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May 31, 2017

TO: Linda Griego
FROM: Daniel Tellalian
RE: Recommendations for County Investments and Investment Vehicles in Support of a Regional Bioscience Cluster

EXECUTIVE SUMMARY

This report presents a set of recommendations for the County of Los Angeles Board of Supervisors and Chief Executive Officer to support an expanded bioscience industry in the region. Attraction and retention of bioscience companies promotes superior health care delivery, job creation, and research that benefit County residents. Building off previous research and County actions, we recommend the Board invest in funding vehicles, physical infrastructure, and a local leadership entity that collectively support a robust bioscience ecosystem. Specifically, we recommend the County take the following actions:

1. Advocate establishing a non-governmental, independent entity (presumably a nonprofit corporation) with sufficient seed-funding to maintain and execute the long-term goal to grow the bioscience industry in Los Angeles County through innovation, collaboration, research & development, and commercialization. This entity must coordinate, but operate independently of, the various jurisdictions, universities, companies, trade associations, investors, hospitals, and other stakeholders within the bioscience ecosystem. Over time, this entity would likely house several catalytic programs essential to the maintenance of a thriving ecosystem.
2. Authorize lead funding of \$15-20 million in County general funds, to be leveraged by private sources, towards capitalization of one or more investment funds that are highly qualified to evaluate bioscience research and assist early stage companies to commercialize, grow and thrive in Los Angeles. This County investment would be made as low-cost debt with an expectation of principal return, and be deployed over five or six years.
3. Establish an Incubator Improvement Fund that provides low-cost, patient debt financing to any Los Angeles County-based incubator or accelerator, including the network of existing or emerging bioscience incubators, to assist in their acquisition of shared equipment and buildout of benches and offices. New financial resources could be assembled for this purpose, or existing loan funds repositioned, as appropriate.
4. Explore partnerships with Southern California's public pensions, private endowments, other institutional investors, and family offices to make a larger lead investment into a Los Angeles-based Bioscience Fund of Funds. This investment would be targeted at a level of \$150-300 million in equity investments to be managed by a highly qualified fund-of-funds manager and placed into a family of existing venture capital funds investing across the bioscience enterprise lifecycle. Such investment is not appropriate for the County General Fund, but the County can show leadership by engaging partners and making the case to more appropriate investors in the region.
5. Expand beyond the County's current efforts at its hospital campuses and explore a partnership with the City of Los Angeles, UCLA Health, and other key partners to identify one or more sites for development of a premier Bioscience Innovation Hub located near either Westwood, downtown

Culver City, or the Silicon Beach corridor. While an important opportunity site controlled by the County, the MLK Hospital Campus and former King-Drew hospital are not appropriate sites for that Hub.

Each of these recommendations is detailed below after a brief background section. A list of interviewees is also included.

BACKGROUND

By any measure, California is a premier destination for bioscience companies. Be it the grueling development of new drugs and pharmaceuticals, the precision manufacturing of medical devices and equipment, the creation of software solutions to improve customer care, or other science, the cutting-edge research and venture-backed commercialization of that research often happens in our state. Unfortunately, Los Angeles does not benefit from its fair share of these enterprises that are known to be recession-proof, create high-paying jobs, and open new career pathways in 21st Century STEM fields.

As documented in County-commissioned reports by Battelle (2014) and LAEDC (2016), Los Angeles lacks the intentional “ecosystem” of components required to attract and retain promising bioscience companies. As a result, many successful startups with Los Angeles roots have migrated to the Bay Area, San Diego, even Orange County, as they chase growth. On the national and global stage, Los Angeles is not considered a top-tier player in bioscience. The region lacks a premier innovation hub to house the best companies, and the County fights a perception that it is unwilling to assist young science companies. Top venture capitalists in the life sciences arena do not office in Los Angeles and lack familiarity with our companies, resulting in lackluster levels of investment locally.

But the fundamentals for success are in place. The quality and quantity of bioscience research being generated at UCLA, CalTech, and USC (as well as off-campus organizations like Cedars Sinai, City of Hope, and the Children’s Hospital) is prolific. Despite a less hospitable startup environment, the County still boasts over 500 bioscience companies which often emerge from local research and talent. Those companies affiliate with one of the state’s three top bioscience trade associations, each of which now maintains a Los Angeles office. The County Department of Health Services (DHS) boasts the nation’s second largest municipal health system with five large hospital campuses, and is a powerful consumer of medical goods and innovations unto itself.

The County has made strides in recent years to set the table for future investment. It has supported development of new incubator space at CSULA in East LA and LA BioMed in Torrance, and slotted potential lab space for the MLK Hospital Campus in Willowbrook. Discussions around a new R&D park at UCLA-Harbor are promising and meetings with USC continue with respect to investment at the LAC+USC hospital campus. The County has also been convening a task force of key partners who advocate for a stronger bioscience cluster, and who collaborate on new opportunities until a dedicated entity is established to advance the vision over the long term.

