

STUCK IN NEW JERSEY

Scientists and politicians in New Jersey thought that they had a chance to make their state a stem-cell player. Voters thought otherwise. As proponents prepare for a second attempt, **Meredith Wadman** investigates what went wrong in the Garden State.

In the middle of downtown New Brunswick, New Jersey, a small dirt parking lot lies nestled between the state's medical school, the university hospital and the Cancer Institute of New Jersey. It's not much to look at. But Wise Young sees something else: The Stem Cell Institute of New Jersey — a 14-storey tower dedicated to cutting-edge stem-cell research of the sort that Young, a highly regarded neuroscientist at nearby Rutgers University, says is vital to the future of medicine.

The tower is more than just a figment of Young's imagination. Plans have been drawn up; the money to build it has been authorized; and the governor, Jon Corzine (Democrat), posed for cameras at the formal ground-breaking ceremony last October. But ceremony has given way to quiet reality; the tower has little purpose if there is no money to fund research within it.

Young has dedicated years to trying to get that money. In 2007, he was one of the leaders of a group trying to convince New Jersey's citizens

to borrow almost half a billion dollars to finance research in the tower and at other facilities. The funding required a public vote, and the polls indicated that New Jersey was game. Nevertheless, Young and his colleagues were trounced: outmanoeuvred and out-marketed by two nimble political action groups.

In November, Young wants to go into battle again. Otherwise, he says, New Jersey will fall behind other states in stem-cell research. But first he and his colleagues need to learn from the failures of their last campaign, which have left the future that he dreams of stuck in a down-at-heel parking lot.

Several US states have launched campaigns against the national policy that restricts federal funding to work on the 20 or so stem-cell lines derived before 9 August, 2001. New Jersey was the first to appropriate state funding for stem-cell research, approving US\$10 million in January 2004. In November of that year, the move was eclipsed when voters in California approved Proposition 71, authorizing \$3 billion in state

borrowing to fund stem-cell research for 10 years. Encouraged by California's success, other states followed, among them New York, where the state government last year established a \$600-million stem-cell research fund, and Maryland, which has established a commission to dole out \$38 million. Wisconsin is set to spend \$750 million on research facilities. And last year, Massachusetts governor Deval Patrick proposed \$1 billion in state funding for biomedical research — half of which would be used to establish a research centre that would house the nation's largest embryonic stem-cell bank. But not surprisingly in a country with stark political divides from state to state, many have opposed the research (see 'The state funding scrum'). Six states have criminalized it. Colorado voters may weigh in this November on a referendum declaring that legal 'personhood' begins at the moment of conception.

A year ago, observers could have been forgiven for thinking that New Jersey had a good chance of boosting its own stem-cell coffers. In addition to being the first to fund the research, it's a liberal state with a governor who is highly

"The eyes of the world are watching New Jersey."

— Wise Young

THE LONG TRAIL

For more than four years, New Jersey has been a battleground for advocates and opponents of using state money to fund human embryonic stem-cell research.

9 Feb 2004

Wise Young (centre), an advocate for spinal-cord research writes to McGreevey asking for funding for stem-cell research.



4 Jan 2004

New Jersey governor James McGreevey signs a bill legalizing embryonic stem-cell research in the state (above). He is joined by the late Christopher Reeve, an actor who lobbied for the bill.



20 June 2005

Marie Tasy (above), of New Jersey Right To Life, testifies against a proposed bill to fund human embryonic stem-cell research.

supportive of the measure and major population centres that are effectively suburbs of Manhattan and Philadelphia. The 'Garden State' is home to 17 of the world's biggest pharmaceutical companies, and research and development and biotech firms are blossoming up and down the New Jersey Turnpike, the toll road that runs the length of the state. But as in California, advocates such as Young also faced challenges to their grand vision. Some were predictable, such as the state's \$32-billion debt and its looming \$3-billion budget deficit. Others they should have anticipated — the short campaign season, the off-year election and fiercely committed opponents who were able to rally major grass-roots support to influence the media and win the election.

