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Conn. Needs Clinical Care Biotech Model

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In Hartford, a city with two major hospitals – each one regularly named among the country's top 100 hospitals – clinical care is the engine driving advances in the biotech industry. It is a different model than the laboratory-based basic research model of conventional biotechs. In the business of personalized health, it is the clinicians that drive the biotech advances and it can be the driver of opportunity for other high-tech businesses as well.

For comparison, in New Haven, a city that has flourished as the home of Yale University since 1716, the biotech industry is focused on drug discovery, basic research and laboratory technology with a market in pharmaceuticals. Yale is at the epicenter of this research-based market, and its influence has spread across the New Haven region.

Gualberto Ruaño, M.D., Ph.D., a physician-scientist and entrepreneur, has worked in the Connecticut biotechnology industry for 15 years. He is president and CEO of Genomas, Inc., a Hartford healthcare company developing DNA diagnostics for personalized medicine. He is also director of cardiovascular genetics research at Hartford Hospital. A member of the Connecticut Academy of Science and Engineering, Dr. Ruaño is a national leader in the application of genomics to personalize healthcare. He was previously CEO of BIOS Laboratories and Genaissance Pharmaceuticals in New Haven.

Often pitted against one another in their efforts to recruit business and industry, Hartford and New Haven are currently developing complementary biotech industry businesses that could serve to establish Connecticut as one of the leading centers for healthcare in the nation.

Hartford Hospital recently announced a plan, in partnership with Genomas Inc., to use innovative genomic science and technology to interpret DNA to optimize and individualize prevention and treatment. The science and technology empowers physicians with the unprecedented capability to prescribe personalized and highly effective preventive treatments incorporating diet, exercise and drug regimens for each patient.

The Food and Drug Administration (FDA) has recently raised a concern about the slow delivery of biomedical research into healthcare products. In a report entitled "Innovation or Stagnation: Challenge and Opportunity on the Critical Path to New Medical Products," the FDA report states "We must modernize the critical development path that leads from scientific discovery to the patient." A model of personalized health addresses this need since the starting point is clinical care, not basic research. Clinical science now has the opportunity to drive innovation. Being already embedded in the realities of human health, clinical science brings innovation closer to the market.

With its new Personalized Health program, Hartford Hospital is pursuing the next level of achievement, beyond what academia, pharmaceuticals and biotechnology has pursued to date. Where "conventional" biotech firms tend to concern themselves with drug discovery, the focus should be on personalizing treatment with a multi-pronged approach integrating exercise, diet and drugs in the prevention of obesity and its metabolic derangements. It is a pathway to personalized health that is driven by the new paradigm of healthcare for the body and mind and the development of cutting-edge medical technologies.

Connecticut has striven to ensure that the state remains one of the leading bioscience centers in the country by establishing an Office of Bioscience within the Department of Economic and Community Development, creating Connecticut Innovations to provide additional funding sources for such enterprises, and passing a number of legislative initiatives designed to enhance the business climate for the bioscience industry.

For Genomas, our plan is to build the personalized health industry through our headquarters at Hartford Hospital. Similar to other healthcare industries in the city, such as disease management, healthcare services and managed care, we intend to establish national headquarters at Hartford. Our model is "hub and spokes" with Hartford at the hub, and multiple spokes at leading medical centers. Thus a conventional biotech "head count" approach tells only part of our story for growth. We will be recruiting heavily in biostatics, systems modeling, data management and outcomes research. This plan is different from conventional biotech based on animal models and molecular biology, but is strikingly similar to what is the norm in a typical healthcare company in Hartford.

Thus, here in Connecticut, there are two kinds of biotech. The existing model, based in New Haven, revolves around drug discovery, basic research and laboratory technology with a market in pharmaceuticals. The personalized health model is emerging in Hartford where biotech means customized healthcare delivery and disease prevention with a market in hospitals and healthcare companies. Clearly we are all breaking new ground. And as we grow and develop our complementary business models, we enrich the people of Connecticut with the leading healthcare technologies in the nation. ■