The conclusions of the Battelle and LAEDC reports, as well as our independent interviews with 25 recognized local and national leaders in bioscience cluster development, corroborate our five recommendations. Lead investment in the core enablers of early stage ventures – Capital, Places, and Talent – can leverage Los Angeles’ substantial indigenous assets into a more virtuous cycle of economic growth. By becoming a more intentional investor in its bioscience cluster, Los Angeles can also make a powerful national statement that it is an engaged and active protagonist in health care innovation.

It is noteworthy to emphasize that a single intervention (just new places, or just new capital) cannot by itself support a bioscience ecosystem. That approach has been attempted unsuccessfully in other geographies. An enabling environment requires interventions across multiple variables for success, and can be done without “breaking the bank” on any single investment.

Below we present our investment recommendations in greater detail.

RECOMMENDATIONS

RECOMMENDATION #1: *Create and identify seed funding an independent organization to elevate the regional vision and strategy of bioscience cluster development, to lessen the burden on County government, to attract and convene essential talent and stakeholders in the field, to recruit anchor institutions, to serve as the first point of contact for enterprises, and to act as a platform for a variety of ecosystem-building programs.*

The key to establishing an entrepreneurial ecosystem is the creation of a community. A community attracts like-minded ventures, and brings together the unique components required to invent, innovate, capitalize, and commercialize. It facilitates the entrepreneurial secret sauce of connectivity. Currently, in the bioscience realm, a community does not exist in Los Angeles (notwithstanding County staff's admirable efforts alongside other industry volunteers to convene stakeholders and shape a common agenda).

Building a community – a skilled network and a long-term platform of generalizable benefit – is a foundational element of cluster development. A community should not be confused with a place, such as an incubator or lab space, which has been a common misunderstanding in other clustering efforts. A community is not connected to a single political jurisdiction or elected, nor a single university or trade association, nor a single investor or corporation. A community serves its community. Within the bioscience arena, the Massachusetts Life Sciences Center (a foundational catalyst for Boston's successful cluster) is an excellent example of a thriving platform. Other examples would include the MaRS Discovery District in Toronto or the Mayo Clinic Center for Innovation in Rochester MN.

The time is ripe for the creation of a lead organization to lift up the vision of a thriving bioscience sector that remains in, and benefits, all of Los Angeles. It need not be a large or heavily-resourced organization, but it must command the respect of key institutions (local municipalities, research universities, hospitals and health systems, large bioscience companies, and venture capitalists). It must possess subject-matter expertise, and the ability to convene and access industry experts broadly. It should operate independently from the County structure and other local political influences, but the County and other important institutions should line up behind the organization to send a clear signal to the marketplace that the organization is intended to be the "first stop" for any enterprise, expert, or investor seeking to interface with the Los Angeles bioscience community.

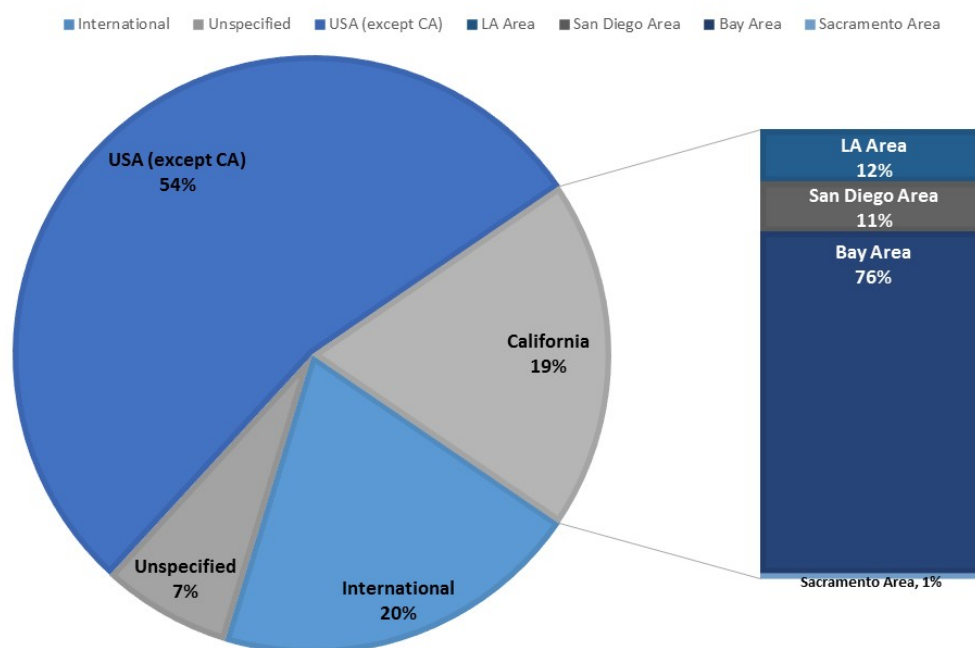
An independent organization, most likely a nonprofit, does not exist to dictate the terms of a cluster. It facilitates and supports a community. An organization such as this could also be the platform for several key functions and programs that are important to an emerging bioscience ecosystem, such as:

