

Sunday, March 6, 2005

EDITORIAL

Hawaii's future lies in life sciences

The exciting field could give Hawaii's best and brightest a reason to stay here

By J. David Curb
Special to the Star-Bulletin



About the author:
J. David Curb, M.D., is the president and CEO/medical director of the Pacific Health Research Institute, a Honolulu-based biomedical research institute.

STAR-BULLETIN / 2004

Edwin Cadman, dean of the John A. Burns School of Medicine, far left, led a tour of the partially completed University of Hawaii medical school in Kakaako last fall.

In the last few weeks the new John A. Burns School of Medicine biomedical research building opened its doors to the public in a ceremony that capped a very successful medical conference. Although the University of Hawaii medical school faculty and administrators won't occupy the campus until March, the building is arguably the most important manifestation of the state's new life sciences sector. Ed Cadman, dean of JABSOM and now on medical leave, deserves a great deal of credit for his leadership in this endeavor.

It wasn't easy to get this building erected. It took a great deal of political courage for the Legislature (encouraged by Gov. Ben Cayetano) to commit the \$150 million bond issue to build it. The logic behind its construction was that the new facility would help kickstart a biotech industry and diversify our economy.

However, not everyone in the community believes spending money on the new medical school was the right thing

to do. In a recent issue of Honolulu magazine, Bank of Hawaii chief economist Paul Brewbaker maintains that Hawaii should acknowledge its natural strengths and specialize in them. In the article Brewbaker asks some legitimate questions about economic diversification, such as, "What's your core competency?" He answers his own query by saying, "For us, that's tourism."

While no one can argue that tourism will continue to play a key role in our economy, I think Brewbaker would agree that this is a mature industry with little room to grow. What's more, it simply does not create the kind of high-paying jobs that can keep gifted local people employed in our state. Nor does the visitor industry attract the type of talented workforce from the mainland that will diversify our economy. And tourism is especially subject to the fluctuations of the marketplace, global events and the fickleness of the public. As everybody knows, one random terrorist act could cripple our tourism industry overnight.

Sticking to our strengths

While hospitality is something that Hawaii excels in, I would contend that there are several sectors of life sciences in Hawaii that I would certainly rate as a "core competency." For a number of years the Aloha State has been a living laboratory for ground-breaking medical studies funded by the federal government and conducted by the Cancer Research Center and my own organization, Pacific Health Research Institute. Large pharmaceutical companies have also been funding a number of studies in Hawaii as well.

This is all made possible by one of Hawaii's greatest assets -- our varied ethnic makeup. We are one of the most diverse population centers in the entire world. This makes us an ideal test bed to conduct health and biomedical surveys of all types. For example, currently PHRI is conducting studies on cancer, coronary heart disease and stroke, Alzheimer's, aging and women's health, and blood pressure, just to name a few.

PHRI is also in the midst of a national study on childhood diabetes under the aegis the U.S. Centers for Disease Control and Prevention that is the most comprehensive ever conducted. These kinds of programs are being done in Hawaii right now in conjunction with some of the nation's most prestigious medical schools including Harvard, Stanford, and international medical centers in Japan, Korea, Taiwan and elsewhere.

My belief is that a key element of our future life sciences industry will entail population (epidemiological) studies where Hawaii can play a key role. The Aloha State also could take part in pharmacological studies of drugs or vaccines that could be distributed internationally. Clinical trials in Hawaii will put our state on the cutting edge of drug development and encourage those seeking treatment with experimental products to come here. For example, Hawaii Biotech will soon be testing its new West Nile virus vaccine locally. As new products come out of Hawaii Biotech's pipeline, Hawaii could become an important center for researching and testing new cures for emerging diseases.

We could be a very competitive niche player in targeted areas where Hawaii enjoys a natural advantage. To identify these niches, PHRI along with the Hawaii Life Sciences Council, University of Hawaii, Kamehameha Schools, Enterprise Honolulu and others are collaborating on a life sciences "road map."

Among the "core competencies" that we can grow are pockets of excellence found at UH such as marine sciences, tropical agriculture and emerging diseases. In addition to advancements at UH, our hospitals have developed expertise

in a number of areas. These include medical imaging at Queen's Medical Center, chronic disease research at Kuakini Medical Center and sophisticated clinical trials at Hawaii Pacific Health.

I also believe we can capitalize on Hawaii's strategic location as a nexus between Asia and the West to bring in both research dollars and new businesses. Our location midway between Asia and North America makes us an ideal entry point for Asian companies interested in getting a foothold in the mainland United States. Already, with the opening of the new medical school, both Japanese and Chinese companies have shown interest in setting up shop here to leverage local research facilities.

Local hospitality and cultural affinity are also part of the equation. My Asian colleagues tell me they are much more comfortable here than in other cities on the U.S. mainland.

