes the company's commitment to making the transformative potential of regenerative medicine accessible to people from all corners of the globe.



Spotlight – **RION** HEAL FROM WITHIN

What are the big milestones to come in the next few years for your company?

Rion is on the cusp of major clinical breakthroughs in the coming years, as very successful funding rounds have allowed Rion to expand its team and push its clinical and preclinical programs forward. Rion is currently advancing the potential of its exosome-based therapeutic in three FDA-authorized clinical trials in wound healing, acute myocardial infarction, and stress urinary incontinence. Rion is also rapidly moving toward a clinical trial in knee osteoarthritis, a common and debilitating condition. Rion has also supported two very successful Compassionate Use trials with its products, both resulting in successful treatments of non-healing wounds. The company is also currently proceeding with several more Compassionate Use cases.

Preclinical developments at Rion include applications for its exosome-based therapeutic in COPD, nerve graft regeneration, and tendon injury. Rion is also expanding its manufacturing capabilities and is developing exosomes as a drug-delivery mechanism.

Rion is dedicated to contributing to the thriving economy of Minnesota, where it is proudly based. The company has made significant investments in its facilities and research and development in the state and is actively collaborating with other innovative companies and organizations, including the Department of Defense (DoD) and research institutions such as the Mayo Clinic and the University of Minnesota. Through these partnerships, Rion is driving economic growth and advancing cutting-edge research to benefit patients in need.

Currently, Rion has around 12 R&D collaborations with researchers and physician-scientists at the Mayo Clinic, multiple partnerships with various physicians through the Uniformed Services University (USU) of the DoD, as well as collaborations with the University of Minnesota towards pulmonary therapeutic development. The company looks forward to continuing to make an impact on the state's economy through its innovative research and partnerships.

Ultimately, Rion's mission is to advance regenerative medicine and ensure access to its technology for patients in need. The company looks forward to an exciting future and the potential impact it can make on the world of healthcare.



Spotlight – Visana

In what was a challenging year for many startups, Visana Health has managed to continue to make great progress. What were some of the keys to your continued growth?

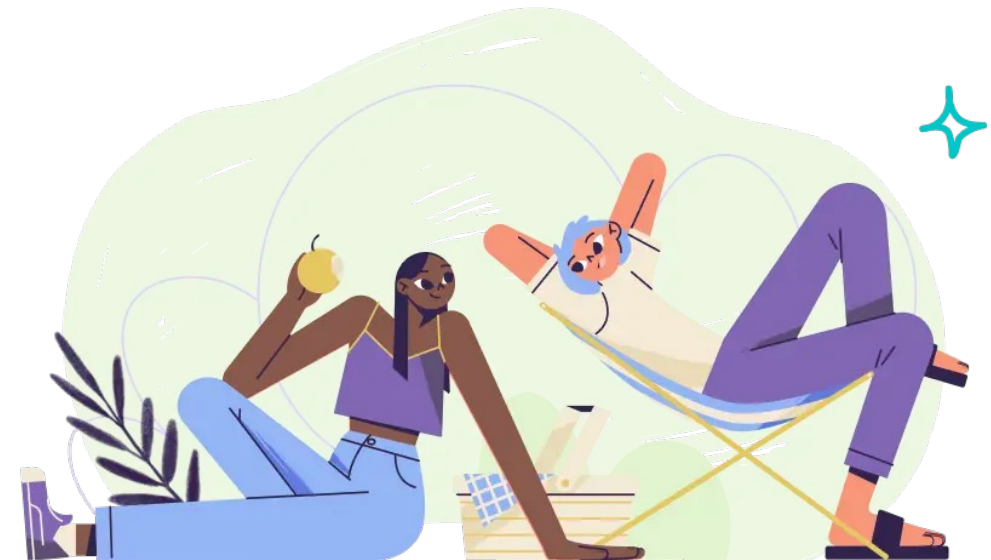
In 2022, Visana was fortunate to raise a round of funding and build a team that brings together great talent, diverse expertise, and a shared passion for Visana’s mission. The team’s disciplined focus kept us on task as we worked through the development and expansion of Visana’s services and footprint. We rapidly grew our customer base of employers & health plans saw value in our mission of improving care for women.

You’ve had the same mission since Visana’s launch, but how has your product evolved over time?

Our product evolved significantly in 2022 to support our laser focus of improving women’s health outcomes. In 2021, Visana was a health coaching product for endometriosis and fibroids. In 2022, we built and launched our 50-state comprehensive, virtual women’s health clinic. We now treat the widest range of women’s health conditions from menstruation to menopause with full service clinical care, including prescriptions, labs, imaging, nutrition, pelvic floor exercises, behavioral health support, and coaching. Our clinic’s launch was a great success, particularly for women with multiple complex gynecological conditions. 93% of our patients achieve a clinically meaningful improvement in outcomes, 95% of patients are very satisfied with their care, and our NPS score is over 90.

What are some of Visana’s next milestones?

Having successfully launched our clinic with Fortune 200 companies and national health plans, we’re focused on growing our proven model to serve more women and proving we can deliver high quality care at scale.



Startup Funding – Q4/2022

Late-Stage/Growth Deals Driving Volume

- Q4/2022 was the second largest quarter of the last two years. Volume was driven by late-stage/growth deals, and secondary offerings.
- Histosonics' \$100M raise accounted for nearly half of all private capital. Together with Monteris Medical's \$38M and Vergent Bioscience's \$21.5M, these three companies accounted for nearly 80% of all private capital raised in Q4/2022.
- Bright Health's \$175M secondary offering accounted for nearly 75% of all public capital in Q4/2022.

Q4/2022 Startup Funding	
Private Capital	\$200,927,349.00
Public Capital	\$236,226,412.50
SBIR/STTR	\$425,024.00
Total	\$437,587,785.50



Private Funding – Q4/2022

Second Largest Quarter in Two Years

The \$200M Q4/2022 in private funding was more than any quarter in 2021. Compared to Q4/2021, private capital raised grew by almost 25%, and private capital raised by device companies almost doubled.

With Histosonics accounting for nearly half of the raise total, and 20 companies raising private capital, and an average size of \$10M/raise in Q4/2022, the trend of investors shifting their focus towards late-stage deals continued.¹ This focus on late-stage deals follows what is a nationwide trend – investors likely conserving capital for existing portfolio companies and are more cautious when it comes to new investments.²



Public Funding – Q4/2022

Solid Quarter with Multiple Contributors

- Bright Health's \$175M capital raise³ accounted for 75% of the total volume.
- Marker Therapeutics' stock purchase by Lincoln Park Capital⁴, Celcuity's additional debt financing tranche⁵, Nuwellis' public offering⁶, and Imricor's convertible note⁷ made up the rest of public market activity.

Company name	Amount raised
Bright Health Group	\$175,000,000.00
Marker Therapeutics	\$25,000,000.00
Celcuity	\$20,000,000.00
Nuwellis	\$11,000,000.00
Imricor Medical Systems	\$5,226,412.50
Total	\$236,226,412.50



NIH & SBIR/STTR Funding – Q4/2022

Quiet Grant Funding Quarter

- In what has historically been a quiet quarter, Medical Alley organizations received almost \$43 million in NIH grants.
- Q4 is also traditionally quiet for SBIR/STTR grant awards. MarPam Pharma was the only recipient in Q4.
- In 2020 and 2021, there were no Medical Alley SBIR/STTR recipients in Q4.

NIH Funding Q4/2022 (non-SBIR/STTR, training, research, other)		
Organization	Projects	Total Funding
Hennepin Healthcare Research Institute	2	\$432,654
Mayo Clinic Rochester	41	\$18,538,937
Minneapolis VA Medical Center	5	N/A
University of Minnesota	59	\$23,897,456
Total	107	\$42,869,047



M&A – Q4/2022

Traditionally Busy Quarter, but Slower Year Overall

End of year is a busy time for M&A activity, and the last quarter of 2022 was no exception.

- 14 M&A deals involving Medical Alley companies, second highest quarter of 2022 in our tracking.
- The only deal with publicly announced value was Caire's acquisition of MGC Diagnostics for over \$170 million.
- Overall, we tracked 53 M&A deals in 2022, 7 fewer than in 2021.



Healthcare Employment – Q2/2022*

Healthcare Jobs Holding Steady

- Not surprisingly, providers remain the largest healthcare employer category with 380 thousand people employed in Minnesota.
- Both insurers (+1.3%) and medical device companies (+5.5%) recorded year-over-year growth.
- The number of people employed by pharma companies grew (+2.2%) for the third consecutive quarter.



* Federal jobs data has a 6-month delay so the most current data in Q4/2022 is for Q2/2022.