- Promotion of the regional brand of Los Angeles Bioscience at a global scale;
 - Promotion of the Southern California bioscience region as a global hub across political jurisdictions;
 - Subject matter expertise on local, state, and national legislation related to bioscience entrepreneurship;
 - Advocacy in support of greater collaboration and openness from regional research institutions, particularly universities;
 - Aggregation of Los Angeles-based talent (subject matter experts, entrepreneurs-in-residence, startup CEOs, consultants, patent attorneys, etc.) that is considered missing or difficult to locate in the region;
 - Creation of a scientific advisory board of Los Angeles experts and investors to be tapped for evaluating and supporting unique opportunities;
 - Programmatic support of scientists to crisply validate their research and entice seed funders, in the early stages of the proverbial Valley of Death (non-revenue stages prior to venture capital funding);
 - Promotion of, and support to, regional incubators and entrepreneurial support services.
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RECOMMENDATION #2: *Authorize and place lead funding into one or more experienced early-stage bioscience venture funders with connections to Los Angeles research and the region. Placing low-cost, patient debt capital into venture funds allows fund managers to focus on Los Angeles pipeline, improve projected returns, and invest in higher-risk ventures. County debt investments can be levered up by local impact investors, followed by equity raises from the fund manager. Any initial early stage fund should have a target size of \$25-30 million, with the County investing a subset of that amount.*

Both the Battelle and LAEDC reports, as well as many interviewees, shared that the lack of active venture capital options for Los Angeles companies is a significant gap in the bioscience ecosystem. While California headquarters an impressive portion of the roughly 1,400 U.S. and global venture capitalists that fund bioscience, the clear majority are in the Bay Area and exert strong gravitational pull over young companies. San Diego and Los Angeles offer substantially less options for Southern California, even when accounting for multi-vertical and angel investors.

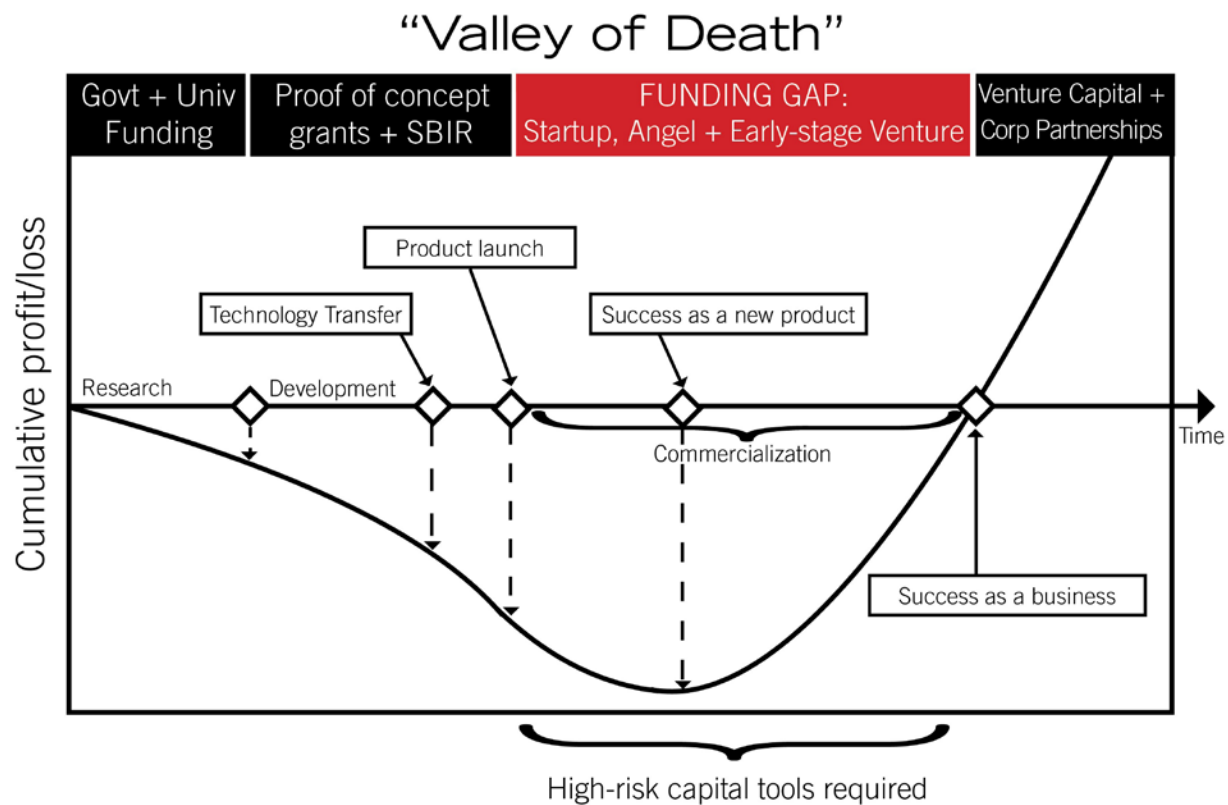
INVESTORS WITH RECENT INVESTMENTS IN BIOTECHNOLOGY BY HQ LOCATION



Note: this data includes individual Angels

The LAEDC report correctly recommends the creation of a Fund of Funds (FoF), which would reinvest its capital into a set of venture funds focused along different parts of the bioscience enterprise lifecycle from early-stage to growth, as an appropriate intervention. However, we do not recommend it to the County at this time for two reasons. First, as a high-cost and capital intensive investment with unknown outcomes, it is not an appropriate use of large amounts of General Fund dollars. Second, such an investment would need to be placed as equity capital, which we understand is a prohibited use of public funds under the California Government Code. We address how the County can show leadership in establishing a Bioscience FoF vehicle in support of the Los Angeles region in the next recommendation.

