

Posted on: Sunday, January 2, 2005

COMMENTARY

New med school a milestone for Hawai'i

Facility can be a catalyst for a vibrant life-sciences sector

By Dr. J. David Curb



In a couple of weeks, the new University of Hawai'i biomedical complex in Kaka'ako will mark its grand opening. Those of us in the life-sciences sector believe this could mark new era in our state's economic future.

To appreciate what the new medical school portends for Hawai'i, we need to understand our existing life-sciences landscape. A biotech industry is more than just a medical school. Life sciences straddle a myriad of technologies and disciplines including agriculture, genetics, marine sciences, optics and bio-imaging, health care, pharmacology and many other areas.

Although Hawai'i's medical school is more focused on medical/healthcare related research, its impact will be significant in other areas. A top-notch university research program provides a catalyst and a foundation for an entire life-sciences industry. It all begins with research — that's why the new med school is so valuable to jump-starting this endeavor.

San Diego is an exemplary case in point. Its evolution from provincial Navy town to major biotech player is rooted in its research centers — the University of California-San Diego, the Scripps Clinic and Research Foundation, and the Salk Institute. These organizations attracted Nobel laureate-class scientists such as Francis Crick, Salvador Luria and Jacques Monod. Once the word spread that top scientists had set up shop in San Diego, its future as a biotech center was sealed.

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The equation went something like this: Talent generated intellectual property (i.e., new products and fledgling companies), which in turn attracted venture capital (which spawned successful companies) and good-paying jobs.

In the case of San Diego, the early success of UCSD scientists Ivor Royston and Howard Birndorf created Hybritech. This biotech hit generated more companies. Since it opened its doors in 1968, UCSD's medical school produced 65 startup companies, of which 30 percent have gone public or were acquired for an average of \$150 million each.

The upshot: In a couple of decades (this was not an overnight affair) San Diego became one of the top life-sciences hubs in the country.

Our medical school is on the same road. No, UH is not yet the equivalent of the Salk Institute or UCSD, but then again, the paint is barely dry on the new building. We need to give Dr. Ed Cadman, dean of the John A. Burns School of Medicine, time to recruit the best talent he can. The hope is that decent salaries and the opportunity to get in on the ground floor will be a draw for some of the best minds in academia and will bring back talented Hawai'i people back from the Mainland.

What does Hawai'i bring to the table?

For the past year and a half, Richard Seline, president of Washington, D.C.-based New Economy Strategies, has been pondering that very question. NES has been hired by Kamehameha Schools, with additional support from Enterprise Honolulu, to produce a road map that will help shape a life-sciences community in Hawai'i. Seline is collaborating with leadership in government, the life-sciences industry and the private sector to build consensus on this undertaking. The linchpin is the biomedical complex, but the road map goes beyond the geographic confines of Kaka'ako and touches the entire state.

Dee Jay Mailer, CEO of Kamehameha Schools, said she envisions "the evolving road map as a life-sciences guide for all of Hawai'i. We see Kaka'ako serving as a spring-board for life-science innovation, research, teaching and improved patient care for the entire state."

Lisa Gibson, president of the Hawai'i Life Sciences Council, an industry organization, said the road map focuses Hawai'i assets on "targets of opportunity where we have a globally competitive advantage". "Hawai'i has long list of resources from which a life-sciences sector can develop," she said.

As a community, we also provide a valuable scientific reserve. Our diverse genetic population base offers a great place to study varied populations. With therapies targeted at specific ethnic communities along the Pacific Rim, Hawai'i can establish a leadership role in this type of research. This is one of the areas where my own organization, the Pacific Health Research Institute, is actively involved.

All these elements are components of our burgeoning industry and will be key to jump-starting the process.

How do we get there?

Our community must coalesce to create a vibrant life-sciences industry. In a recent talk before a group of top real estate executives, Cadman said: "We need the creativity, resources and support of the business community to develop our biotech industry and take it to the next level. The university and state government can't do it alone. Without a total commitment, it won't happen."

I agree. We need a strong policy board of champions from the highest level of civic, business, government and university management. We will have to keep kuleana politics and turf wars to a minimum. To understand the how-we-get-there process, it's helpful to draw lessons from other locales where successful biotech sectors have evolved.

One person who comes to mind is Bob Olson, regional director for the U.S. Department of Commerce's Economic Development Administration. Olson knows something about the creation of biotech parks. Formerly an exec with the Virginia Biotechnology Research Park in Richmond, and then later executive director of the Fitzsimons Redevelopment Authority (the agency charged with redeveloping the former Fitzsimons Army Medical Center into a life-sciences park in Aurora, Colo.) he visited Honolulu last year to speak at a Kipapa lecture at UH. He has followed our progress from afar.

