Francis
Cauffman
Architects

Clinical Laboratory Qualifications

October 7, 2019

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Firm Background
Section One

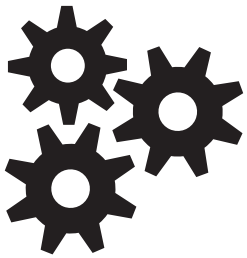
Firm Background

Our Guiding Principals

Our fundamental responsibility is to create a compelling and responsive sense of place that integrates functional responses to the design brief with solutions that are resonant, inspiring, and enhance the human experience.

We are in the people business with design as our medium. We engage with people and their behaviors. We create and define spaces that reflect the unique cultures of individual organizations. This leads to conditions that encourage engagement and inspire peak performance.

We have a duty to be environmentally responsible to ensure the long-term viability of the planet.



Cognition is our process for collectively engaging our clients and employees in a constructive, explorative and collaborative manner. We have the responsibility to lead our clients along the journey of transformation.

Offices
New York
Philadelphia
Orlando, FL

Services
Architecture
Planning
Interior Design

Experience
35% of staff has 20+ years of experience

Stability
90% revenue is from repeat clients

Size
115

Principals
John B. Campbell, AIA, RIBA, LEED AP
Kenneth Kramer, AIA
Anthony J. Colciaghi, AIA, LEED AP
BD+C
Aran McCarthy, AIA
Catherine Gow, AIA, CSSGB
Jennifer Kenson, IIDA, NCIDQ, ASID
Mark Harbick, AIA, IIDA, LEED AP
Dana Eddowes, SDA
Wan Leung, AIA
Steven Stainbrook, AICP
Joseph Doherty AIA, LEED AP
Denise Thompson, AIA, LEED AP, BD+C

Experience
Section Two

Northwell Health*

Center for Advanced Medicine
Lake Success, NY. 106,000 SF.

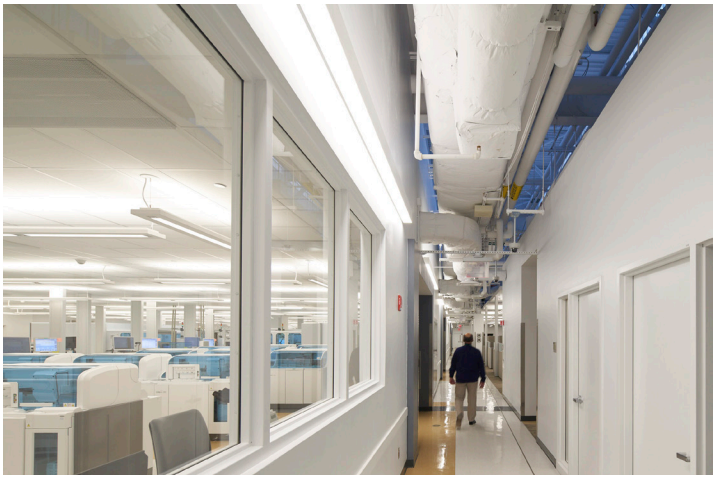
Services
Architecture, Planning, Interior Design, Laboratory Planning

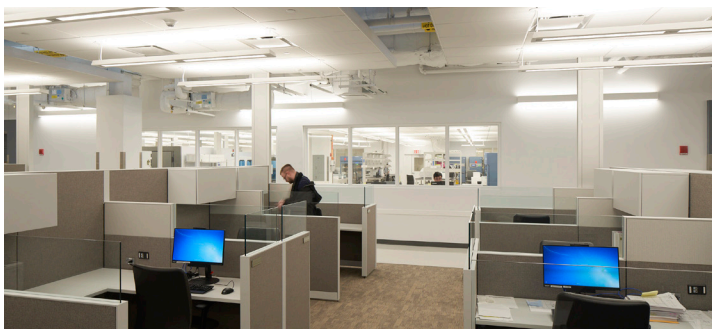
Description
Northwell Health's Center for Advanced Medicine (CFAM) focuses primarily on chemical testing. The 106,000-square-foot CFAM is a multi-disciplinary reference lab which includes primary accessioning and sample management, administration, client services, cytology / cytogenetics, histology / flow cytometry / IHC, automated chemistry lines, serology, coagulation, urinalysis, special hematology, special chemistry, protein chemistry, metals, molecular genetics, anatomic pathology, and transfusion medicine. Automated and manual technology platforms are integrated to support routine and specialized testing. Automated conveyance will receive materials from the loading dock and transfer samples to accessioning and beyond into the automated platform, providing fast and efficient sample flow. All samples arrive at the lab pre-coded. This process adds to the facility's ability to increase overall testing volume.