The most relevant and scarce investment resource in the Los Angeles region, and in bioscience generally, is seed and early-stage venture capital. There is good reason – a high failure rate, distant exits, and fragile investees compared to other potential investments – it is fairly dubbed the “Valley of Death” among entrepreneurs and investors. However, for the strategic purpose of stimulating local economic development and improving public health delivery, there is value to the County lead-investing a riskier early stage fund focused on Los Angeles-based ventures. Launching an early stage bioscience fund will immediately create greater incentives for local researchers and entrepreneurs to remain in the Los Angeles ecosystem, which in turn creates and retains jobs as well as improves DHS’ local procurement options.



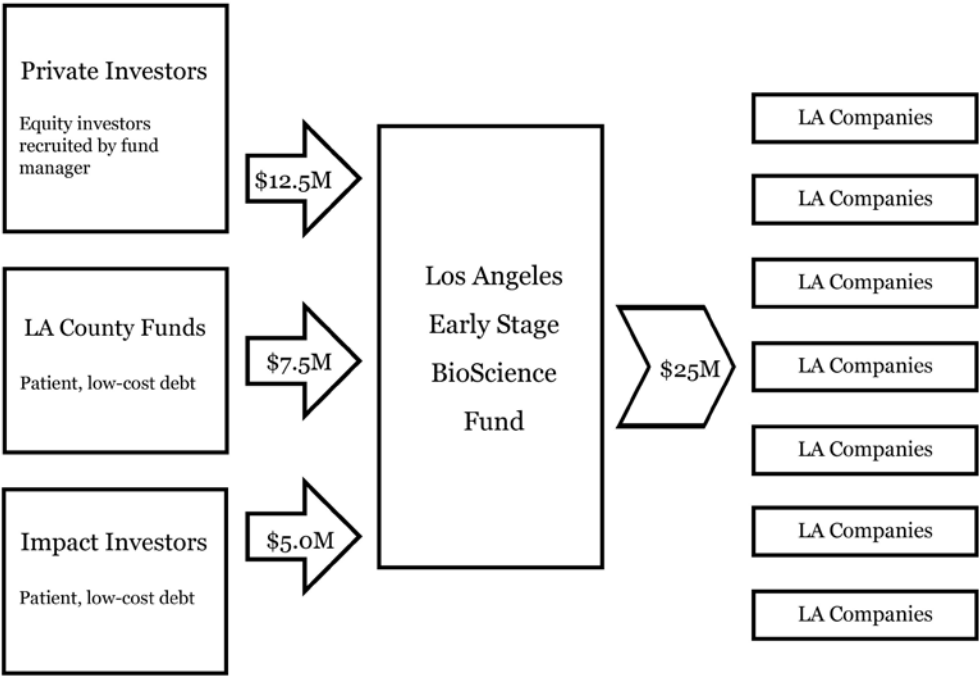
An early stage fund should be managed by an experienced fund manager or managers, who have a relevant positive track record in life science and/or digital health financing. In addition to track record, the manager should possess relationships with local research universities and technology transfer offices, demonstrate ability to evaluate research and technical aspects of new ventures, and show capacity to deliver consulting assistance to accelerate early stage companies within their portfolio. The fund should exist and operate outside of the County structure. The County can issue an RFP for a fund manager who is willing to accept low-interest non-recourse debt as capital, in lieu of traditional equity. In addition to accepting debt leverage to be re-deployed as equity, the fund manager must invest a significant share of funds in local companies. Potential respondents to a County RFP might include existing Los Angeles early-stage venture capital firms working in life sciences (like Kairos Ventures or Act One Ventures), early stage bioscience fund managers who affiliate with incubators in other regions (like BioAccelerator Fund I in Phoenix, or BioInnovation Capital in San Diego), or VC firms in the Bay Area and beyond willing to invest in Los Angeles offices and talent.

The fund structure (debt + equity) should roughly mirror the Small Business Investment Corporation (SBIC) model, where privately-owned and managed investment firms use a combination of funds raised from private sources and SBA guaranteed debt to make equity or mezzanine investments in small businesses. In this case, the County can play the role of the SBA for a local fund. Low-cost debt, which would not participate in the profits generated by the equity investor, would act as a 1:1 or even 2:1 match for traditional equity investors.