Contacts

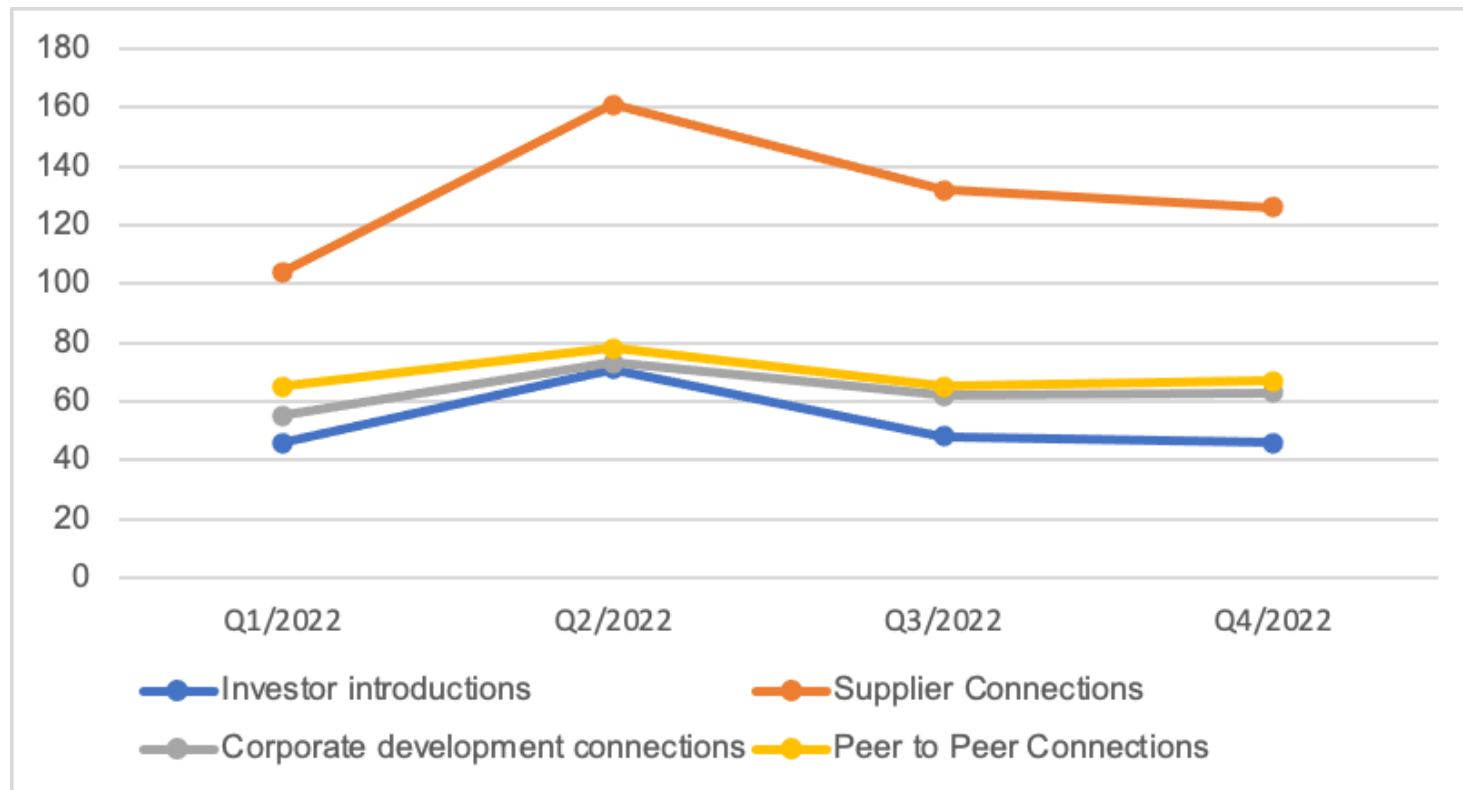
- Frank Jaskulke, VP of Innovation – fjaskulke@medicalalley.org
- Kyle Jordan, Global Principal – kjordan@medicalalley.org
- Filip Kostal, Startup Principal – fkostal@medicalalley.org
- Reece DeVries, Data Analyst & Engineer – rdevries@medicalalley.org