This particular site allowed for a deeper-than-traditional lab module, which provided flexibility in the large, open lab. An 11 foot by 11 foot planning grid, six modules deep, was utilized creating the large open lab space. Careful integration with the existing structural grid and alignment with existing skylights allows natural daylight to be delivered to lab and office spaces. Over 1,000 staff will operate this laboratory at any given time, using a 24/7 operation model.

The existing loading dock was used and modified to receive a high volume of truck deliveries. Lean planning efforts were used to organize the building floor plate, to avoid bottlenecks between sample delivery, staff entry, and supplies / waste management systems. Team meeting space was accommodated to provide coordination/communication zones external to testing labs, and to control lab access.

**Projected completed by Wan Leung and Robert Lang prior to FCA.*





Northwell Health*

Core Lab New York
Douglaston, NY. 40,000 SF.

Services
Architecture, Planning, Interior Design, Laboratory Planning

Description
The new Core Lab New York (CLNY), located at the Little Neck Parkway site, will serve biological testing functions. CLNY is a first of its kind, private/public partnership between Northwell Health and the NYC Health & Hospital Corporation hospital system – with a goal to reduce healthcare costs through this consolidation. The new, 40,000-square-foot, two-story facility integrates a parking structure adjacent to the new labs. The scope of specialty testing includes clinical trial materials, molecular diagnostics, complex microbiology (automated and manual), virology (high containment / public health), TB, parasitology, and mycology. Automated and manual technology platforms are integrated to support routine and specialized testing. Over 240 staff will operate this laboratory at any given time, over a 24/7 operation model. Working in conjunction with the Northwell Health's Center for Advanced Medicine (CFAM), the facilities are anticipated to test approximately 65,000 samples per day by 2021.

Consolidation of current laboratory functions were achieved through a comprehensive feasibility study, including a full-scale site assessment and zoning analysis, as well as design services for a full complement of technologically advanced laboratories. Large open labs were used, with separation walls provided where needed. The floor plate was organized in a very efficient manner, incorporating external lab offices directly adjacent to the testing space. A sample receiving dock was provided which receives accessioned samples from the CFAM site, circulation and vertical transportation ensure control and rapid delivery to the testing labs. Flexibility was provided in the lab space utilizing portable benches and equipment and servicing utilities with overhead service carriers. The exterior enclosure provides a cost-effective solution of materials that blend into the surrounding community. Image was important to provide a state-of-the-art appearance for the new lab. Proper screening of service yards and traffic was achieved with good placement of the building on the site.

**Projected completed by Wan Leung and Robert Lang prior to FCA.*

New York University Winthrop Hospital

Core Lab Relocation
Mineola, NY. 15,000 SF.

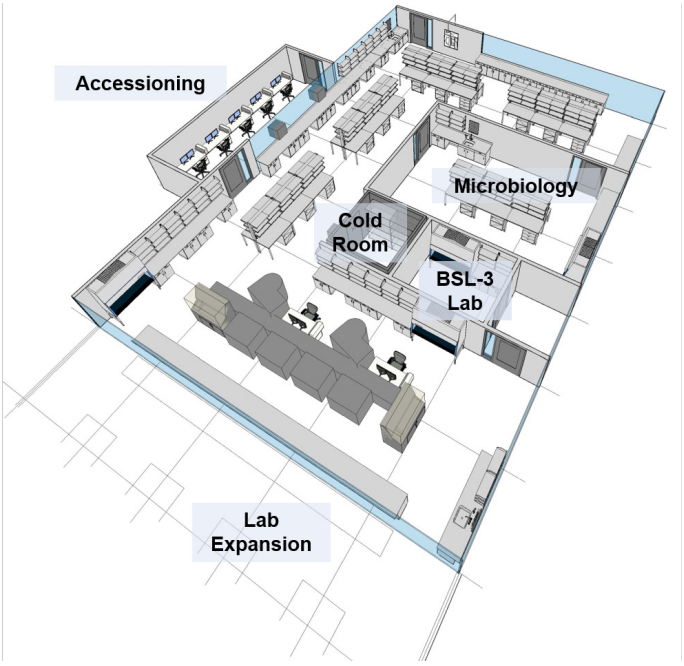
Services
Architecture, Planning, Interior Design