Medical innovator

Young, 58, was born in Hong Kong and grew up in Japan. After getting an MD at Stanford University in California and a doctorate in physiology and biophysics from the University of Iowa, he started a neurosurgery residency at New York University Medical Center. But after Young had to tell the parents of a 17-year-old wrestler that their son would never walk again, he quit the residency for full-time spinal-cord research. By the time he was 40, he and his collaborators had upended conventional wisdom on the irreversibility of spinal-cord injury by showing that high doses of the steroid methylprednisolone could save about 20% of a victim's function if given within 8 hours of injury (M. Bracken *et al.* *N. Engl. J. Med.* **322**, 1405–1411; 1990). Young became a hero to legions of people in wheelchairs, including Christopher Reeve, the former actor and stem-cell research advocate, who sought Young out as an adviser and confidant after he was paralysed in a riding accident in 1995. Two years later, Rutgers Univer-

sity wooed Young and made him the founding director of the W. M. Keck Center for Collaborative Neuroscience, and its patient-outreach arm, The Spinal Cord Injury Project.

Then, in 1998, scientists managed to isolate human embryonic stem cells. Young saw the potential of the cells for spinal-cord-injury research. "It opened new possibilities we hadn't realized before," he says. He was therefore thrilled when, early in 2004, New Jersey's then-governor James McGreevey (Democrat) signed a law permitting human embryonic stem-cell



The groundbreaking ceremony for New Jersey's stem-cell institute might have been premature.

research and somatic-cell nuclear transfer in the state of New Jersey.

But that wasn't enough for Young. Days after the law was signed, he wrote to McGreevey proposing that the state fund a \$50-million bond initiative to establish a state-financed stem-cell institute. "The eyes of the world are watching New Jersey," he wrote. "It would be a shame if stem-cell research in the state does not advance."

Nine months later, Reeve, who grew up in Princeton, died at the age of 52. Young was

devastated. "It was the fact that he died without seeing what he fought for come to fruition — that was the saddest part," he says. "It was Christopher's death that really galvanized me."

By December 2006, when the new governor Jon Corzine signed a bill into law to establish several stem-cell research facilities in New Jersey, the \$50 million in bonds that Young had proposed to McGreevey had grown to \$270 million. Of this, \$150 million would build the Stem Cell Research Institute of New Jersey, run jointly by Rutgers and the University of Medicine and Dentistry of New Jersey's Robert Wood Johnson Medical School.

As 2007 started, all that remained for Young and his allies was to find funding for the research that would fill that brand-new building. After a protracted battle in the state legislature, Jersey lawmakers passed a third bill in June, the New Jersey Stem Cell Research Bond Act. It proposed a nearly half-billion-dollar loan that the voters would have to approve. The ballot question, as laid out in the bill, asked for permission for the state to borrow \$450 million over 10 years to fund stem-cell research.

In an accompanying "interpretive" statement that voters would read on election day, ballot question two noted that the loan could benefit New Jersey residents "with diseases and severe injuries such as Alzheimer's disease, cancer, diabetes, Lou Gehrig's disease, Parkinson's disease, sickle-cell anaemia and spinal-cord injuries."

Ballot question two didn't mention higher taxes explicitly; it asked voters to approve both the loan and unspecified "ways and means" for the state to pay back the capital and interest. But buried in the 17-page bill that created the bond question was a sentence that caught the notice of Steve Longan, founder of the New Jersey branch of Americans for Prosperity, an anti-tax

J. O'BOYLE/STAR-LEDGER/CORBIS; AMERICANS FOR PROSPERITY; M. DERER/AP; N. ROMANENKO/RUTGERS UNIV.

20 Dec 2006

Governor Jon Corzine (below) signs a bill into law authorizing the state to borrow \$270 million for stem-cell research facilities.



2 Oct 2007

Steve Longan (below), head of the local branch of Americans for Prosperity, organizes rallies (centre) against question two and other ballot measures. The money starts to pour in.



26 July 2007

Corzine (above) signs the Stem Cell Research Bond Act, putting 'ballot question two' to the public and asking if the state can borrow another \$450 million to fund the research.

group with national headquarters in Washington DC. The sentence that leaped out at him said that if the state lacked the funds to pay back the interest and capital on the bonds — payments that government estimates put as high as \$37 million per year at their peak — it must tax “the real and personal property” of New Jerseyans to make up the deficit.