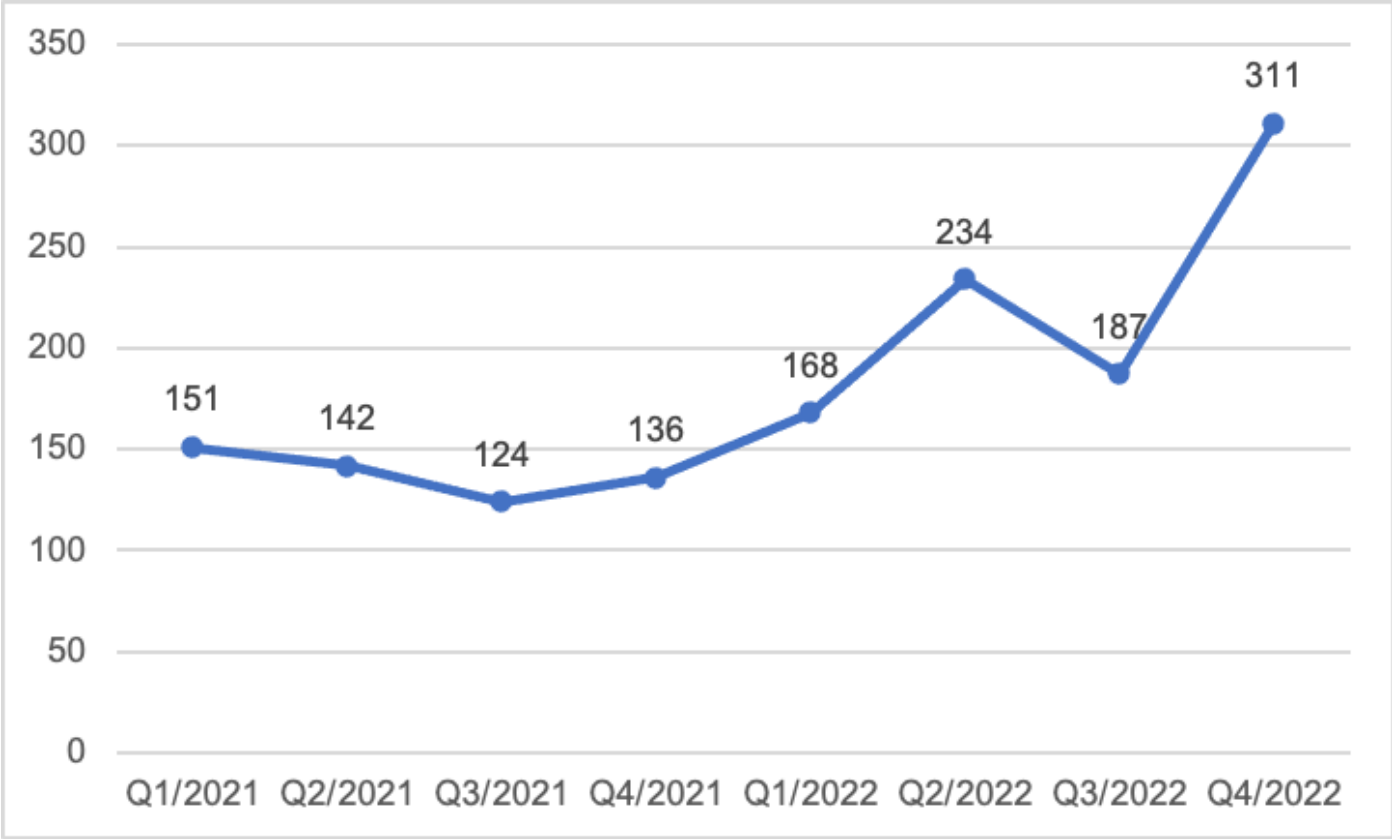


Appendix

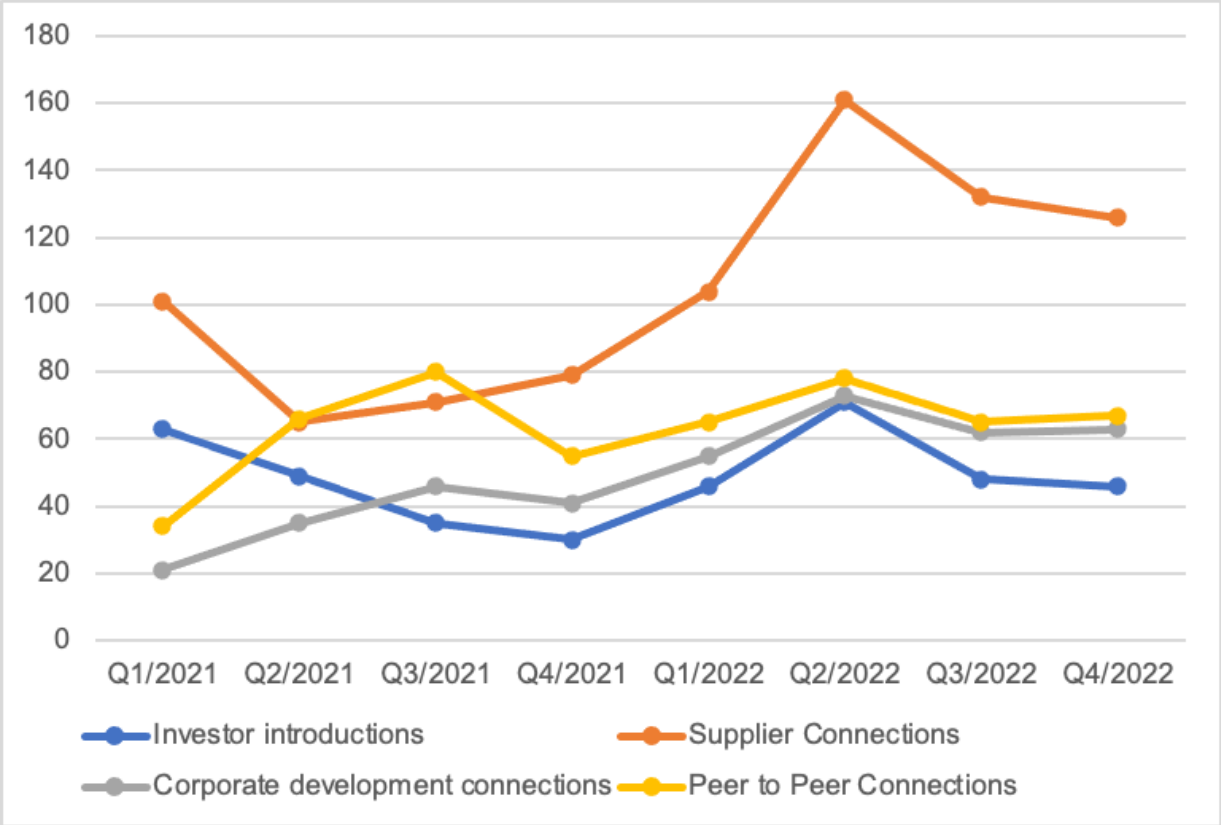
Medical Alley Starts & Global – 2022 Services by Quarter



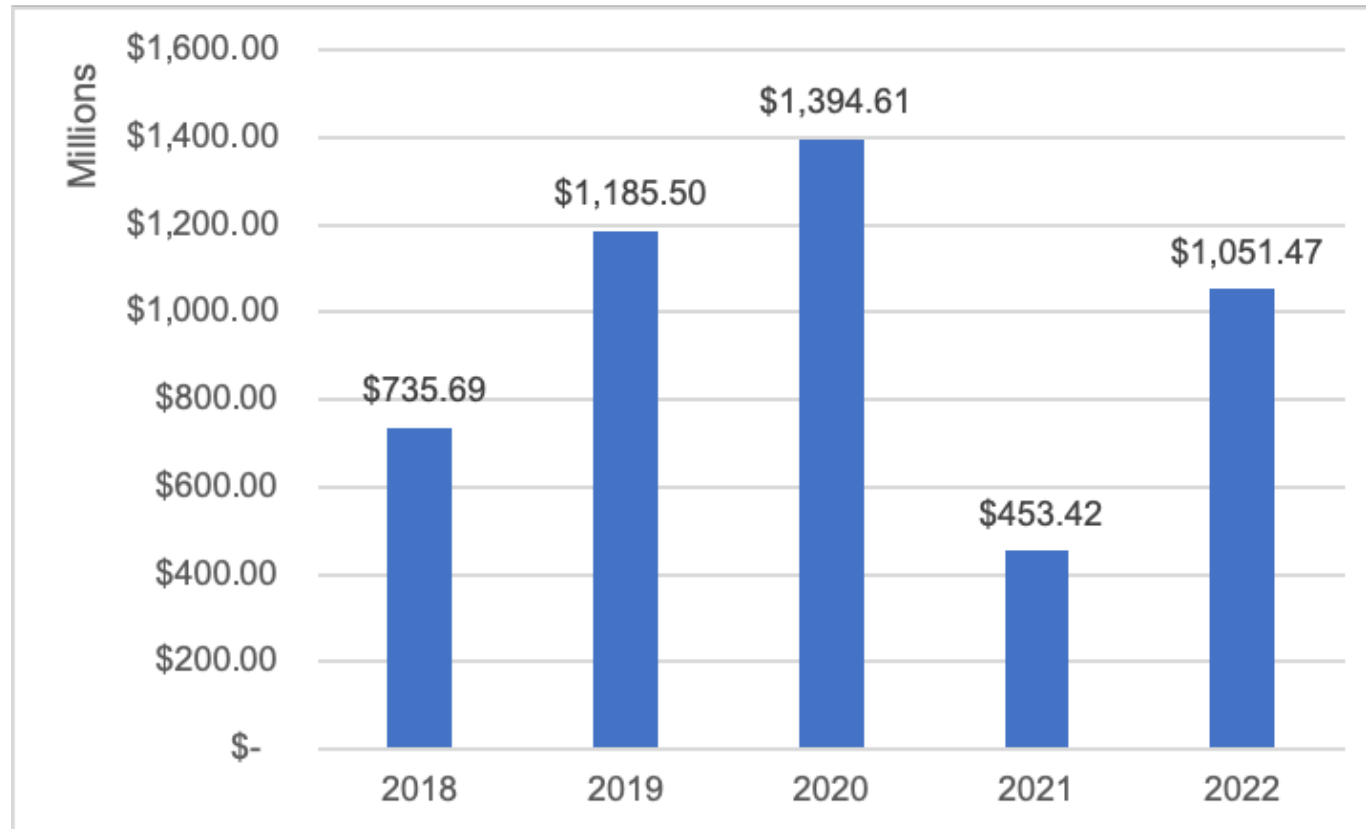
Medical Alley Starts & Global – Companies Supported by Quarter



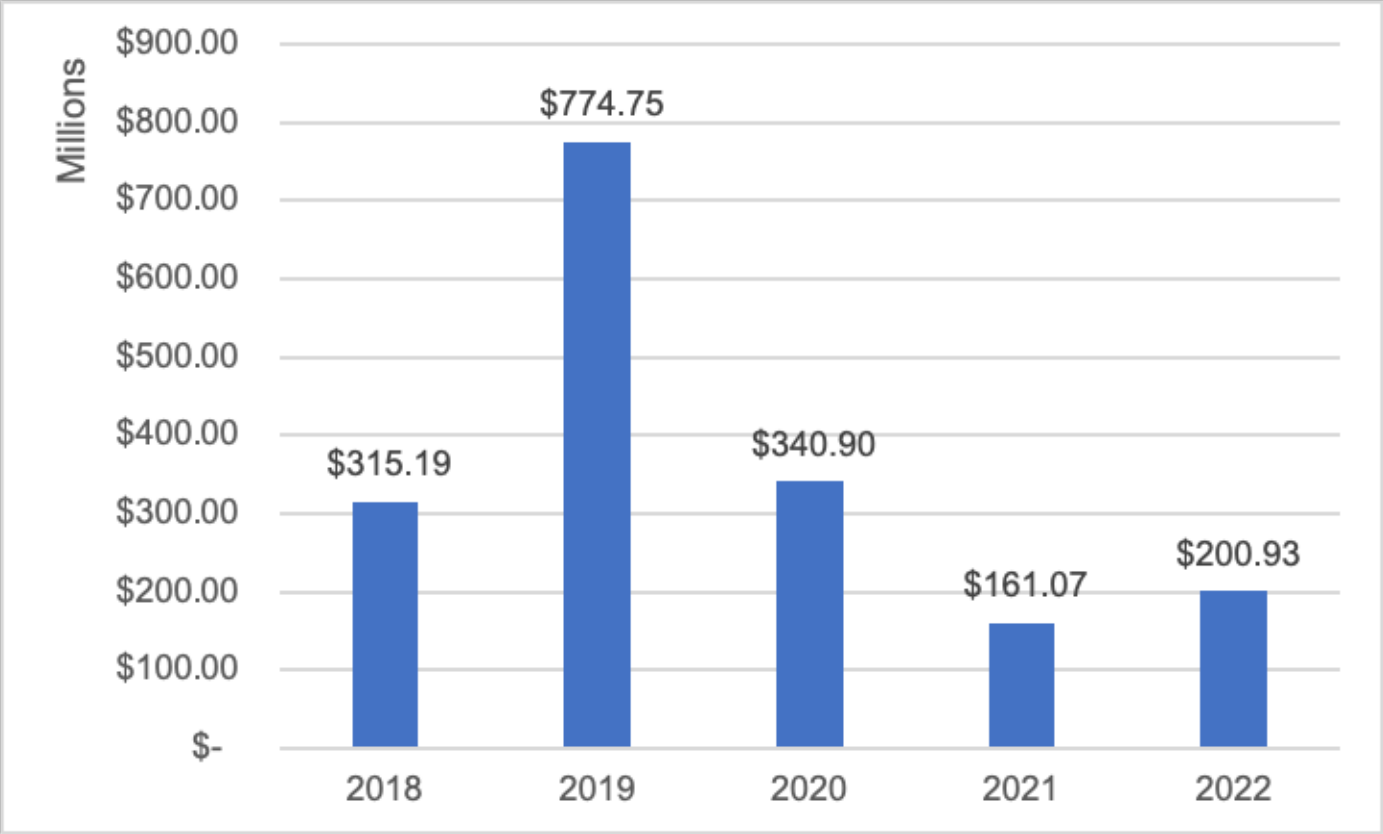
Medical Alley Starts & Global – Services by Quarter