If lent as a non-recourse or limited-recourse loan, County debt would substantially minimize the investor’s exposure in an early-stage investment while improving equity returns and maintaining the fund manager’s “skin in the game.” As such, incentives are properly aligned. County funds would presumably be lent for a period of 10 years, assuming roughly a 5-year investment period and a 5-year harvest period. Examples of experienced funds that have utilized this model include Hatteras Venture Partners (Fund IV) in North Carolina and Walden Venture Capital in the Bay Area.

Based on the Battelle and LAEDC reports, as well as interviews with investors and bioscience practitioners, early-stage investments would likely range from \$250,000 to \$2 million depending on the nature of the company (therapeutics requiring more investment than devices, in turn requiring more than digital solutions). A fund of \$25 million, for example, might target 15 to 30 investees over five years. In each case, the goal would be to advance invested companies to the next round of seed funding or a Series A round with more accessible venture capital. It is important to highlight that, empirically, 9 of every 10 companies (or more) will likely fail. That said, returns in a fund are traditionally driven by a small number of successes within the portfolio.

If properly designed and positioned, a County commitment of \$7.5 million in low-cost debt could jumpstart a \$25 million fund. Lead investments could be matched by similar debt of \$5 million from local impact investors (potentially program-related investments from local private foundations or adjacent municipalities), which would then be lent as \$12.5 million in debt to an early stage venture capital firm seeking to match with an equal amount of equity capital. This would result in a \$25 million early stage fund. One could envision support for multiple early-stage funds with more unique expertise in therapeutics, medical devices, and digital health in the LA region, if there was sufficient investor appetite.



Alongside the creation of an independent “champion” organization, the creation of an early-stage fund is the most important intervention that the County can implement today.

RECOMMENDATION #3: *Establish an Incubator Improvement Fund that provides low-cost debt financing to any Los Angeles County-based incubator or accelerator, including the network of existing or emerging bioscience incubators, to assist in their acquisition of shared equipment and buildout of benches and offices.*

As part of the growing Los Angeles ecosystem, several small and mid-size incubators are establishing themselves. While none have established themselves as a premier innovation hub with the sparkle of QB3 in San Francisco or LabCentral in Boston, these incubators are essential to scientists and small companies pushing themselves through the Valley of Death. Lack of access to affordable lab space is often what keeps researchers in the comfort of university labs, particularly in the therapeutics arena. Affordable shared space (not exclusively wet lab) and administrative support, as well as connectivity to Los Angeles' research institutions and consultants, is an important element of the Los Angeles bioscience ecosystem. While some "premier" co-working facilities offer attractive amenities and can be expensive, other facilities focus on a "no-frills" approach that preserves every penny for the science. Both are important, and offer choice of location, cost, and support for new ventures.

Los Angeles County has been supportive of a number of incubator projects near hospital campuses, including new investments in LA BioMed at the Harbor-UCLA medical campus in Torrance and the LA BioSpace at CSU Los Angeles campus in East LA. Other longstanding incubators, like the Pasadena Bioscience Collaborative, are successfully run in industrial corridors on a tight budget. New entities like nonprofit LabLaunch are opening multiple modest lab spaces in the region to accommodate scientists seeking to jumpstart a science company without excessive personal investment.

Shared lab space must be efficient and suited to a shuffling roster of tenants. It must also offer a common set of laboratory equipment that can be utilized by all. The County can reposition existing loan funds, or allocate new funds, to offer flexible financing for essential purchases by local incubators. Purchased assets (TIs, equipment) would serve as collateral, and the rental stream of the facility would offer some ability to underwrite the loans. A simple revolving loan fund like this, offering below-market terms and low payments, could be initially capitalized with \$1-2 million.