In a state with some of the highest property taxes in the nation, Lonegan knew a target when he saw one. So, from his office in Bogota, a gritty town at the north end of the Jersey Turnpike, Lonegan spent his summer raising cash.

Lonegan collected some \$450,000, all of it, he says, from unnamed New Jersey donors, who were also motivated to fight two other ballot questions that Lonegan’s group was opposing — on sales taxes and borrowing to preserve open space. The bulk of the money poured into his office between 2 October and 6 November. In a media market in which television time can cost as much as \$30,000 per 30 seconds, and a day of radio airtime tens of thousands of dollars, money was crucial.

“Ballot question two was a very deceptive measure.”
— Marie Tasy

Fighting back

An hour south on the turnpike, Marie Tasy was also preparing for battle. As executive director of New Jersey Right to Life, Tasy is a political force to be reckoned with. She had been fighting stem-cell research since it first found its way onto the political agenda. Tasy was furious, in particular about the wording of the ballot question. It did not spell out that stem-cell research included research on human embryonic stem cells. She was equally incensed that it didn’t point out that, under New Jersey’s 2004 law, the funds could be used to clone human embryos from which to harvest stem cells, or even — in

her interpretation of the law’s wording, which has not been tested in court — to implant cloned embryos in a womb for gestation.

“It was a very deceptive measure,” says Tasy, a well-kept woman with huge brown eyes and a direct gaze, who keeps a portrait of a beatific Mother Teresa praying the rosary and a picture of herself with President George W. Bush in her Piscataway office. “It did not specify what type of stem-cell research would be performed. It did not mention that cloning would be involved up to the point of the fetal stage. It did not mention how the funding for the bonding was going to be paid back.”

On 18 September, New Jersey Right to Life sued the Corzine administration in the state’s superior court, arguing that the referendum should be stopped because of this “deceptive” wording. The final decision allowing the vote to commence wouldn’t arrive until 26 October, 12 days before the election.

Meanwhile, Tasy came up with a killer nickname for ballot question two: “Loan to clone” — a media-friendly sound bite that she repeated at every opportunity. She also hired Rick Shaftan, a conservative media consultant. On 19 October, he helped produce a television advertisement featuring Steven McDonald, a Long Island police detective who was shot and paralysed in the line of duty in 1986. In it, the wheelchair-bound detective, in front of a US flag, declares earnestly that “question two is about taking your tax dollars for something that Wall Street and the drug companies won’t invest in. Think about it.”

New Jersey Right to Life reports \$7,500 in media expenditures for the period, but Shaftan says that \$50,000–75,000 would be a reasonable estimate of the group’s total spending on the

campaign. During an in-person interview, Tasy declined to specify what her group spent, and she did not respond to later requests for further information.

Campaign trail

In late July, thirteen miles east of Tasy’s headquarters, Young and his pro-stem-cell allies first met around a conference table at the law firm of Wilentz, Goldman & Spitzer, which occupies five floors of a ten-storey office building in Woodbridge. There, Ed Albowicz, a 32-year-old associate reputed to have the tenacity of a bulldog, had been signed off by his bosses to work on behalf of the stem-cell cause. Albowicz’s mother had recently died of ovarian cancer, and he was convinced that the research, given a chance, could help save others like her. The firm’s octogenarian senior partner Warren Wilentz still visits the office in the wheelchair he’s been confined to since a car accident several years ago.

The meetings became a weekly event, attended by ten or so people including Young, Albowicz and Russ Oster, a Pennsylvania-based Democratic political operative and direct-mail specialist who had been involved in dozens of campaigns. Young and his allies had reason to be confident: earlier that month, a poll done by Quinnipiac University in Hamden, Connecticut, had reported that 71% of New Jersey voters supported embryonic stem-cell research; 19% opposed it. But there was also cause for concern: that support softened to 49%, and opposition rose to 39%, when people were asked whether New Jersey should finance the research.

Oster, for his part, remembers the summer as a time when stem-cell proponents “were talking among themselves, saying: ‘We gotta do something. What do we do?’” He was especially worried by that 49% support figure. “Any time you start a campaign where you’re trying to get

STAR-LEDGER: N. ROMANENKO/RUTGERS UNIV.