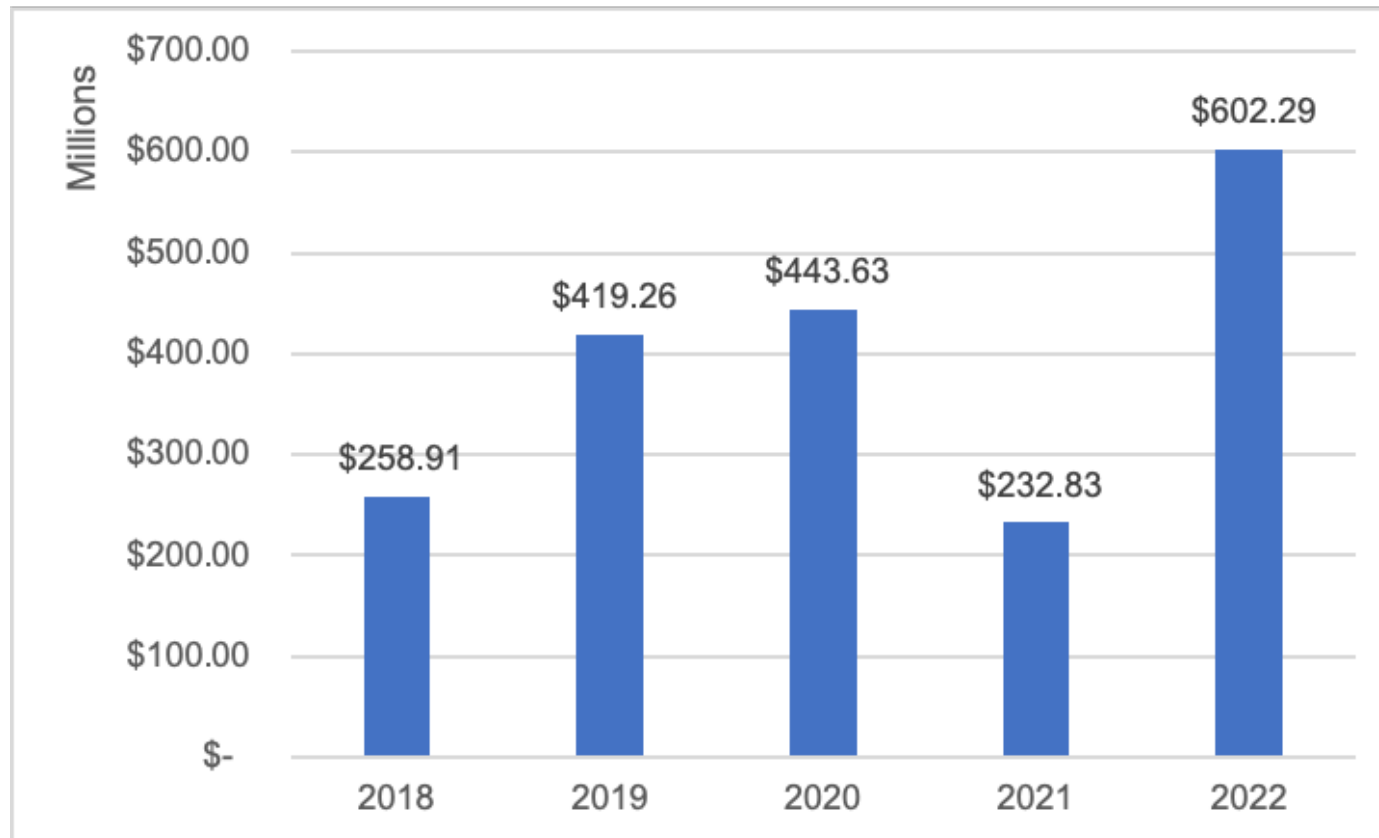
Healthcare Private Raises by Year



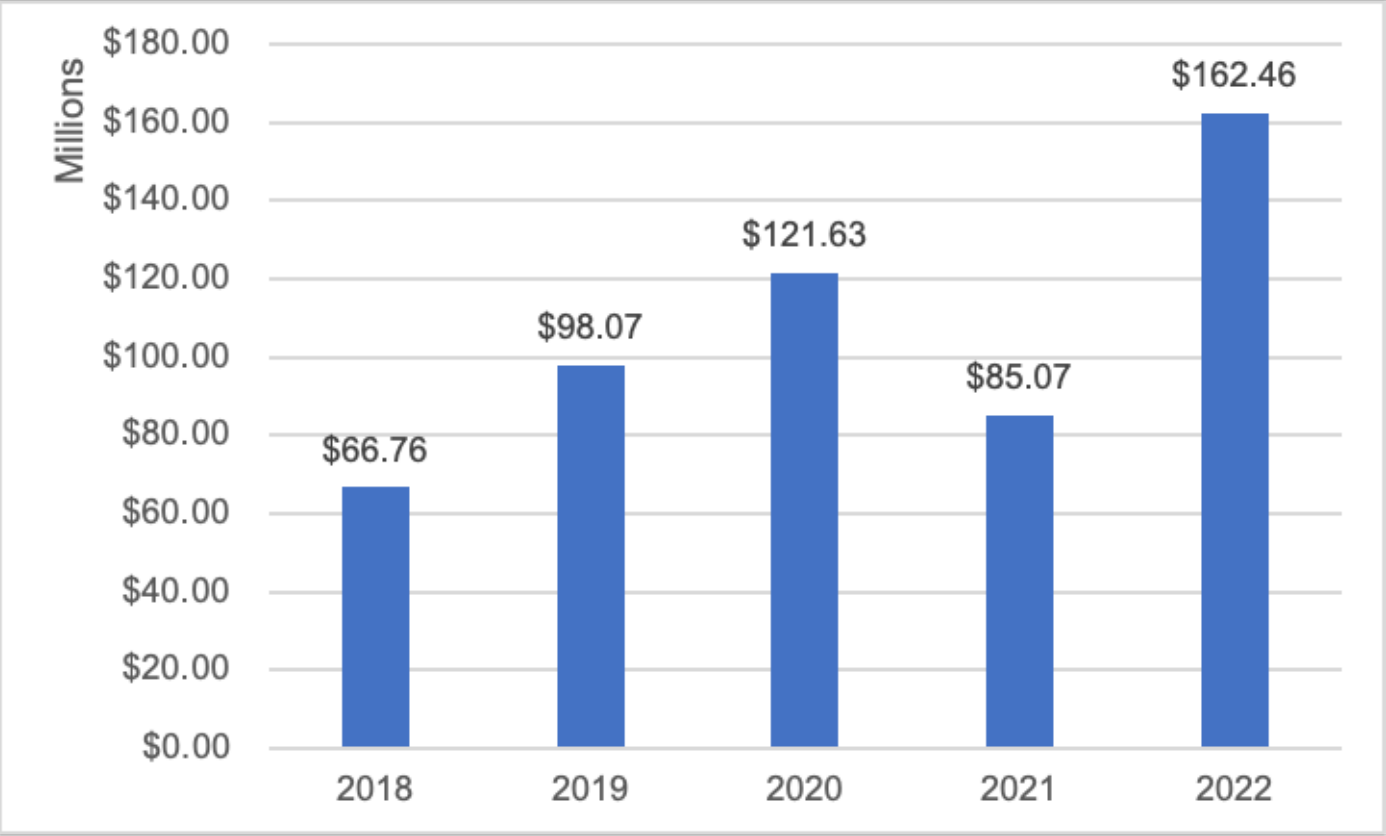
Healthcare Private Raises by Quarter – Q4