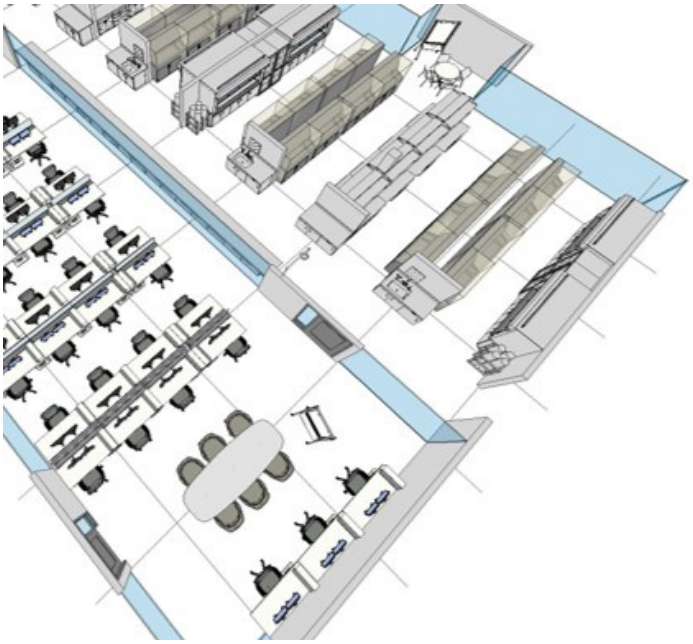
Description
NYU Winthrop Hospital relocated its primary hospital Laboratory and Pathology Services to an off-campus location. The size of the laboratory is anticipated to be approximately 15,000 SF. This represents a laboratory capable of increased testing volume growth of 20%, until 2029.

The existing pathology laboratory is located in the Main Hospital 3rd floor with a small presence of microbiology on 2nd floor. A maximum of 55 employees works in the day shift at the clinical lab. With the relocation, a necessary STAT lab was maintained at the main hospital to provide critical and time sensitive tests. The project included an increase automation platform for chemistry and Urine-Analysis.

Without the capability to shut down the existing lab operations or transfer to a reference laboratory, the plan included all new laboratory equipment, with fully complete validation prior to occupation and transfer of operations from old to new.

The new location required construction of all new utilities and HVAC systems to meet the laboratory environment. It also introduced new functional elements, which did exist at the main hospital location, such as courier services for sample transfer and chain of custody tracking.





Jefferson Health

Clinical Laboratory Alteration & Equipment Upgrade
Philadelphia, PA. 5,700 SF.

Services
Architecture, Planning, Interior Design, Laboratory Planning

Description
The main goal was to accommodate the new equipment layout and relocate displaced functions, while maintaining access to the existing receiving windows and pneumatic tube stations. It was essential that the layout of the plan accommodate optimal flow and separation among distinct activities, including the various testing areas within the Lab and the Offices areas.

- **Phase 1 - Enabling Phase:** Relocation & demolition of the Computer Server Room and IT Work Spaces off-site in order to expand the Lab function footprint; relocation and creation of new MEP services and systems; MEP work included construction of a new Electrical Room to accommodate the renovation and displaced existing panels and augmenting the existing Deionized Water system to accommodate the additional loads; construction of new Accessioning space; relocation and reconfiguration of Accessioning functions to the new space.
- **Phase 2-10:** Recircuiting of electrical panels to the new Electrical Room; renovation of decanted Accessioning space to create the infrastructure for the new Roche equipment, and to create a clear footprint to accommodate the automated Roche line instrument's testing, validation, and final layout; phased installation, testing, and validation of the new Roche equipment; expansion of the Residents Suite into decanted IT work room.

University of Pennsylvania

Department of Pathology and Laboratory Medicine
Philadelphia, PA. 26,500 SF.

Services
Architecture, Planning, Interior Design, Laboratory Planning

Description
The Department of Pathology and Laboratory Medicine (DPLM) on 6-Founders houses the Division of Anatomic Pathology, which provides diagnosis of diseases and monitoring of therapy by examining tissue and cells, utilizing the latest techniques of neoplastic, inflammatory and transplant-related diseases. The division is divided into four sections: Cytology, Medical Pathology, neuropathology and Surgical Pathology. The department was altered to improve workflow and increase space for technical procedures and processes performed on the floor. The alterations included capturing decanted space within the floor, to allow for significant expansion of the Grossing Lab and Sign-Out functions, plus accommodation of increased capacity for growth in the faculty that operates the department.

