

## Finance/Funding

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### ▼ Seed capital conundrum

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#### **Venture capitalists and angels are pulling back from seed rounds, just as biotech startups need more money than ever to get off the ground.**

Finding seed capital to fund a biotech startup has never been easy. But recent data suggest that it's becoming ever more difficult (see [Table 1](#)). Biotech seed investment by venture capitalists (VCs) has eroded. And although angel investors are increasingly attracted to biotech deals, they are also putting a larger share of their money into later rounds.

The reason for this is simple: the seed round is the riskiest and both of these investor groups are increasingly risk averse. This dynamic is creating a growing funding gap and it's unlikely that VCs will be changing course to fill this void anytime soon.

"Venture capitalists, in particular, are expecting more mature technologies," observes Jeff Hsi, an attorney with Boston-based Edwards Angell Palmer & Dodge. "Absent a really hot, sexy technology, they are expecting relatively advanced clinical candidates, not an investigational new drug."

"It's not a funding gap—it's a funding chasm," asserts Barbara Schilberg, CEO of Philadelphia-based BioAdvance, which has made 20 seed investments in biotech companies over the last few years.

"Therapeutic companies, in particular, now need at least \$2 or \$3 million to make any significant progress toward getting institutional capital."

“It's not a funding gap—it's a funding chasm," asserts Barbara Schilberg, CEO of Philadelphia-based BioAdvance.”

Over the last six years, 2001 saw the largest proportion of total venture capital funding for biopharmaceutical firms that went for seed-round investments: about 1% of the total. All told, some \$36 million was spread across 24 deals, which amounts to about \$1.5 million each, on average. In the first three-quarters of this year, VCs were more miserly: \$8 million for ten deals. Seed investments represented only 0.03% of the venture capital funds invested in biopharmaceutical startups according to San Francisco-based Dow Jones VentureOne.

Then again, some say that entrepreneurs should not have viewed VCs as



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Into the void: Seed-round VC investor, Daphne Zohar of Boston-based PureTech Ventures

a source for seed funding in the first place.

"Venture capitalists have never been seed investors," argues Jeffrey Sohl, director of the Center for Venture Capital Research at the University of New Hampshire in Durham. "Over the last four or five years, what little appetite they had for seed funding has decreased."

Angel investors can help fill part of the seed-funding gap, and they have been increasingly interested in biotech. In recent years, angels have been funding about 40,000 deals annually on average for less than \$500,000 each. According to the Association of University Technology Managers based in Northbrook, IL, more than half of the startups coming out of universities in recent years have been funded by angel investors.

In the first half of 2005, almost one-fifth of angel investments, or about 4,500 deals, were made in biotech companies, according to data from the Center for Venture Capital Research. That's up from the first half of 2004 when biotech companies accounted for only one-tenth of the 2,800 angel deals.

Still, the larger trend in angel investments could catch up and erase these gains for biotechs. In the late 1990s and the first few years of the 2000s, about 80% of angel investments went into seed funding. But as angels work to protect their initial investment, they have put more energy and capital into the companies already in their portfolios. In 2005, says Sohl, only about half of the total angel investments went to seed rounds.

The seed-round funding gap is hitting universities, too. The last time a VC provided seed funding for a biotech startup at the University of California at San Francisco, which is less than an hour's drive from some of the world's most prolific venture investors, was in 2002.

"Basically university startups can't get financing from venture capitalists now," says Joel Kirschbaum, director of the technology transfer office at UCSF. "Angel groups are also pulling back and requiring more advanced technologies as well."

“If you go after low risk, you're not likely to get the big returns," says Daphne Zohar of Boston-based PureTech Ventures.”

Small business grants from the federal government have traditionally been a source of capital for biotech startups. They also have the advantage of being nondilutive. But, they are also typically small in scale. "You get an infusion of capital upfront from SBIR [Small Business Innovation Research] grants," notes Hsi, "but it's usually not enough to get you where you want to be these days."

Some entrepreneurs are turning to nontraditional funding sources like hedge funds, philanthropies and charities with a venture arm, VCs in India, Taiwan and China, and local, state and regional government funding schemes. Others are pitching the venture arms of big pharma and big biotech. Some startups are negotiating debt financing from angel investors, which allows angels to minimize later dilution of their shares by VCs.

Contrarians speculate that now that the pendulum of VC investing has swung so far away from seed investing, it will surely start swinging back. "The big ideas offer the big returns," argues VC Daphne Zohar, whose firm, Boston-based PureTech Ventures, focuses strictly on seed funding. "If you go after low risk, you're not likely to get the big returns."

Still, many worry that the growing seed funding gap may ultimately stifle biotech innovation. "Long term, if something isn't done, society is going to pay a price," argues Kirschbaum. "There needs to be a pipeline. If there's no further investment in these early-stage technologies, there will be a gap in that pipeline."



Edwards Angell Palmer & Dodge

Trendspotter: Jeff Hsi of Boston-based Edwards Angell Palmer & Dodge

## Web links

### Websites referenced:

- [Dow Jones VentureOne](#)
- [Center for Venture Capital Research](#)
- [UCSF Office of Technology Management](#)
- [PureTech Ventures](#)
- [BioAdvance](#)

**Table 1: Venture capital for biopharmaceutical companies by round class (\$ millions)**

	1999	2000	2001	2002	2003	2004	2005 YTD
Seed round	\$8	\$32	\$35	\$29	\$6	\$21	\$8
First round	\$579	\$1,180	\$966	\$841	\$576	\$910	\$649
Second round	\$613	\$982	\$1,148	\$1,133	\$949	\$1,587	\$658
Later stage	\$467	\$1,905	\$1,033	\$947	\$1,697	\$1,694	\$1,074

Source: Dow Jones/VentureOne

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