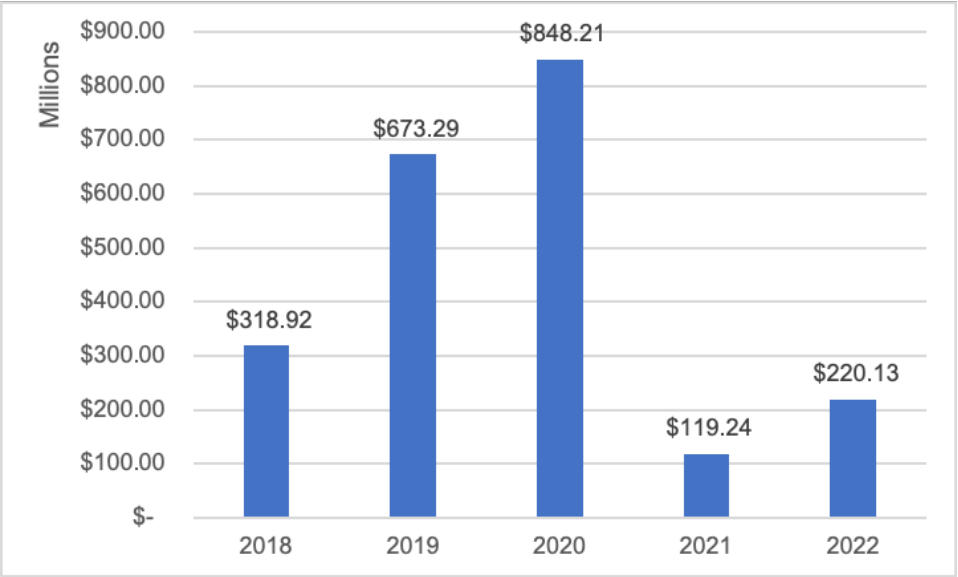
Medical Device Private Raises by Year



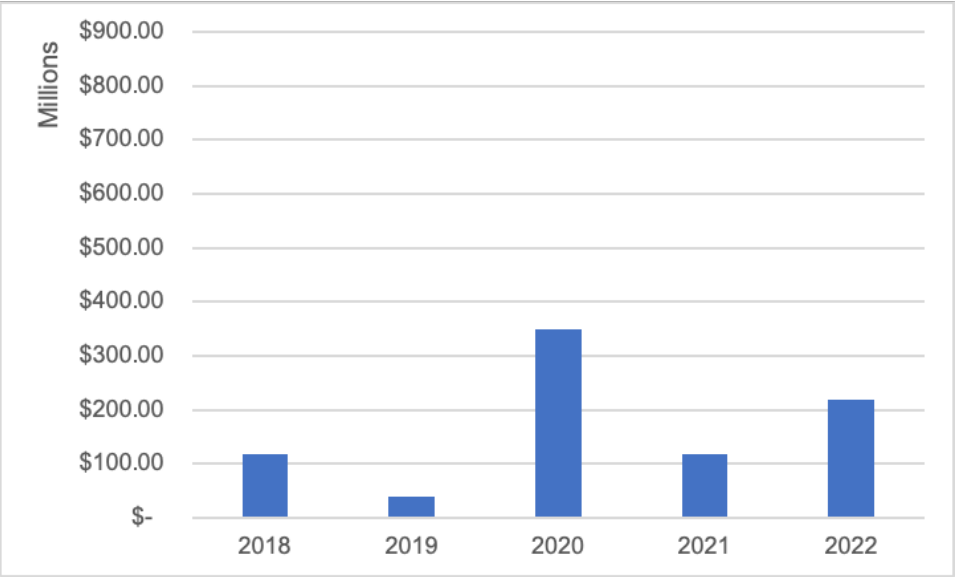
Medical Device Private Raises by Quarter – Q4



