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Cover Story

Why Seattle is tough soil to grow a biotech

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Leen Kawas senses the fear.

Kawas, CEO of early-stage M3 Biotechnology, has been on the hunt for investors to support her 4-year-old Seattle company, which is developing drugs to treat neurodegenerative diseases such as Alzheimer's and Parkinson's.

She has aggressively sought out venture capital firms and investors over the past 18 months, and even managed to cobble together \$2.3 million from various sources.

But that wasn't until after she was shut out by venture capital firms, leaving voicemails and emails that yielded no replies.

"There is a fear of biotech," Kawas said. "A lot of investors are not open to new models for the biotech industry compared to San Diego or San Francisco."

Unfortunately for Seattle's biotech industry, her story is not unique. Biotech in the Puget Sound region is full of unrealized potential, missed opportunities and a blatant misunderstanding of its economic potential.

While large companies such as Juno Therapeutics – which raised \$265 million in a December initial public offering – and Adaptive Biotechnologies – which just raised \$195 million in venture funding – generate headlines and grab cash, smaller early-stage biotechs toil in anonymity.

The economic stakes are high. In Washington state, the life sciences industry – comprised of biotech, medical device, diagnostic and health IT companies – directly employs about 34,000 people at 456 companies and 92 nonprofit research institutions. It is the state's fifth-largest industry, with job growth of 12 percent between 2007 and 2013. The sector pumped \$18 billion into Washington's economy in 2013, the last year for which statistics were available.

The neglect is even more curious considering that the region ranked No. 3 in the United States last year for cash raised in initial public offerings, \$621 million, according to Ernst & Young.



BUSINESS JOURNAL PHOTO | ANTHONY BOLANTE

Neil Cutshall, director of medicinal chemistry, analyzes a sample in Omeros' nuclear magnetic resonance laboratory in Seattle.

"No one would give you a weird look at a cocktail party in San Diego or San Francisco if you said you invested in a biotech company," Kawas said.

That's not the case here.

Seattle is home to companies that develop innovative treatments for cancers, ways to perfect brain tumor surgery and drugs for neurological diseases, but doesn't lure investors — outside the aforementioned large companies — the same way other cities such as San Diego or Boston do, where the biotech industry is booming.

"Investors say, 'I'm not going to put money into something that I'm not going to get a return on in two years, like the tech industry,'" said Kawas. "People have told me, 'We don't do biotech — period.'"

Innovation unfunded

Steve Gillis understands. Gillis co-founded Immunex — a spin-off of storied Seattle disease research institution Fred Hutch — in 1981. Immunex, which was one of the first biotech companies founded in the region, developed drugs for rheumatoid arthritis and cancer. It quickly became a powerhouse. Thousand Oaks, California-based giant Amgen bought Immunex in 2001.

Gillis is now managing director for Arch Venture Partners, a VC fund that focuses on early-stage biotech and life sciences companies. He's had a birdseye view of all sides of the biotech industry and has dealt with the challenges personally.

"There's not a lot of venture capital left in Seattle for early-stage companies," said Gillis. "Finding like-minded investors who won't panic at the first lab experiment that doesn't work and try to run for the door (is challenging)."

Only three large venture capital funds in the Puget Sound region really zero in on biotech: Arch, WRF Capital and Frazier Healthcare, and only the first two focus on early-stage companies.

The results of this are clear. Though mergers, acquisitions and financing are up, biotech in Washington state attracted just \$500,000 in VC funding during the 2015 first quarter, according to the National Venture Capital Association. Compare that to the San Francisco Bay Area, which attracted \$574 million in biotech VC funding in the first quarter.

The New England region attracted \$592 million in VC funding and San Diego recorded \$149 million in the same period. The entire Northwest brought in only \$198 million in VC funding in all of 2014.

Seattle is still considered one of the country's more robust biotech climates, due largely to the sprawling health care economy. A recent study for the city found that one in five jobs here is linked to the health care industry. Those 96,000 jobs contribute more than \$10 billion to the local economy.

Yet the preponderance of top-rated hospitals, teaching facilities and research institutes hasn't translated into a high measure of respect for the industry. Places such as San Diego, Boston and San Francisco have much larger industry clusters — an important component of a strong biotech economy. Biotech more than other industries requires a strong network of several different elements, including a strong VC community willing to take well-documented risks, a host of vendors and other health care providers and policies that support the growth of the industry.

Washington state Gov. Jay Inslee isn't sure exactly how to help the industry find access to more money.

"This capital issue is really bedeviling us," Inslee said. "One of the things I can't quite figure out is in the days of the internet, why capital is so relative to geography. What can we do to unlock that?"

Valley of death

The arduous federal approval process — investors must sometimes wait 10 or 15 years for a payoff, and it's rarely a sure thing — scares off many would-be financiers. Simply put, it's easier to develop a new video game or smartphone than a drug.

Biotech companies themselves have named the conundrum "the valley of death."

One company that, so far, has successfully navigated that valley is Omeros, a Seattle biotech that develops treatments for a variety of disorders, including central nervous system diseases and products for cataract surgery. This year it launched its first commercial drug, which is a long time coming for a company that has been around since 1994. Omeros went public in 2009.