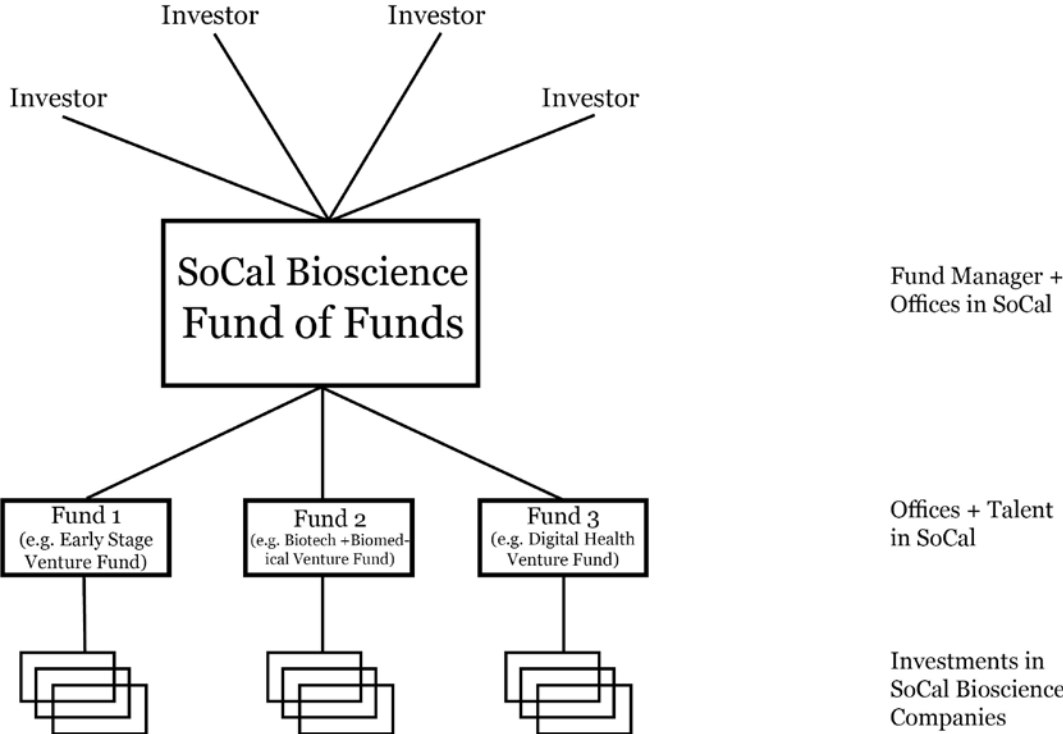
RECOMMENDATION #4: *Leverage the influence and networks of the County to pitch the creation of a regional Southern California Bioscience Fund of Funds. Engage large regional asset holders who deploy equity over longer time horizons, like pension funds and university endowments, as investors in a more comprehensive family of funds focused on the Southern California ecosystem.*

A Fund of Funds (FoF) model is a mechanism to finance a continuum of enterprises across stages, sectors, or places, by holding a portfolio of funds rather than direct investments. In this case, a Los Angeles-based Bioscience FoF can be used to invest in a family of venture capital or other funds that in turn invest in various stages of company growth, but can focus on the bioscience industry and Southern California ecosystem.

While an early stage fund can address the most strategic and lacking aspects of the Los Angeles ecosystem, it only addresses a unique stage of the enterprise – the initial transition of basic research to applied research to early commercialization (the Valley of Death). To have a more material impact on the regional ecosystem of bioscience companies, capital must eventually be available at all stages of growth – from pre-seed (proof of concept) and seed funding to early stage and growth financing. Referrals, cultivation, and handoffs between funders should be seamless in the region.

The best way to attract the attention of a cadre of accomplished venture capitalists to the Los Angeles region is to become a significant investor in them. The FoF model accomplishes this goal by placing a substantial piece of capital in a single fund manager, who is charged with investing in a series of existing bioscience funds and bringing their capital and expertise to Los Angeles enterprises. The investments in the underlying family of funds must be significant enough to influence the fund managers, and broad enough to encompass multiple stages of growth and diverse bioscience subsectors. Per interviews with venture capital practitioners, a Los

Angeles (or perhaps more appropriately, Southern California) Bioscience Fund of Funds should launch with a minimum of \$150-300 million in at-risk capital to invest over a longer time horizon. An investment of this size and risk is not appropriate for the County Treasury.



The elevation of this concept to potential champions and institutional investors can be initiated through the networks of County Supervisors and continued by an independent organization, as recommended above, alongside a high-level advisory board.

RECOMMENDATION #5: *Expand beyond the County's current efforts at its hospital campuses and explore at least one premier Innovation Hub site to be developed as a global attractor for life science or health tech companies.*

In addition to the essential work of providing regional leadership, appropriate capital, and appropriate space for local bioscience startups, Los Angeles should pursue at least one high-end facility to attract the world's best companies. While excellent resources, none of the current incubators in the County pipeline exhibit the attractiveness of premier facilities in Boston, San Francisco, New York, San Diego, or Raleigh-Durham. In interviews with successful practitioners, a common theme recurred that Los Angeles lacked a campus-like bioscience facility that was located in a part of Los Angeles where scientists, CEOs, and investors wanted to live and raise families nearby. This type of campus, they asserted, would greatly improve the "stickiness" of the region. Regional economic development staff should consider whether such an opportunity site exists or can be assembled.

There are several variables to consider in locating such a site. One key variable is proximity to existing relevant talent. For example, in the biotechnology and pharmaceutical arena, UCLA research is exceptional. The opportunity to establish a regional incubator or wet lab in Westwood, such as on the upper floors of the old UCLA hospital or at the VA Campus, would be an attractive compliment to the potential facility expansion of Harbor-UCLA and LABioMed in Torrance. Dry-lab or co-working incubation space for digital health startups or medical device accelerators like Westwood's MedTech Innovator in nearby Wilshire Boulevard office towers would also be catalytic.

As another example, digital health platforms are keenly interested in locating near the tech ecosystem in West LA dubbed Silicon Beach (stretching from Santa Monica to LAX). Digital health ventures focus on software and tech solutions to improve health and health care (as opposed to highly regulated therapeutics and devices), and thus place a premium on proximity to software CEOs, engineers, and investors who know how to accelerate a tech startup. Tech incubators are simple coworking office spaces that can exist in many locations, independently or alongside wet or dry lab facilities. Facilities in Culver City, near LAX, Westwood, or the Beach Cities would be most attractive to a global set of entrepreneurs and investors who are likely flying into LAX to conduct business.