7 Oct 2007

All five Roman Catholic bishops in New Jersey appealed to their parishes to pray against ballot question two.

21 Oct 2007

An editorial in New Jersey’s newspaper, the *Star-Ledger* asks voters whether the state should be put further in debt.

23 Oct 2007

Groundbreaking ceremony for the Stem Cell Institute of New Jersey, in New Brunswick with the mother and brother of Christopher Reeve.

people to vote ‘yes’ and you’re under 50%, it’s a warning sign,” he says. “It was pretty evident to me that this was definitely going to be a fight.”

They began to map out a strategy: they would aim to run television ads for at least two weeks across the state; be in people’s mailboxes twice before the election; do phone outreach by harnessing groups like the Juvenile Diabetes Research Foundation and the Parkinson Alliance. They would need, they calculated, \$2 million. They had nothing.

It was 24 September before the group formally registered New Jersey for Hope as a political action committee, launched by money from Young and his colleagues. A month later, the campaign had collected \$19,546, much of it in small donations. It wasn’t for lack of trying. “We made multiple, multiple calls,” says Albowicz.

On the fence

One obvious ally wasn’t biting. The ballot-question backers met twice, hat in hand, with the HealthCare Institute of New Jersey, the trade association for the state’s pharmaceutical and device industries. “We really didn’t receive anything,” Albowicz recalls. Hollie Gilroy, the group’s director of communications, says that because of the diverse positions of its 28 member companies, the group couldn’t take a stand on the ballot question. “It’s up to the individual companies to choose whether or not to support the issue,” she says.

As the election drew nearer, the anxiety of the proponents grew. “We had all the plans in the world,” says Oster. “But I kept revising the budget down and the overall plan down on a daily basis.”

Opponents of the measure had both money and messengers. On 7 October, New Jersey’s priests read from their pulpits a written plea from all five of the state’s Roman Catholic

bishops, asking parishioners to pray that New Jerseyans vote against ballot question two. In a state where 40% of residents are Catholic, that had a large impact. By blanketing every parish, the church, for a “*de minimus*” cost, grabbed the secular media, says Pat Brannigan, the executive director of the New Jersey Catholic Conference.

Newspaper editors weighed in with the fiscal argument. On 11 October, the *Star-Ledger* — the only state-wide newspaper — published a sceptical editorial, suggesting that New Jersey was too debt-ridden to afford another, \$450-million loan.

At Right to Life, Tasy was being quoted regularly in the press, watching the hits on her group’s website grow daily and fielding “a lot of phone calls.” “I didn’t need to hold a press conference,” she notes. “The media came to us ... They sensed that this was something that could be defeated.”

In principle, the advocates for ballot question two had the power of the Democratic legislature behind them — and of Corzine, who had campaigned on a pro-stem-cell platform for his win two years prior. (Corzine and his Commissioner of Health, who was at the time his top stem-cell staffer, declined to be interviewed for this article.) But in practice, most lawmakers were preoccupied with their own re-election races and saw little to gain by campaigning on what was clearly a controversial measure. “We had none of these politicians out there, standing up on this. They all ran for the hills, Democrats and Republicans,” says Lonegan.

Lonegan, however, wasn’t worried about his lack of high-profile allies. He and his group were assiduously funnelling their arguments to

newspaper editorial boards, printing pamphlets referring to the measure as “a half-billion-dollar corporate welfare handout for embryonic stem-cell experiments involving human cloning” and preparing anti-ballot-measure lawn signs.

But Lonegan’s greatest impact may have been a television advertisement that he hired Shaf-tan, the media consultant, to produce. In the ad, which blanketed the state’s cable networks for 15 days in October, a charlatan figure hawks “Governor Feelgood’s Embryonic Stem-Cell Elixir”.

“Just \$450 million, why that’s practically free,” he proclaims. “That really pissed them off,” says Lonegan.

The news wasn’t all dire for Young and his allies. On 22 October, a study was published by Rutgers economist Joseph Seneca and his research associate Will Irving. It had been

requested by the legislature, and predicted that the \$450-million investment in stem-cell research would return \$2.2 billion in economic benefit to the state.