The new Gross Room design is more than double the previous area, which increased the grossing bench count from seven to twelve, plus a teaching bench. The new design accommodates a unified Surgical Pathology/Cytology office (AP Report Office). A 29 (plus three for growth) faculty office and administrative offices suite was designed adjacent to a thirteen Pod Sign-Out Suite, with direct access from suite to the other. The Sign-Out suite was designed to provide pod for each specific service line that is provided within the Division, plus space for a 14 head conferencing scope.

Pinnacle Health System

Medical Sciences Building and Consolidated Lab
Harrisburg, PA. 70,000 SF.

Services
Architecture, Planning, Laboratory Planning, Interior Design

Description
The new Medical Sciences Building's architectural and engineering systems were designed for anticipated vertical expansion for future hospital uses, including bed space. Its innovative design unifies the disparate architectural styles of previous structures and provides a signature building at a very prominent urban intersection.

The new lab consolidated the functions of two remote existing labs at main campus; it is contiguous to the existing main hospital and features direct access to new Frozen Section Lab. Additionally, new automated systems include two robotic lines integrating new and existing analyzers with particular emphasis on quality control, safety and staff design.

Team
Section Three

Wan Leung

AIA
Principal for Healthcare, and Science and Technology

Having spent decades examining the spaces in which we work, study, and heal, Wan knows intimately that these technically complex projects require a deep understanding of the subject matter and focus on coordination, which can only be learned and achieved through meticulous attention and listening to the needs of the client, occupants and users of the spaces. His approach to leading clients and projects, is one with calm, thoughtful consideration, and vision to explore beyond the normal boundaries and create the best possible outcome. His process and consideration for all individuals involved allow each project to achieve unique and progressive facilities for clients, while encouraging the growth of all team member involved.

Education
Pratt Institute School of Architecture
Bachelor of Architecture, Honors

Registration
New York

Honors & Awards
1996 Pratt Institute School of Architecture
Pratt Circle Award

Speaking Engagements and Publications
Health Facilities Today, May 24, 2019
When to Consolidate Clinical Testing (Core) Laboratories
Tradeline College and University Science and Engineering Facilities, April 2019
The Human Factor: How people interact physically and psychologically in modern STEM built environments

Notable Experience
NYU Winthrop Hospital Clinical Core Lab Relocation
New York, NY
Augustana Lutheran Home for the Aged *
Brooklyn, NY
BioMed Realty Trust Inc. *
Building 767 Universal Flex Lab
Tarrytown, NY
Boehringer Ingelheim Pharmaceuticals, Inc. *
Research Vivarium Optimization and I & I Laboratory Retrofit
Ridgefield, CT
Blythedale Children's Hospital *
Valhalla, NY
Brookhaven National Laboratory *
New York Center for Grid Innovation
Upton, NY
Brookhaven National Laboratory *
Campus Development Support Discovery Park
Upton, NY
Brookhaven National Laboratory *
Chemistry and Physics Building Renovations
Upton, NY
Columbia University *
Manhattanville Development Phase 2
New York, NY
CUNY College of Staten Island *
Advanced Imaging Facility and Chemical Storage Expansion
Staten Island, NY
DASNY / NYC Office of the Chief Medical Examiner *
New York, NY
District of Columbia Public Library *
Watha T. Daniel / Shaw Neighborhood Library
Washington, D.C.
General Electric *
Global Research Metallurgy and Ceramics Building Modernization
Niskayuna, NY
Hackensack Meridian Health: Bayshore Community Hospital *
Holmdel, NJ
Hillside Manor *
New Hyde Park, NY
Institute of Comparative Medicine *
Vivarium Modernization Project Northeast
Long Island Jewish Medical Center *
New Hyde Park, NY
Lutheran Medical Center *
Brooklyn, NY
Maimonides Medical Center, Cancer Center *
Brooklyn, NY
Morgan Stanley Children's Hospital of New York Presbyterian*
Pediatric Emergency Department
New York, NY
National September 11 Memorial & Museum at the World Trade Center*
New York, NY
New York University, College of Nursing, Dentistry, and Bio-Engineering Institute*
New York, NY
New York University, The Center for Comparative Functional Genomics*
Greenhouse
New York, NY
Northwell Health*
Core Lab New York (CLNY) Douglaston, and New Hyde Park, NY
Northwell Health*
Feinstein Institute Modernization
Manhasset, NY
Northwell Health
Phelps Hospital, Maternity Implementation
Sleepy Hollow, NY
NYC Department of Health and Mental Hygiene*
New York/Brooklyn, NY
NYU Medical Center*
New York, NY
PepsiCo*
Global R&D Campus Design
Valhalla, NY
Quest Diagnostics*
Regional Diagnostics Testing Facility
East Coast
Regeneron Pharmaceuticals*
Parcel D Project
Greenburgh, NY
RWJBarnabas Health:
St. Barnabas Medical Center*
Bronx, NY
Salick Health Care, Inc.*
New York, NY
St. Francis Hospital*
Roslyn, NY
University of Scranton*
Unified Science Center
Scranton, PA
Valley Hospital*
Ridgewood, NJ
Vassar Brothers Cancer Center*
Poughkeepsie, NY
Health and Hospitals Corporation
DASNY/Jacobi Medical Center*
Bronx, NY