Digital Health Private Raises by Year



Including Bright Health Group



Not Including Bright Health Group



Digital Health Private Raises by Quarter – Q4



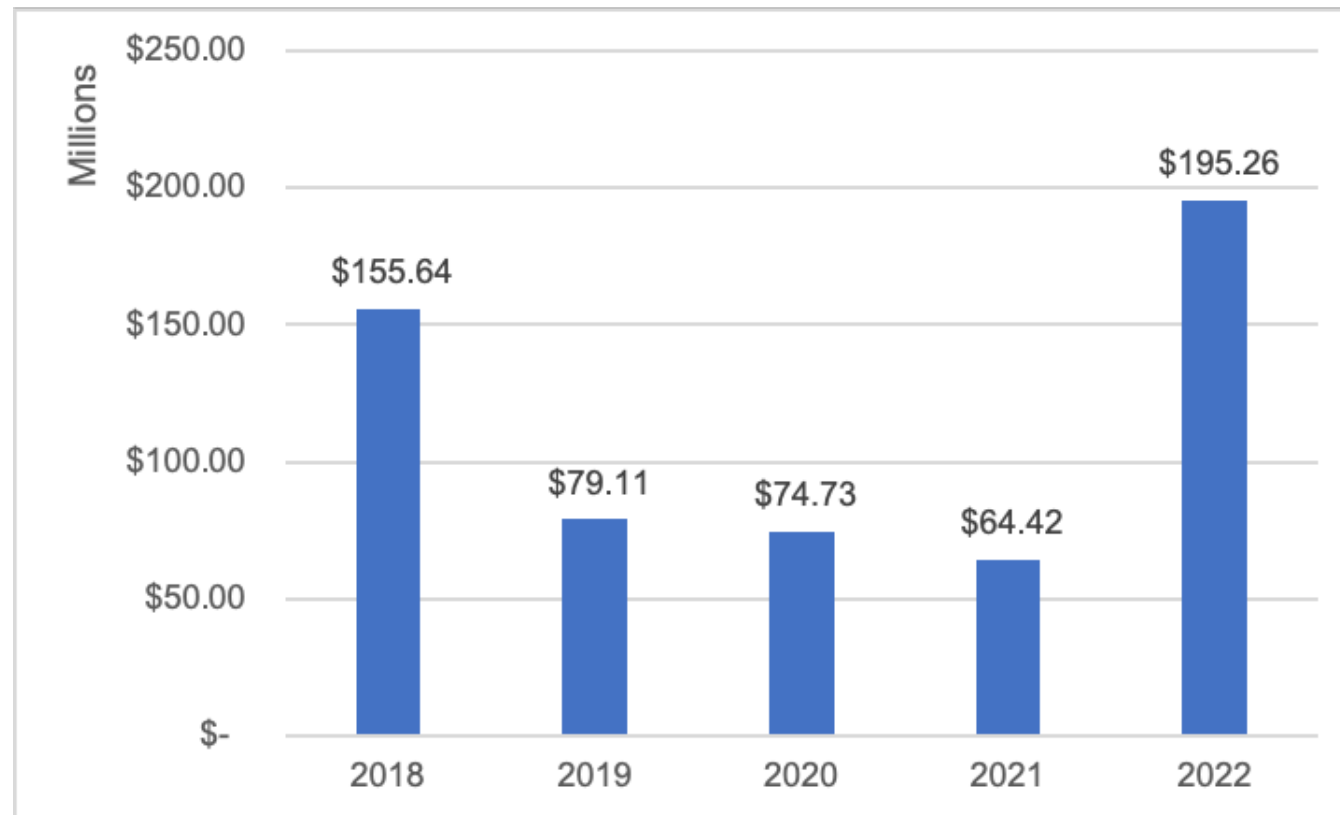
Including Bright Health Group



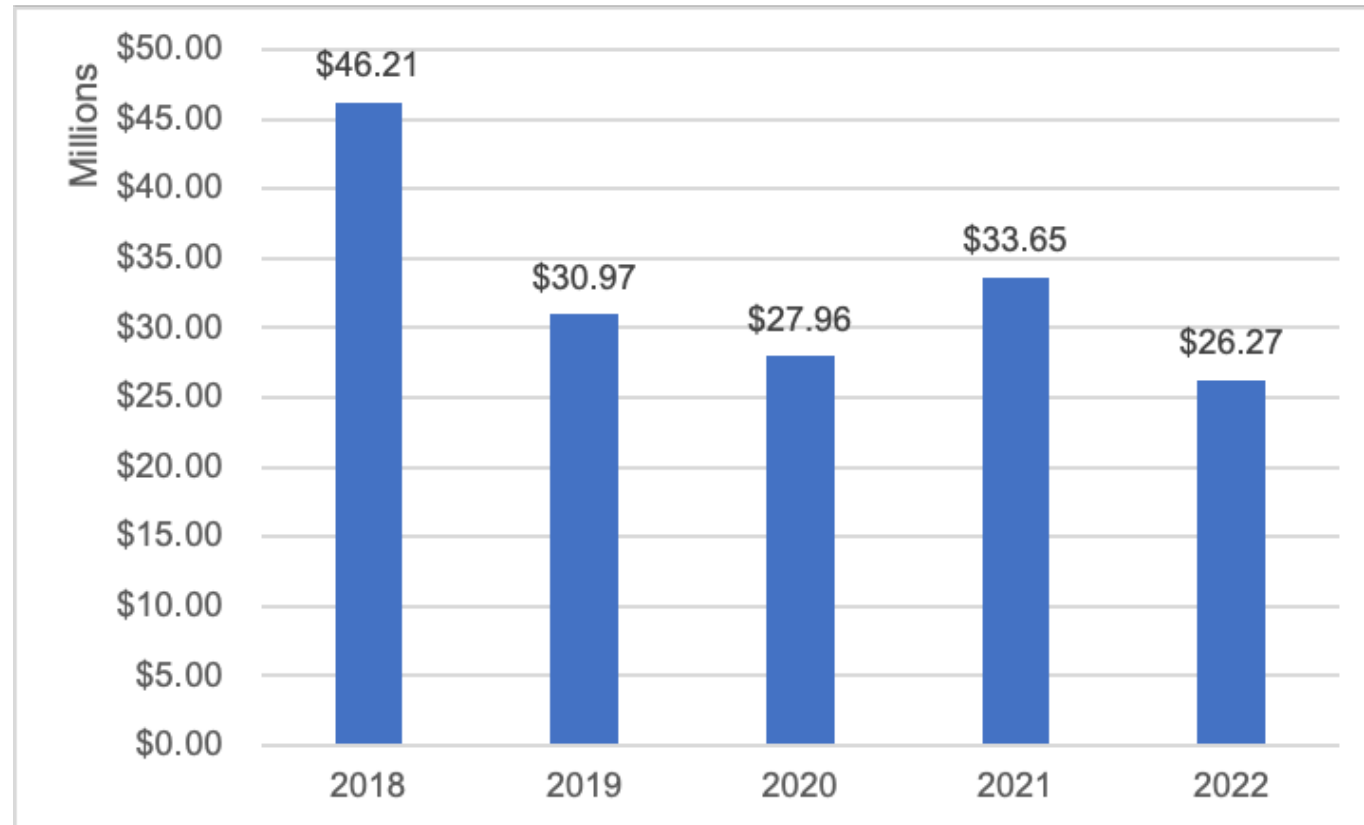
Not Including Bright Health Group



Biopharma Private Raises by Year



Biopharma Private Raises by Quarter – Q4



NIH Funding – Q4/2022

NIH Funding Q4/2022 (non-SBIR/STTR, training, research, other)		
Organization	Projects	Total Funding
Hennepin Healthcare Research Institute	2	\$432,654
Mayo Clinic Rochester Minneapolis VA Medical Center	41	\$18,538,937
University of Minnesota	5	N/A
	59	\$23,897,456
Total	107	\$42,869,047



SBIR/STTR – 2022

SBIR/STTR Funding - 2022	
Advanced Medical Electronics Corporation	\$ 1,440,333
Agitated Solutions, Inc.	\$ 587,516
Applied Universal Dynamics Corporation	\$ 755,288
Aster Labs, Inc.	\$ 1,730,944
Astrin Biosciences, Inc.	\$ 399,678
Cerovations, LLC	\$ 1,515,121
Champaign Imaging, LLC	\$ 407,385
Claritytek, Inc.	\$ 445,324
CT Resources, Inc.	\$ 562,772
Dyanamica, INC.	\$ 399,865
Headwaters Innovations, INC.	\$ 265,844
Imbio, LLC	\$ 698,674
Innovative Design Labs, Inc.	\$ 3,205,318
Koronis Biomedical Technologies Corporation	\$ 3,033,874
Lifengine Animal Health Laboratories Incorporated	\$ 337,433
Marpam Pharma, LLC	\$ 1,734,561
Minnesota Healthsolutions Corporation	\$ 6,775,188
Minnesota Resuscitation Solutions, LLC	\$ 1,323,227
Moai Technologies, LLC	\$ 1,271,612
Photonic Pharma, LLC	\$ 306,471
Remastered Sleep LLC	\$ 293,675
Reshape Lifesciences, Inc.	\$ 300,000
Shape Medical Systems, Inc.	\$ 1,223,664
Vergent Bioscience, INC.	\$ 1,124,282
Wincs International, LLC	\$ 438,792
Total	\$ 30,576,841



M&A Deals – Q4/2022

- [MGC Diagnostics acquired by Caire for \\$170,200,000](#)
- [JMS and Associates acquired by Smart Data Solutions](#)
- [Accusite Surgical Services acquired by Sightpath Medical](#)
- [Label Innovation acquired by AWT Labels & Packaging](#)
- [Five Rivers Mental Health Clinic acquired by Care Counseling](#)
- [Livio Health Group acquired by Lifespark](#)
- [CardiaLen acquired by Maxwell Biomedical](#)
- [Prairiecare acquired by Newport Healthcare](#)
- [Corner Home Medical acquires portions of Essentia equipment sales](#)
- [Vance Street Capital buys Mountain Manufacturing Technologies](#)
- [Seaway Plastics Engineering Acquires MME Group](#)
- [Reaction Biology acquires Vyant subsidiary](#)
- [Premier Biotech acquired by Align Capital Partners](#)
- [Innovize acquired by Excel Scientific](#)