The company took money from individual venture capitalists when it did early fundraising, but not from venture capital funds because it wanted to retain independence.

"There aren't a large number of venture funds in the Northwest. So you have to go outside of the Northwest to get those investment dollars," said Omeros CEO Gregory Demopoulos. "And when you do, you're talking to funds that may not be as familiar with your company in Seattle as they are with companies locally. So, it is a challenge."

Kawas has found that being very early stage is especially challenging in trying to attract investors.

"If you're not at the clinical stage, for them you're too early. They don't even allow you to explain the business model you have," she said.

Meanwhile, national biotech venture capital funding is setting a record so far this year, approaching \$7 billion, according to National Venture Capital Association data. But a lot of that money is concentrated in those California and Boston-area hubs, leaving early-stage companies in Washington state struggling.

State policy isn't helping. The Life Sciences Discovery Fund, which provides crucial funding to get young biotechs through the valley of death, is on the chopping block in the Legislature as lawmakers try to figure out where to squeeze money in the budget.

Massachusetts has a slew of tax incentives for biotech companies, including research grants similar to LSDF's, a life sciences-specific tax program and grants to retain talented faculty and investigators. In 2013, California adopted new tax credits to help biotech companies shoulder the cost of R&D. California biotechs also have partial exemptions from sales and use taxes.

Best kept secret

Puget Sound-region biotechs also have another drawback for scientists seeking places to work: It's thousands of miles from any other biotech hub, and there are fewer companies here than in places such as Boston, San Diego and the San Francisco Bay Area.

Demopoulos said that's why one of his focuses at Omeros is on who he hires.

"There are fewer biotech companies here in the Northwest than other biotech hubs," said Demopoulos, "and that makes recruiting more challenging. There aren't enough candidates locally, and the national candidates understand the risk, should the jobs they are applying for not be a fit."

That's where education and policy come into play. If Washington state wants to look within its borders for biotech workers, experts say it should invest more in education, especially STEM education.

"We're one of the best kept secrets," said Chris Rivera, CEO of the Washington Biotechnology and Biomedical Association. "We have to import a lot of our talent into Seattle because the industry is not that well known."

The complicated science behind curing cancer — which so many local biotechs focus on — doesn't help.

Dendreon Corp., a Seattle company that developed promising prostate cancer immunotherapy drug Provenge, had high hopes when its drug hit the market in 2010. But the price tag topped \$90,000.

Other companies also developed more effective drugs during the time it took Provenge to get approved by the Food and Drug Administration. Dendreon ended up filing for bankruptcy last year and was sold to Canadian Valeant Pharmaceuticals for about \$400 million.

Thong Le, CEO of Seattle-based biotech investment company Accelerator Corp., said what happened to Dendreon might be an extreme case. But still, similar problems can cloud the future of other companies.

"It wouldn't be surprising to see one of these therapies that is promising early on run into some stumbling blocks because we don't fully understand what's happening (inside of a tumor)," said Le. "The science here still needs to be worked out."

That's especially true in the field of immunotherapy, a treatment that relies on the body's immune system to fight disease. Several Puget Sound-area companies, including high-flying Juno Therapeutics, are working to develop immunotherapy treatments.

The problem is especially vexing considering that the region is a health-care mecca, especially with places such as Fred Hutch, which has spun off 20 companies in its lifetime.

"You've got this enormous aggregation of resources on the life sciences or biotech research side," said Joseph Schocken, president of Seattle investment firm Broadmark Capital, which invests in Omeros. "It is terribly obvious that biotech is the industry that you would develop here. But you have enormous failure on the for-profit side."

Companies do more than make drugs

Talking about funding that flows to the biotech industry can be tricky because biotech is one branch of the broader life sciences industry.

That's why the \$500,000 that the National Venture Capital Association marks down for Washington state biotech funding seems impossibly small. The Washington Biotechnology & Biomedical Association tracked \$22.8 million of life sciences venture capital funding transactions here in the first quarter of 2015 and \$475 million in all of 2014.

The umbrella of biotech is widening. In a traditional sense, a biotech company is one that develops drugs. But Seattle companies like Adaptive Biotechnologies and NanoString — which develop a platform and a diagnostic, respectively — are also considered biotechs.

Adaptive alone closed two massive rounds this year, one of \$195 million and another of \$94 million. That's one thing to keep in mind while reading this story.

"When I think of our ecosystem, there are a lot of lines that are blurred today compared to five years ago," said Chris Rivera, WBBA president. He said it's likely that the NVCA used a more traditional definition of biotech for its report.

Discovering a shortfall

Leaders of early-stage biotech companies are waiting eagerly to see what state lawmakers will do with the Life Sciences Discovery Fund.

The LSDF provides small grants — \$1 million or less — to get entrepreneurs over the "valley of death" to the development of a product.

While Gov. Jay Inslee and the House Democrats slated about \$20 million for the fund in the 2015-17 budget, Senate Republicans didn't allot anything.

By the Numbers: Biotech investment

Venture capital transactions for 2014 in the life sciences and biotech industries for California, New England and the Pacific Northwest.

\$2.3 billion: California

\$1.9 billion: New England

\$198 million: Pacific Northwest

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