Strategic growth

How can we grow from our existing strengths?

One way is to bring in a research anchor from a prestigious mainland organization to add to the critical mass of research already being performed at UH, the Cancer Research Center and PHRI. Looking around the country you can clearly see that other states are doing just this. For example, Gov. Jeb Bush of Florida is bringing in an arm of Scripps Research Institute, a world-renowned California biomedical facility, to Palm Beach County. The Florida legislature provided \$320 million to do so.

Here in Hawaii we are encouraging the Centers for Disease Control to bring in a research facility to study emerging infectious diseases in Asia such as "bird flu" and SARS. This was orchestrated by Duane Gubler, director of Asia-Pacific Institute for Tropical Medicine and Infectious Diseases at UH, and Ed Cadman. Julie Gerberding, the director of the CDC who was here last month to attend the UH Medical School conference, was very impressed with Hawaii's capabilities and is interested in pursuing this project. If we can land a "CDC West" facility in Hawaii it would be a tremendous asset and send a strong signal around the world that our state is a serious player in this promising niche.

Not built in a day

Even with the best of intentions, it's extremely important to understand that building a life sciences industry will not happen overnight. Of course there are no guarantees -- anything worth doing involves some risk.

Naysayers might argue that building a life sciences industry might be fine for a wealthy state such as Florida or California (which just allocated \$3 billion for stem-cell research over 10 years) but not for little Hawaii.

I beg to differ. In a recent forum hosted by the High Tech Development Corp. here in Honolulu, I had a chance to visit with Mike Bowman, who helped establish the Delaware Technology Park in 1992. Like the Aloha State, Delaware is small geographically, with a population of only around 800,000. Mike explained that Delaware's small size was actually an advantage. Its small scale enabled him to get all the business and academic community leaders into one room and mobilize them.

"I could pick up the phone," he said, "and call the governor or Sen. (Joseph) Biden and make things happen."

To Mike's credit, Delaware Technology Park, acting as a life science hub for the state, has been able to create and attract 12,000 new jobs since 1998. The park has been home to 65 companies since its inception -- most of which were life sciences firms.

According to Mike (and I share his opinion), the next step necessary would be to create significant scientific opportunity space (offices/wet labs, etc.) in Kakaako for the private sector to be in close proximity to the medical school. It's a calculated risk, but we are soon approaching critical mass, where the demand for space, especially wet labs, will be crucial. These facilities could attract mainland or Asian companies or even nonprofit or governmental institutions such as the CDC or Scripps to our shores.

Investing in our new economy

Will creating a new life sciences industry be easy? Of course not. The competition is intense. George Vernon, a Maryland-based research park consultant who also was at the recent HTDC forum, pointed out that 41 other communities around the nation are in the race to build a life sciences industry. To get an idea of what it costs, Delaware committed \$250 million in private, public and academic funding during 1992-2001 to build its Life Sciences Park. Other states are also spending a bundle. In addition to the \$320 million Florida paid to bring in Scripps, Palm Beach County (where the biotech park will be located) dropped another \$200 million into the kitty. A recent Wall Street Journal story said Wisconsin Gov. Jim Doyle unveiled plans for a

\$750 million state-private partnership in stem-cell and biotech research. Tiny Singapore is investing \$2 billion in its Biopolis project, which will be a 2 million- square-foot biomedical complex.

Our state will not only need to build an infrastructure to support life sciences, but we'll have to compete for research grants and hire the best people we can find. We will need to sign up top-flight researchers and consultants to assist in growing this industry. Like Delaware planners realized back in 1992, we simply don't have the local talent to carry this project through on our own.

There is a huge price tag involved with building a life sciences sector, but big ideas call for big investments. Delaware's successful formula came from a combination of academic and business grants that relate to existing strengths, new lab space and a very supportive business climate. According to Mike Bowman, Delaware had a commitment from its public and private sectors to create a life sciences industry.

Here in Hawaii, following on the heels of the life sciences road map, a new Life Sciences Council composed of community leaders in the biomedical field has been founded to provide a coherent voice on public policy matters, such as biodiversity and work-force training. Its goal is to identify key opportunities for Hawaii within the global life science market. Look to this organization to play a key role in our future life sciences industry.

We need to keep in perspective that the new biomedical building that has been opened in Kakaako is but the first stake in the ground. Certainly the acting dean of the medical school, Sam Shomaker, will need the support of the Legislature and governor going forward. However, to grow a life sciences industry we will need the financial and political support of the entire community -- including local real estate developers.

As Bowman, the founder of the Delaware Technology Park, told me, "The devil is in the commitments to collaborate and execute. The leaders of government, the university and the private sector must share a common vision that a life sciences industry can evolve in Hawaii."

Are we up to this task?

Time will tell.