Here are some points he made:

- It's a vision thing. Start with a clear, crisp vision for what a successful biotech initiative in Hawai'i can be and look 10 and 20 years out. This plan should delineate what a life-sciences industry will mean to the state's image, economy and people. "You don't get on a plane to go get your industry from somewhere else. You really grow it from within," says Olsen. That's how the important biotech clusters today — places like San Diego and San Francisco — have evolved at the interface of academia and private industry. "Our vision must be Hawai'ian — not a boilerplate but a plan that arises organically.

- It's a funding thing. We'll require plenty of resources that will have to come from state, federal and private sources. First off we'll need to fund a management/marketing team to promote the life sciences in Hawai'i over a 10-year period. As a benchmark, the Fitzsimons Authority spent \$1.2 million to 1.5 million per year on staffing, marketing, industry outreach, business development, etc., for their program.

Then there's the cost of buildings and infrastructure. Colorado spent \$220 million just on the first two research towers at Fitzsimons.

What are other states spending? The Florida Legislature provided \$320 million to establish a branch of Scripps Research Institute, a world-renowned California biomedical facility, in Palm Beach County. The county chipped in an additional \$200 million. Recently, Wisconsin Gov. Jim Doyle unveiled plans for a \$750 million state-private partnership in stem- cell and biotech research.

We'll need to recruit world-class researchers to UH. Everyone knows it costs more to live here, and researchers have to be paid competitive salaries. Human capital counts for a great deal. The genesis of San Diego's life-sciences industry was when other Nobel laureates decided they would throw their lot in with their colleague Dr. Jonas Salk.

- Bring in research anchors. These would add to the critical mass of basic clinical research at UH. These could be governmental in nature, such as getting an arm of the federal Centers for Disease Control and Prevention to locate in Hawai'i to focus on the epidemiology of Asian-based communicable diseases such as the "bird flu." Another possibility would be to bring in nonprofit organizations such as TGen (The Translational Genomics Research Institute) in Arizona, the Stowers Initiative (a cancer research organization) in Kansas City, Mo., or the above mentioned Florida plan to bring in Scripps.

Hawai'i's current tourism- and military-based economy does not create enough job opportunities for home-grown talent. The bright young people in our schools who could someday fill the ranks of scientists, technicians and support staff will leave if we fail to create employment for them here.

- Stick with our strengths. We have some natural advantages and strong points. Examples include marine sciences and tropical medicine as well as cancer, heart disease and aging research. A case in point is the potential opportunity to bring together our current successful activities, emerging strengths and natural geographic advantages to create a center of excellence in tropical and emerging diseases.

Our cultural and geographic proximity to Asia also works in our favor. In many cases, our geographic isolation and diverse population also makes it advantageous to do clinical and population studies here rather than on the Mainland.

Hawai'i's well-deserved standing as a tourist destination is also valuable in attracting biotech conferences. In collaboration with BIO or other organizations we can establish regional conferences, investor showcases and industry trade shows that could be staged annually in Honolulu.

- Government can lend a hand. We need government as a team player — not just as a source of resources. Laws that impede the growth of life sciences are a big problem in some states and directly affect their ability to retain and recruit talent. The Hawai'i Legislature and the executive branch need to create policy and pass laws friendly to biotech research. This means working closely with lawmakers and state policy architects. Look to California as a positive role model. That state has just allocated \$3 billion to stem-cell research over 10 years, and talent is pouring

in. Public-private partnerships between the university and private developers in the construction of facilities such as a new cancer center are a great way to leverage assets (such as raw land) without tapping the state coffers.

Hawai'i has done a superlative job marketing itself as a tourist mecca, but it's time to co-brand ourselves as a life-sciences research hub. We should take a pointer from Olson and aggressively promote our industry to the biotech venture- capital community and trade groups on the Mainland and the Pacific Rim. Said Olson, "This process is not going to happen overnight. Hawai'i is going to need to balance patience and realistic expectations."

Mike Fitzgerald, CEO of Enterprise Honolulu, said that "life-sciences companies taking root in Hawai'i, including Hawai'i Biotech, Hoana Medical, Cellular Bioengineering, Tissue Genesis and others, have the potential to be billion-dollar companies. Together, these life-science companies along with Hawai'i's other innovation companies can create a third pillar for Hawai'i's economy over the next decade."

San Diego started its foray into life sciences in the 1960s and '70s, and we'll need a decade or two before the full benefits come to fruition. The road ahead is long. The completion of the first phase of the medical school is a significant milestone — but it's just the beginning. A vibrant life-sciences industry in Hawai'i, with good-paying, meaningful jobs, can help create the Hawai'i we want for our children and grandchildren.

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