**Experience prior to joining FCA*

Aran A. McCarthy

AIA, NCARB
Healthcare Principal

With a distinct vision and the leadership to guide his clients through the processes of building a greenfield hospital or upgrading their facilities for the 21st century, Aran is a leading advocate and active participant in the Integrated Project Delivery Process and a believer in the role of technology in healthcare delivery.

He has focused his career specifically in healthcare design and innovative patient centered architecture. He has led collaborative teams for numerous national healthcare clients across the United States and Europe.
Aran communicates closely to introduce and strive for cutting edge healthcare design that has benefited his long-term business relationships, resulting in award-winning projects, such as the Best in Healthcare International Interior Design Award, and the Vista Award for New Construction.

Education
Drexel University
Bachelor of Architecture
Dublin University of Technology
Diploma in Architectural Technology

Registration
Pennsylvania, Georgia, Virginia, Louisiana, Ohio, New Jersey, New York, Maryland, Michigan, Florida, District of Columbia, Connecticut

Professional Affiliations
The Carpenters Company of Philadelphia
Membership Committee Chair

Publications
Health Facilities Management
"Conducting Facilities Assessments: Determining Where Capital Dollars Should be Invested," August 2014
Healthcare Design
"Roadmap to the Future," November 2013
Medical Construction & Design
"A Case for Facilities Assessments: To Invest or Not to Invest," Co-Author, May/June 2013
Design Intelligence
"Collaborative Project Delivery: Better Than IPD?", November 2010
Executive Insight
"Culture of Green," Co-Author, November 2010
Oculus
"Center of Excellence," Co-Author, Winter 2009/2010

Honors & Awards
2010 ASHE Vista Award for New Construction
Geisinger Health System | The Critical Care Building at Geisinger Wyoming Valley
2008 IIDA Best Healthcare Project
AtlantiCare – City Campus | The Harmony Pavilion

Speaking Engagements
Reinventing the Healthcare Delivery Model Webinar, October 2013
Co-Presenter, 'To Invest or Not to Invest: Assessing Your Facilities on System Wide Basis"
Healthcare Design Webinar, June 2013
'Undertaking Health System Facility Assessments'
2013 ACHE Congress, March 2013
Roundtable Panelist, "Going Green – is it the Healthy Choice"
2013 American College of Healthcare Executives (ACHE) Congress High Performance Healthcare Buildings