The assembly of partners, land, and assets to create one or more premier Bioscience Innovation Hubs in prime locations will not be a quick endeavor. That said, the eventual launch of such a facility alongside a regional Fund of Funds will be the two major inflection points that help draw the world's best talent and companies to Los Angeles to complement our world-class research, technology, and lifestyle.

CONCLUSION

The creation of a sectoral cluster is a long-term commitment, requiring patient investment across multiple interventions to enable entrepreneurship and a viable ecosystem for innovation. In the attractive field of bioscience, Los Angeles needs to meet the dual role of supporting indigenous companies and competing on a global stage for best in class.

Today, we recommend that the County prioritize and act on Recommendations #1 (leadership organization), #2 (early stage venture fund), and #3 (incubator investment loan fund) as immediate investments that can be announced and operationalized in one year or less.

As longer-term strategic investments, we also recommend the County begin the important groundwork associated with Recommendations #4 (regional fund of funds) and #5 (premier innovation hub) that will position Los Angeles on an international level.

RECOMMENDATION SPECIFIC TO MLK CDC AND MLK HOSPITAL CAMPUS:

The MLK Health and Wellness Community Development Corporation (MLK CDC) is a recently formed California nonprofit that was created by concerned citizens and stakeholders to facilitate the redevelopment of the MLK Hospital Campus. The CDC's Board Chair, Linda Griego, was the founder of the MLK Community Hospital Foundation (supporting the launch of the MLK Community Hospital) and served as its board chair until the CDC formed in 2015. The remainder of the CDC board are highly regarded civic leaders and skilled professionals of Los Angeles.

The mission of the CDC is to assist the County in the core rehabilitation, renovation, and tenanting of the former King Drew hospital and other nearby buildings as part of the larger redevelopment of the MLK Hospital Campus. The goal of a campus redevelopment is to bring greater and enhanced health services to the hospital's service area and to improve the efficiency and vibrancy of the campus for the coming decades. By operating alongside (but outside of) the County structure, a nonprofit can act more nimbly to coordinate multiple partners and thus lessen the burdens on the County in executing a redevelopment plan. The launch of the MLK Community Hospital was the first step in this larger campus vision. The delivery of a renovated and reactivated Center for Behavioral Health at the former King-Drew hospital is the next step.

The proposed redevelopment of a 505,000 square foot former hospital on the MLK Hospital Campus offers an intriguing opportunity for locating emerging bioscience companies. The nearly vacant five-story building is adjacent to both a community hospital and medical school, and sits adjacent to the 105 Freeway connected to LAX. As tenanting for the County-owned property is finalized, consideration has been given to dedicating a 76,000 sf floor (or a portion of one) to either incubator lab space or medical lab space in support of life science enterprises.

At this time, we do not recommend speculative investment into the King-Drew building by MLK CDC for purposes of attracting early-stage or even mature bioscience companies. Our interviews indicate an unwillingness by many scientists, CEOs, and investors to commute to the MLK campus without a tangible reason to do so. Without an attractive bioscience tenant in place, any investment into building improvements (past core building systems) for bioscience purposes is premature.

The majority of the old hospital floors can be productively occupied by consolidating existing operations and service partnerships of Los Angeles County Departments – Department of Health Services, Department of Mental Health, Office of Diversion and Re-entry, MLK Community Hospital outpatient services and offices, nonprofit partners, vendors – related to community health and wellness. A ground floor conference center and basement commercial kitchen enterprise are also contemplated.

Any outfitted lab space should be built-to-suit for a willing and viable tenant, such as potential lab expansion for the substantial research endeavors of Charles Drew University or the opening of a low-cost incubator such as Lab Launch – uses that could also be located elsewhere in the larger MLK Hospital Campus.

Consolidation of County and community hospital uses into a renovated King-Drew hospital will potentially free other portions of the campus for future redevelopment. As Los Angeles' bioscience cluster grows, the MLK Hospital campus will have attractive land available that can potentially be used for future expansions.

2017 Interviewees:

Susan Windham-Bannister is Managing Partner at **Biomedical Innovation Advisors**. Until 2015, she served as the CEO of the Massachusetts Life Sciences Center. During her 7-year term, the state saw rapid growth in its bioscience cluster as part of a public-private partnership.

Adam Bazih is an Entrepreneur-in-Residence at **Kairos Ventures**, an early stage venture fund focused on the commercialization of hard sciences. Kairos is located in Los Angeles and focuses its relationship-building on CalTech and other local universities with strong research capacity. Their current portfolio includes bioscience companies, and they are raising new funds currently.

Bud Bishop is President of **Pasadena Bioscience Collaborative**, a longstanding bioscience incubator in Los Angeles. Prior to his role at PBC, Bud was involved in successful private ventures in the industry.

Llewellyn Cox is the founder of **Lab Launch**, a nonprofit venture creating new affordable lab space for Los Angeles bioscience startups. A new lab has opened in Monrovia with a second in Chatsworth slated to open shortly.