Then on 23 October with shovel in hand before a crowd of photographers, Corzine broke ground in downtown New Brunswick for the Stem Cell Research Institute of New Jersey. Joined by the mother and brother of Christopher Reeve — after whom the building is slated to be named — the governor promised that the facility “will serve as the nexus of cutting-edge scientific breakthroughs that will improve and save the lives of millions of our fellow citizens”.

That brief moment was the end of the good public relations, though. From 22 October, the ads featuring McDonald, the paralysed police detective, had been playing all over the state. An Eagleton poll on 25 October showed voter support at 57%; but within a week, Young and his

“Any time you start a campaign where you’re under 50%, it’s a warning sign.”
— Russ Oster

J. BROWN/STAR-LEDGER; M. EVANS/AP



26 Oct 2007

Protracted attempts by New Jersey Right to Life and others to remove ballot question two are quashed by the appellate court.

06 Nov 2007

Election day: despite a funding blitz at the last minute, proponents of ballot question two mount a meagre campaign and the measure fails 53% to 47%. The next day, Corzine (centre) answers questions about the results.

THE STATE FUNDING SCRUM

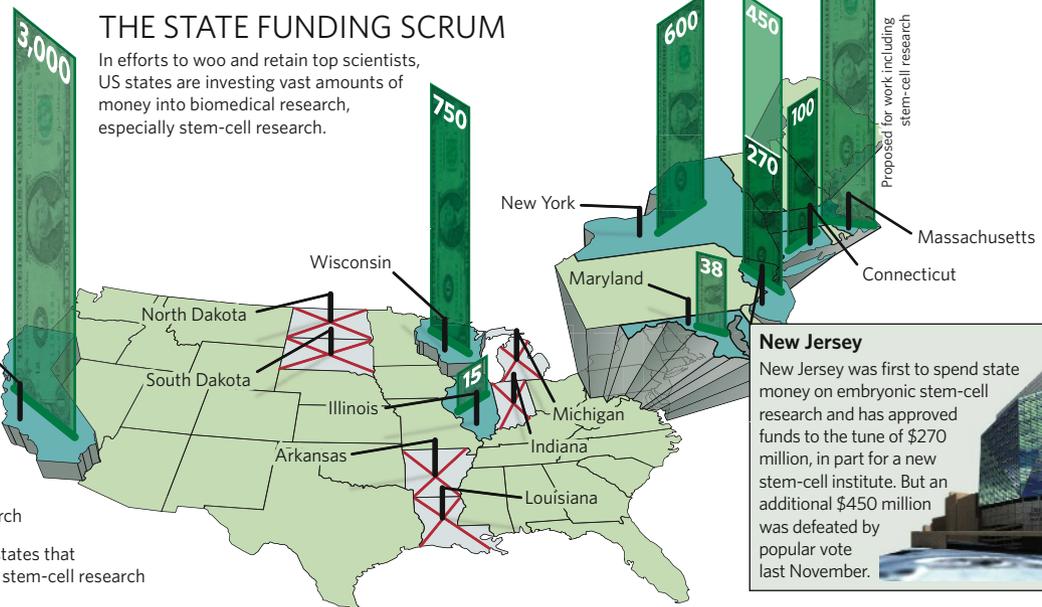
In efforts to woo and retain top scientists, US states are investing vast amounts of money into biomedical research, especially stem-cell research.

California

Proposition 71 — a law approving state funding for stem-cell research — passed in part thanks to a \$25-million campaign and a star-studded support group. Although the largest and most visible, it wasn't the first to spend state dollars on the field.

 States that oppose human embryonic stem-cell research

 Funding (US\$ millions) in states that support human embryonic stem-cell research



allies were hearing from unpublished sources that support had slipped to 48%. On 31 October, *The Record*, a newspaper in liberal Bergen County, published an editorial urging voters not to put the state further into debt for a project that the private sector could and should finance. It concluded: "We say yes to stem-cell research, but a loud no to public question no. 2."

Around this time, Albowicz called Young in a panic. "We're going to lose this unless we raise some money now," he said. But with less than \$20,000 in the bank, Young says, "We couldn't even get a direct mailing out." They hatched a plan and, together with a fundraiser dispatched from Corzine's office, pooled their phone lists and began making cold calls.