Notable Experience
AtlantiCare Regional Medical Center: City Campus
Atlantic City, NJ
AtlantiCare Regional Medical Center: Hammonton Campus
Hammonton, NJ
AtlantiCare Regional Medical Center: Mainland Campus
Pomona, NJ
Atlantic Health System: Morristown Medical Center
Morristown, NJ
Atlantic Health System: Chilton Medical Center
Pompton Plains, NJ
Aria Health: Torresdale Campus
Philadelphia, PA
Beth Israel Medical Center
New York, NY
Cape Regional Medical Center
Cape May Court House, NJ
Drexel University College of Medicine
The Arnold T. Berman, M.D. Building
Philadelphia, PA
Einstein Healthcare Network: Einstein Center One
Philadelphia, PA
Einstein Healthcare Network: Einstein Medical Center
Philadelphia, PA
Geisinger Health System: Geisinger Medical Center
Danville, PA
Geisinger Health System: Geisinger South Wilkes-Barre
Wilkes-Barre, PA
Geisinger Health System: Geisinger Wyoming Valley Medical Center
Wilkes-Barre, PA
Hackensack Meridian Health: Bayshore Community Hospital
Holmdel, NJ
Hahnemann University Hospital
Philadelphia, PA
Holy Redeemer HealthCare
Meadowbrook, PA
Johns Hopkins Health System
Park Renovation & Interior Fit-Out
Baltimore, MD
Main Line Health: Bryn Mawr Hospital
Bryn Mawr, PA
Main Line Health: Lankenau Medical Center
Wynnewood, PA
Mercy Health System of Maine
Mercy at the Fore
Portland, ME
Mt. Sinai Health System
New York, NY
Nanticoke Health Services
Seaford, DE
Penn Medicine: Hospital of the University of Pennsylvania
Philadelphia, PA
RWJBarrnabas Health: Robert Wood Johnson University Hospital
New Brunswick, NJ
St. Clare's Health System
Denville, NJ
Temple University Health System: Temple Northeastern Hospital
Philadelphia, PA
Temple University Health System: Jeanes Hospital
Philadelphia, PA
Universal Health Services, Inc
Lansdale, PA
Roxbury Treatment Center
Shippensburg, PA
Virtua Health System
Berlin, NJ
Camden, NJ
Marlton, NJ
Voorhees, NJ
Virtua: Virtua Memorial
Mount Holly, NJ

Paul S. Degillio
Project Manager

With experience ranging from the design of a pharmacy renovation to a new freestanding emergency department and psychiatric hospital, Paul is a project manager who is deeply experienced in evaluating all areas of an existing medical facility. For every project, Paul works diligently to understand the facility, layout, and systems. He possesses a strong eye for detail in construction documentation — from pre-design through construction close-out. Paul's project monitoring technique is an important tool for his successful project management. His management style ensures extensive monitoring and review of the projects, as well as and individually tailored approach. Paul is as creative about the process as the product, analyzing and studying both extensively. He leads the project team; administers construction contracts; organizes, communicates, and participates in progress meetings; monitors the process, quality, and staff; directs and coordinates the work of staff and consultants; and prepares and monitors the schedule and budget of each and every project.

Education
Johnson College
Bachelor of Arts, Architecture
University of Scranton
Associate of Science, Human Resources

Professional Affiliations
Health Forum/American Hospital Association
Health Facilities Management

Notable Experience
Atlantic Health: Chilton Medical Center
Main Lobby Renovations
242 Cardiovascular Services
111 Madison Avenue Radiology Room Renovations,
Pompton Plains, NJ
Atlantic Health: Morristown Medical Center
LINAC #1 & #2 Replacement
Level "D" Renovations
Breast Center Renovations
Operating Room
Morgue Renovations
Non-Invasive Cardiology - Heart Success Renovation
Kitchen Renovations
Morristown, NJ
Geisinger Health System: Geisinger Cardiology Scranton
Scranton, PA
Geisinger Health System: Geisinger Wyoming Valley Medical Center
Emergency Department
Observation Unit
Endoscopy Renovation
Chapel Relocation
Critical Care Building
Hybrid Operating Room
Endoscopy Renovations
Heart Hospital Expansion Study
Cerebral Endoscopy
MRI Replacement/Renovation
Cancer Center Expansion Study
Wilkes-Barre, PA
Hackensack Meridian Health: Bayshore Medical Center
MRI Replacement
Holmdel, NJ
Hahnemann & St Christopher's Children's Hospital
Facility Assessment
Philadelphia, PA
Penn Medicine
URO GYN Suite Renovations
G.I. Suite Renovations
3737 SPD Renovations
Philadelphia, PA
RWJBarnabas Health: Robert Wood Johnson University Hospital
Emergency Department Renovation
New Brunswick, NJ
St. Luke's University Health Network: Anderson Cancer Center
Safe Room Analysis,
Laboratory Renovation & MRI Replacement
Labratory Renovations
MRI Renovations
4th Floor Med. Surg. Renovations
Bethlehem, PA
Virtua Health System: Virtua Memorial Hospital
Nuclear Medicine CT
Mt Holly, NJ
Virtua Health System: Virtua Voorhees
3rd Floor Multipurpose
Voorhees, NJ
Virtua Health System: William G. Rohrer Center for HealthFitness
Fitness Center Renovations
Fitness Pool Renovations
Voorhees, NJ
Chapters Hospice House*
Lakeland, FL
Cleveland Clinic*
Pharmacy Renovation
Weston, FL
Highlands Hospice House & Resource Center*
Sebring, FL
Hope Hospice*
PACE Center at Promenade Port Charlotte, FL Hope Hospice & Community Services
Lehigh Acres, FL
Emeritus Assisted Living Facility*
Palm Coast, FL
NCH Healthcare System*
Freestanding Emergency Department & Physicians' Offices
Gulf View Suites Patient Recovery Area Naples
FL North Naples NICU Addition
Naples, FL
Park Royal Psychiatric Hospital*
Fort Myers, FL