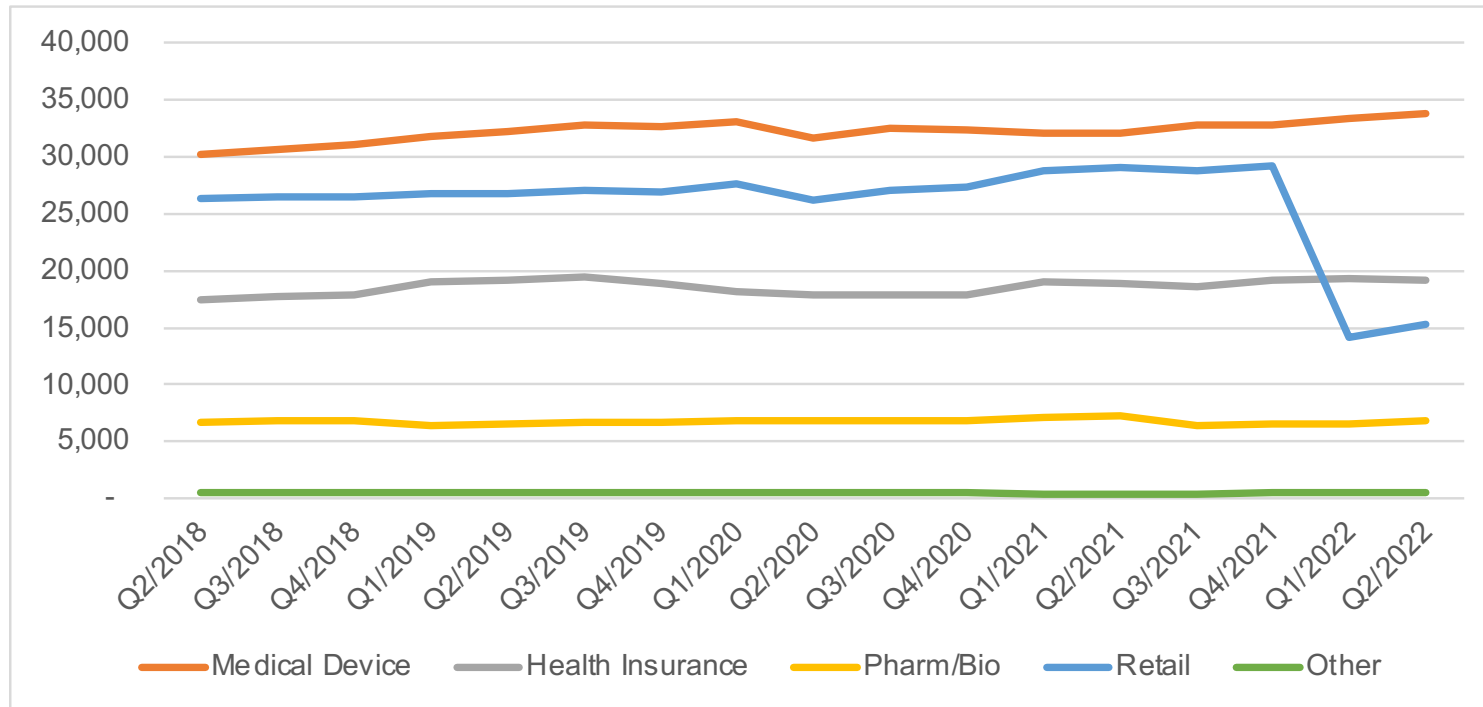


Quarterly Average Employment in Healthcare – Q2/2022

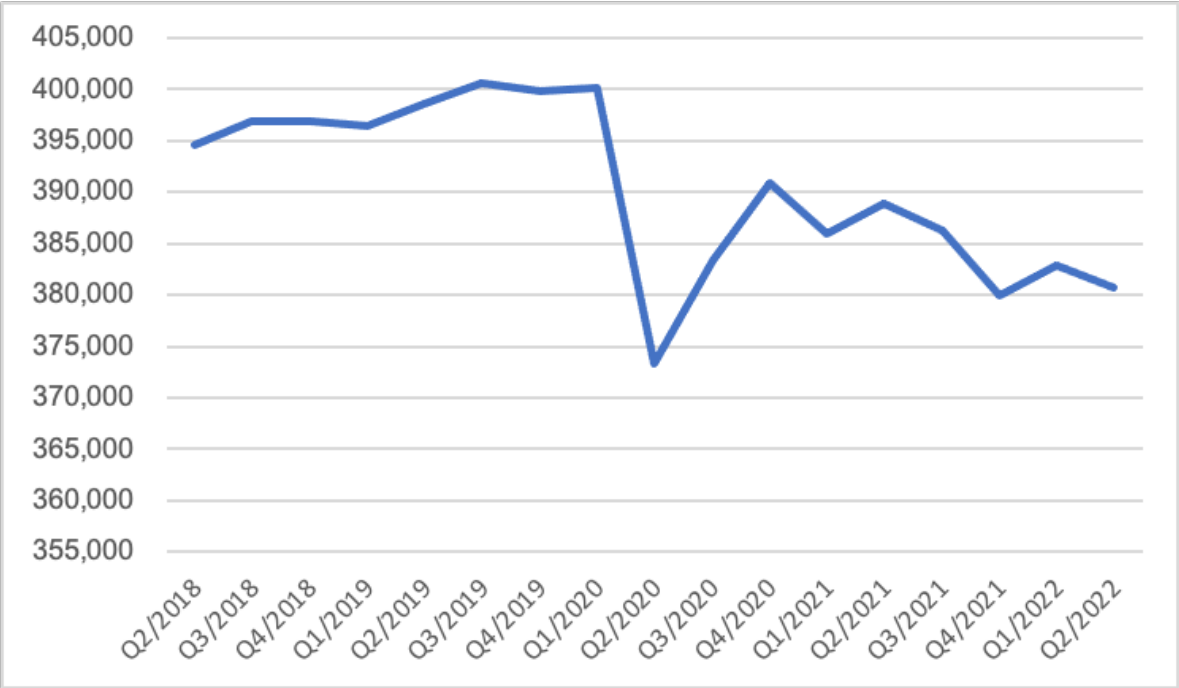
NAICS Category	Quarterly Average Employment	Q-o-Q % change	Y-o-Y % change
Health Insurance	19,136.67	-0.2%	1.3%
Medical Device	33,784.67	0.6%	5.5%
Other	496.33	-2.2%	12.0%
Pharm/Bio	6,787.67	2.2%	-6.0%
Provider	380,746.67	-0.7%	-2.1%
Retail	15,286.33	1.9%	-47.3%



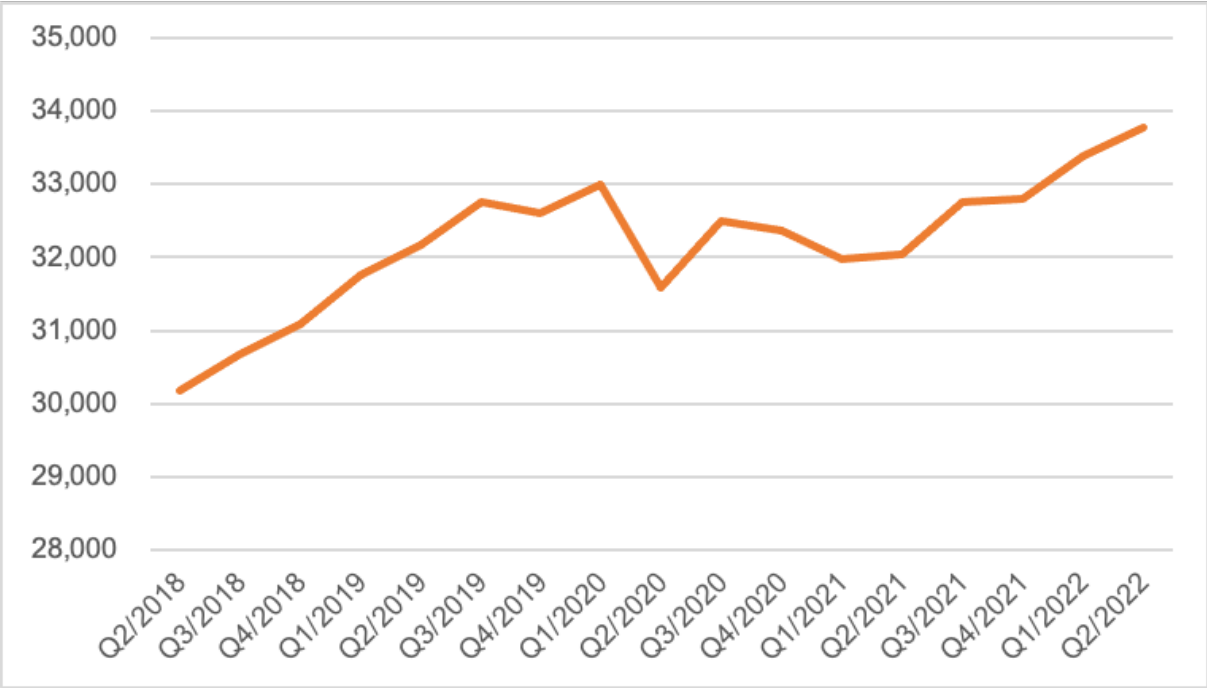
All Healthcare (without Providers) – Quarterly Employment in Minnesota



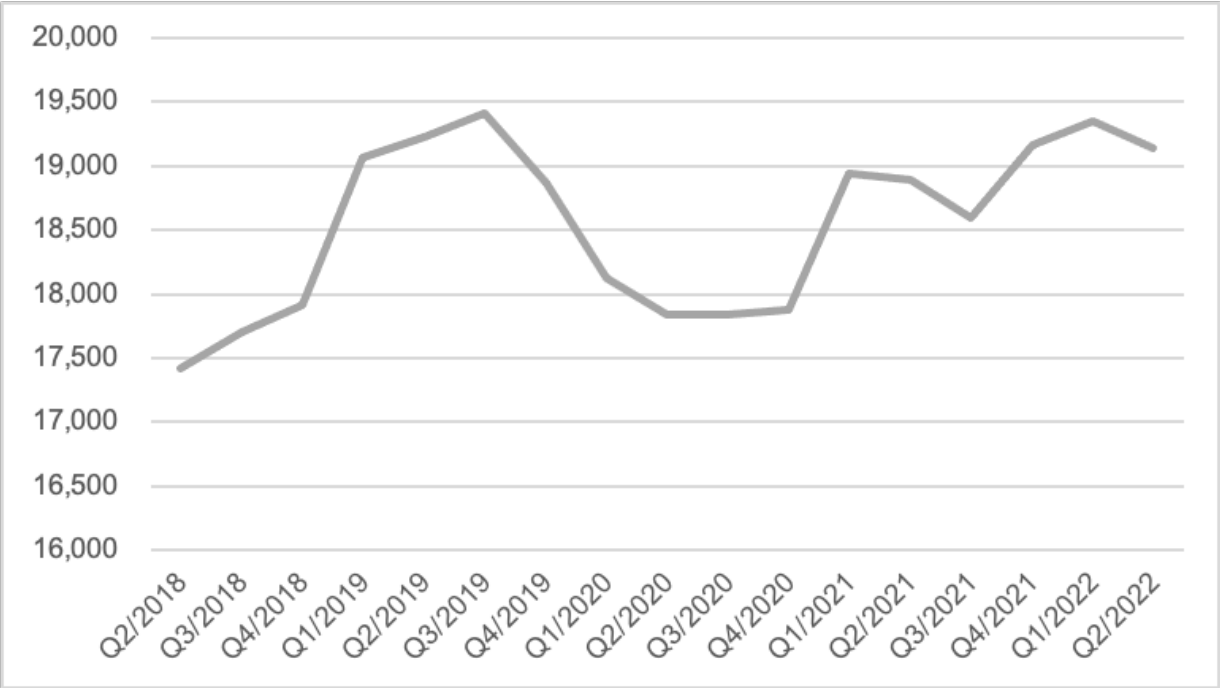
Providers – Quarterly Employment in Minnesota