Cash flow

On 30 October, Corzine sent the campaign \$150,000 from his personal bank account. On 2 November, he kicked in another \$50,000. That same day, Betsy Johnson, an elderly member of the clan that founded New Brunswick-based Johnson & Johnson added \$100,000. Gordon Gund, the Princeton-based former owner of the Cleveland Cavaliers — an Ohio basketball team — sent in \$200,000.

The infusion allowed the campaign to buy several days of radio ads by Michael J. Fox, ageing rap group the Sugarhill Gang and New York hip-hop artist Styles P. They managed pre-recorded phone calls and one direct mailing to about 400,000 people (The state has 8.7 million.) From 31 October, they reported spending \$567,000. They never made it onto television.

On election night, supporters gathered at the West Orange headquarters of Senate president Richard Codey, a key backer of stem-cell research, to watch glumly as the results came in. Early on it was clear that voter turnout had been dismal, even for an off-year election. That was bad news in a battle in which opponents were more motivated to vote than the supporters.

The death knell really sounded, however, when it became clear that even the counties of Middlesex and Somerset, where Rutgers and New Brunswick are located, had rejected the measure. In the end, the state's voters defeated the measure by some 79,000 votes, 53% to 47%, voting against it in three-quarters of the state's counties.

Young drew up a post-mortem analysis shortly after the election: turnout in counties that voted against ballot question two was around 32%. Six of those counties opposed the measure by nearly two to one. By contrast, in the five counties that decisively approved the measure — essentially the Philadelphia and New York suburbs — turnout averaged 22% and dipped as low as 10%. Young calculated that if turnout in four of the five pro-stem cell counties had matched the 34% turnout recorded in the 2003 state elections, the measure would have passed easily. The fallout from the loss was immediate. The legislature's Joint Budget Oversight Committee, which had scheduled an 8 November meeting to release the first of the \$150 million

in construction money, cancelled it the day after the election and has not met since.

A few weeks later, Corzine summoned Young and a handful of other key stem-cell advocates to breakfast at Drumthwacket, the governor's mansion in Princeton. "He said that he would try very

hard to ensure that the referendum goes on the ballot again" next November, recalls Young. "But he also explained to us what a difficult situation it was", with the state so deeply in debt.

Stem-cell research supporters in New Jersey clearly missed two key lessons from California: organize big and organize early. California proponents did so out of necessity: under that state's law, they had to gather 600,000 citizen signatures just to get the measure on the ballot. The result: by the time their opposition emerged, the proponents had built a huge, money-and-celebrity-studded machine that gathered more than \$25 million, dwarfing the

opponents' six-figure fundraising. They also profited from the high voter turnout characteristic in presidential election years.

Relentless affront

Whether and when another ballot question two will confront New Jersey voters remains unclear. It could be as soon as this November — an idea that has grabbed supporters because of the political advantage that a presidential election is likely to generate. Either way, it won't be long after that, that a new occupant arrives in the White House, with the tantalizing possibility, depending on the winner, of an end to the restraints on federal funding. But in the current flat-funding climate at the National Institutes of Health (NIH), even the most liberal federal policy is unlikely to translate into a big boost. The NIH spent \$37 million on human embryonic stem-cell research in 2007. And what funding there is will be the object of fierce competition. All of which leaves Young and his allies determined to press on.

Nevertheless, in New Jersey, which is a liberal state, but also heavily taxed and undeniably pragmatic, a stem-cell friendly victory for the presidency could lead to disinterest in seeing state dollars, already stretched to their limit, being brought to bear on long-term basic biomedical research goals. Composed largely of small towns, small-town politics rule the day in New Jersey, and the lofty dreams of a few politicians and scientists can easily be swept under by more immediate matters such as property taxes, political scandals, and the tolls on the Jersey Turnpike.

Young has steeled himself, however. He and his allies have met several times since the governor's breakfast, hatching plans to turn New Jersey for Hope into a permanent political action committee and lay out a strategy for the next nine months. "I have come to the conclusion that to win next November we don't need \$500,000, we need \$5 million," Young says. "Dozens" of people, he adds, are hard at work to that end. ■
Meredith Wadman writes for Nature from Washington DC.

"The politicians ran for the hills, Democrats and Republicans."
— Steve Lonegan