



Stem-Cell Advantage

By Andrew Brod

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One of the biggest challenges in economic development is the reality that magic bullets are rare. As a rule, the best policy lays foundations and invests in infrastructure. And that isn't very sexy, is it?

That's why it's important to act decisively when an economic opportunity comes along. When President Bush vetoed a key funding bill for stem-cell research last month, he created an opening for the states to step in and fill the gap created by the federal government. North Carolina should jump at this opportunity and pass a funding bill for stem-cell research in the state. Other states may do the same, so time's a-wastin'.

The bill vetoed by the president would have expanded federal funding for human embryonic stem-cell research. Among other things, the bill would have generated new stem-cell lines from embryos originally created for research and treatment and donated by patients. Even though those cells will never be implanted to grow into human beings, opponents of stem-cell research argue that gathering embryonic material in this way is murder.

Proponents point to the tremendous medical potential of therapies derived from stem-cell research. Stem cells have the ability to be used as a repair system for the body, and stem-cell research could help doctors repair tissue or grow organs. Stem-cell therapies could eventually treat cancer and neurological disorders. But for the most part, these wonders lie in the future and will never be discovered unless we invest in stem-cell research.

I'll leave the ethics of stem-cell research to others, in particular our legislators in Raleigh. According to the *News & Record*, State Rep. Earl Jones of Greensboro has advocated greater state investment in SCR, and perhaps because of his efforts a legislative committee will study the merits of introducing a \$20 million stem-cell research bill in the coming year. There could be additional costs, however. California allocated \$3 billion in state money to SCR in 2004, but the money has been tied up in court ever since due to intellectual-property suits. Court costs don't grow on trees. Even so, let's hope the state opts for some level of new funding.

Stem-cell research is a good fit for North Carolina's growing biotechnology sector. There is an infrastructure of biotech companies and research programs throughout the state. Unlike so many government programs that throw money at flavor-of-the-month industries, money spent on biotech in North Carolina is a seed that has a very good chance of bearing fruit in the future.

In 2005, more than 35,000 people were employed by North Carolina's biotechnology sector, accounting for 1.1 percent of all private employment in the state. And that number

doesn't include those on government and college payrolls. Only seven states had more private-sector biotech employees than North Carolina, and only three of those seven exhibited a greater degree of specialization in biotechnology. For example, California's massive biotech sector of 138,000 employees is actually slightly smaller than North Carolina's when each is compared to its entire state economy.

According to the accounting and consulting firm Ernst & Young, in 2005 only two states, California and Massachusetts, were home to more biotechnology companies than North Carolina. A study by the Milken Institute showed that of the leading biotechnology states, North Carolina has the lowest cost of doing business.

Biotechnology's corporate presence in North Carolina is buttressed by the state's universities and community colleges. Biotech research funding at North Carolina universities totals approximately \$1.6 billion annually, and about half of the state's new doctorate recipients do their work in biology and related life sciences. The community college system's BioNetwork is a nationally recognized program that trains the biotech workforce of the future.

In a study last year by UNCG's Office of Business and Economic Research, geographer Keith Debbage found that roughly two-thirds of all biotech jobs in the state are located in the three major metropolitan areas of the Research Triangle, the Triad, and Charlotte. Over half are located in the Triangle alone. However, Debbage believes there are opportunities for the Triad to leverage its proximity to the Triangle in various subfields, including the Triad's already strong drug-manufacturing industry.

Debbage also found that earnings in the Triad biotech sector, an indicator of a skilled workforce, are relatively high. This is consistent with another OBER study conducted this summer by UNCG economist Don Jud, which surveyed a panel of Triad biotech executives who reported being generally happy with the region's business climate and availability of skilled workers.

Therefore, it appears that North Carolina and the Triad are in an excellent position to capitalize on the federal government's reluctance to fund stem-cell research. In a perfect world, it might be better for stem-cell research to be funded at the federal level, but that's not going to happen in the near future. Already, a number of states, led by both Republican and Democratic governors, have reacted to the Bush veto by announcing plans to increase funding of stem-cell research in their states. Let's hope that North Carolina doesn't miss its chance to jump through this window of opportunity.

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