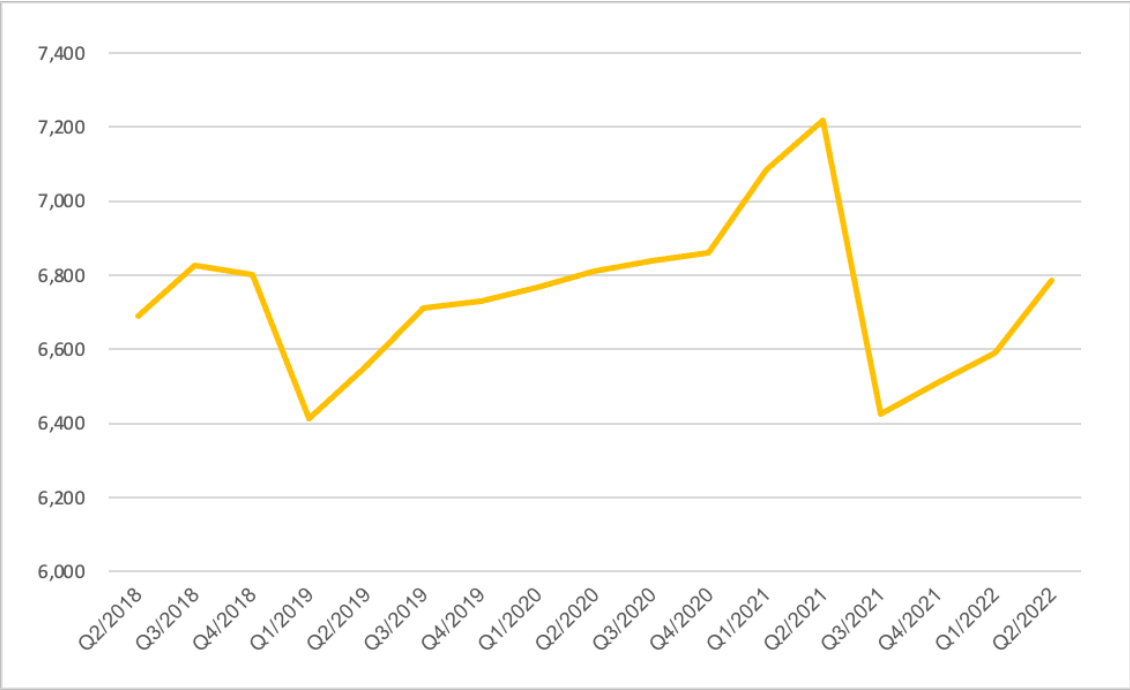
Medical Device – Quarterly Employment in Minnesota



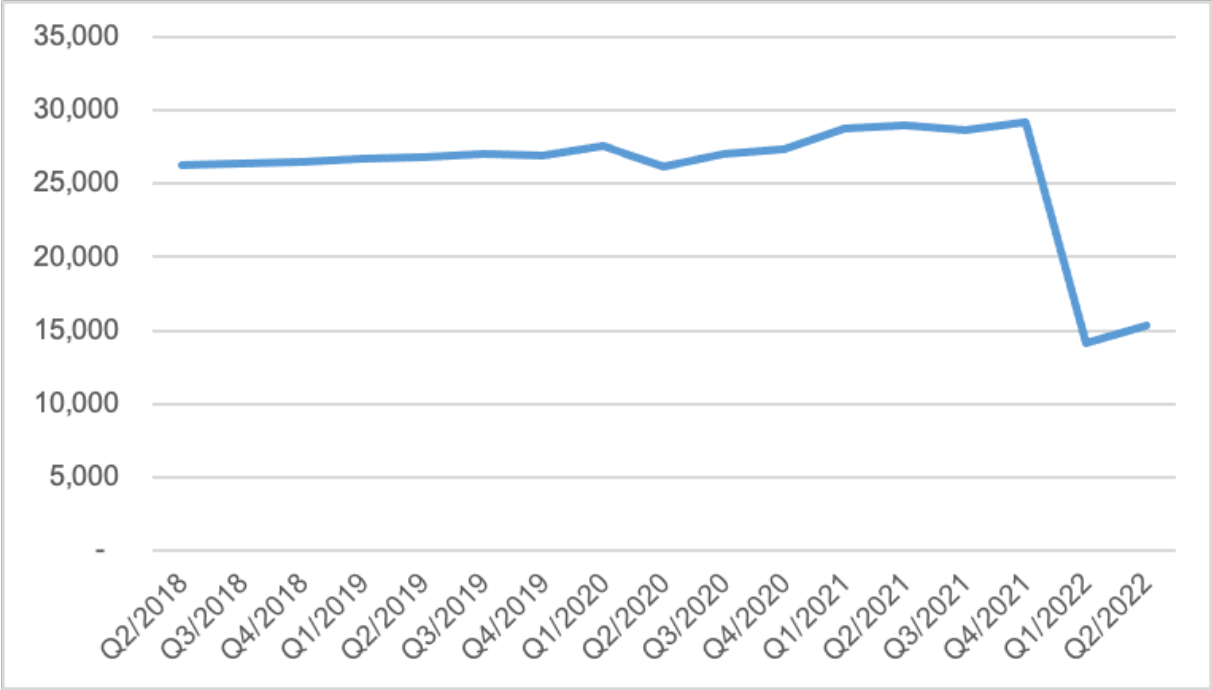
Health Insurance – Quarterly Employment in Minnesota



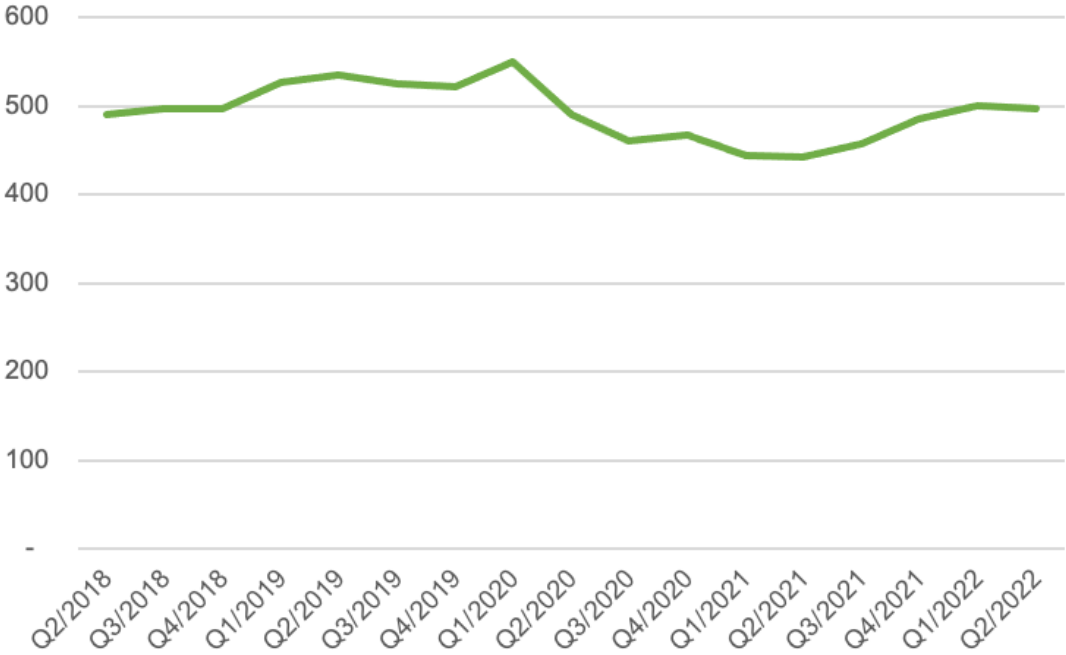
Biotech & Pharma – Quarterly Employment in Minnesota



Retail – Quarterly Employment in Minnesota



Other Healthcare – Quarterly Employment in Minnesota



References

- ¹ [Silicon Valley Bank – Healthcare Industry Trends 2022 Annual Report](#)
- ² [Ernst & Young – 2022 recap: second highest year for VC investment, but winter is here](#)
- ³ [Businesswire – Bright Health Group Announces Closing of \\$175 Million Capital Raise to Support Focused Business](#)
- ⁴ [Globalnewswire – Marker Therapeutics and Lincoln Park Capital Enter into a Common Stock Purchase Agreement for up to \\$25 Million](#)
- ⁵ [Bloomberg – Celcuity Announces First Patient Dosed in Phase 3 VIKTORIA-1 Clinical Trial of Gedatolisib for the Treatment of HR+/HER2- Advan](#)
- ⁶ [Globalnewswire – Nuwellis Announces Closing of \\$11.04 Million Underwritten Public Offering Including Full Exercise of Overallotment Option](#)
- ⁷ [ASX Announcement – IMRICOR TO RAISE US\\$5 MILLION THROUGH A CONVERTIBLE NOTE ISSUE TO SUPPORT ITS CLINICAL AND REGULATORY DEVELOPMENT](#)
- ⁸ [Fierce Healthcare – Bright Health banks \\$750M investment from Cigna Ventures, New Enterprise Associates](#)
- ⁹ [February 1 Federal Reserve Press Release](#)
- ¹⁰ [CBS News – Fairview Health Services, Sanford Health delay merger two months](#)