Ahmed Enany is President and CEO of the **Southern California Biomedical Council**, the region's most tenured trade association. SCBC has substantial relationships with local bioscience companies and is familiar with the last two decades of cluster development efforts in the region.

Michael Floyd is CEO of **Life Sciences Management Group** in Bethesda, MD. He is a BioPharma entrepreneur and advisor to investors in life science, including to Brad Spellberg, CMO at County-USC Medical Center.

Paul Grand is CEO of **MedTech Innovator**, a newly spun off nonprofit medtech accelerator, focused on bringing medical device, diagnostic, and digital health products to market. He runs a 4-month accelerator for 20 screened medtech companies and showcases 50 medtech companies at a conference taking place in September in San Jose. He reviews roughly 600 company applications to accept his portfolio.

MaryAnn Guerra is founder of **BioAccel** in Phoenix AZ, as well as Managing Director of the companion investor **BioAccelerator Fund I**. BioAccel is a nonprofit accelerator of biomedical and digital health companies in Arizona. BAF I is a modest early-stage venture fund that supports BioAccel.

Cynthia Guzman is a Senior Associate at **ELP Advisors**. ELP released a community outreach report to identify potential community partnerships and benefits that could be connected to bioscience-related development.

Susie Harborth is the co-founder of **BioLabs** in San Diego, as well as General Partner of the companion investor **BioInnovation Capital**. Biolabs is one of the premier for-profit operators of bioscience shared lab/office space in the nation. BioInnovation is a relatively young early-stage life science venture fund exclusive to BioLabs tenants.

Keith Hoffman is Vice President of Business Development and Technology Transfer at **LABioMed**. He focuses on commercialization opportunities for the organization.

Wendie Johnston is the longtime Lab Director at **Pasadena Bioscience Collaborative** incubator. She has advised many early stage bioscience companies, as well as directs the LA/Orange County Biotechnology Center serving 37 community colleges in workforce development for the biotechnology industry.

Howard Kim is Managing Director of **Asahi Kasei Ventures** in Boston MA. He has managed healthcare investments in therapeutics and devices as part of Asahi's strategic corporate venture strategy, and has recently moved to explore a digital health vertical.

Thomas Lipkin is the head of New Ventures at **UCLA's** Technology Development Group. He has a background in science and finance, and serves as a resource to the UCLA research facilities and UCLA startups moving from research to commercialization.

Dina Lozofsky is the Executive Director of the Los Angeles office of **Biocom**, the largest life science trade association in California with about 800 companies. Biocom was founded in San Diego where it has a significant presence. Dina recently opened an office in LA and has 4-5 employees and over 50 Los Angeles members.

Brad McManus is Investment Director at **Motorola Solutions** in the Bay Area. Brad has substantial experience in corporate venture capital investing, including the design and management of strategic venture funds for corporations, as well as venture startup experience.

David Myers is the President and CEO of **LABioMed**, a nonprofit research organization affiliated with the UCLA School of Medicine located at Harbor-UCLA Medical Center, and focused on translating research to public health solutions.

Arman Nadershahi is a Senior Director at the **Alfred Mann Institute** for Biomedical Engineering located at USC. The Alfred Mann Institute is a \$180M endowed incubator focused on the commercialization of medical devices coming from biomedical invention. Arman's formal training is as an IP attorney, and he has experience accelerating biomedical companies and securing financing for early-stage ventures.

Alice Jacobs Nesselrodt is a physician, entrepreneur, and investor in the bioscience sector. Alice has substantial experience both launching and investing in life science companies, and in partnership with **Biolabs** and BioInnovation Capital is working to establish a Los Angeles-based hub and early-stage venture fund.

Tamara Gishiri Perry is Director of Strategic Initiatives and Cluster Development at **LAEDC**. LAEDC released an implementation plan and menu of actions and opportunities for the County to consider in response to the Battelle report and existing County activities.

Walid Sabbagh is Vice President of Business Development at the **Southern California Biomedical Council**. Previously, he managed grants, research development, and translational research pipeline at Cedars Sinai Medical Center.

John Selig is a Managing Partner of **Mavericks Capital**, a boutique investment bank focused on healthcare and life science. John has deep expertise in bioscience consulting and investments. John is currently creating a fund for digital health companies.

Rohit Shukla is the CEO of **Larta**, a nonprofit focused on the commercialization of ideas for economic development. As part of a wide-ranging career, he developed the California Technology Investment Partnership (CalTIP) and ran a California seed capital program.

Kyle Wilson is a partner at **BroadOak Capital** in San Francisco. Kyle runs investment banking transactions for medical diagnostics companies achieving commercialization. BroadOak offers a debt investment with equity participation rights to bioscience companies.

Howard Xu is the director of incubator development and programming at CSULA. He is the lead on the new BioSpace incubator and BioStart bootcamp to be launched at the pending **Rongxiang Xu Bioscience Innovation Center**.

(Excerpts of these interviews are attached as a separate document)