**Experience prior to joining FCA*

Robert P. Lang
RA, NCARB
Project Manager

A project manager with over 20 years of experience in the planning, design, and delivery of a variety of project types for higher education, healthcare, and science & technology clients, Robert works efficiently to incorporate design criteria, client standards, and complex building systems into innovative, functional solutions. His experience spans all project phases from inception to completion. Grounded in a foundation of collaboration, teamwork, and communication, his projects exemplify his passion for balancing technical excellence and innovative design with budget and schedule.

Education
Roger Williams
Bachelor of Architecture

Registration
New Jersey

Notable Experience
NYU Winthrop Hospital Clinical Core Lab Relocation
New York, NY
The College of New Jersey*
STEM Building Chemistry Addition, Trenton, NJ
Colorado State University*
Diagnostic Medical Center, Fort Collins, CO
Confidential Client*
Project Eden, Valhalla, NY
Duke University*
Global Health Research Building, Durham, NC
Duke University8
Medical Science Research Building, Durham, NC
George Mason University*
Biomedical Research Lab, Manassas, VA
Hartford Hospital*
Emergency Department Modernization and Master Plan, Hartford, CT
Johnson & Johnson*
Clinical Diagnostics Building, Rochester, NY
Monmouth University*
School of Science, Long Branch, NJ
National Starch & Chemical Co.*
Building 10, Bridgewater, NJ
New York University*
Molecular Nano Science Lab, College of Nursing, New York, NY
Northwell Health*
Core Lab, Clinical Testing Facility Lake Success, NY
Pace University*
Dormitory, Pleasantville, NY
Renewable Water Resources*
Environmental Lab, Greenville, SC
State University of New York*
New York College of Optometry, New York, NY
State University of New York*
Life Sciences Building, Albany, NY

**Experience prior to joining FCA*

Jay Hallinan

Senior Laboratory Planner

A passionate laboratory planner with decades of experience in designing state of the art facilities for Corporate, Academic, and Healthcare clients, Jay is extensively skilled in a deep range of project phases: everything from pre-planning to construction administration and all that lies between. He applies creativity, knowledge, and experience in designing optimal research and clinical environments that consistently exceed expectations.

Education

Tulane University School of Architecture
Master of Architecture I

Professional Affiliations

ISL2
Tradelines
IFMA
ISPE
SEFA
ERAPPA

Speaking Engagements

ERAPPA, September 2014
Shared Asset Culture
SEFA, April 2013
The New Corporate Lab Design Paradigm
IFMA, April 2013
The New Corporate Lab Design Paradigm
Labs21, October 2012
The New Corporate Lab Design Paradigm
AIA, June 2012
West New York co-tour conductor of UB Kapoor Hall School of Pharmacy

Notable Experience

Corporate

Advanced Functional Fabrics of America (AFFoA)*
Cambridge, Massachusetts
Bristol-Myers Squibb*
Wallingford, CT
Boehringer Ingelheim Pharmaceuticals, Inc.*
Ridgefield, CT
Pfizer Inc*
Groton, CT
Cambridge, MA
Franklin, OH
Sanofi*
Swiftwater, PA

Healthcare

NYU Winthrop Hospital Clinical Core Lab Relocation
New York, NY
Carilion Clinic*
Roanoke, VA
St. Francis Care / University of Hartford*
Programming and Planning for a Health and Rehabilitation Collaborative, Hartfort, CT

Academic

Indiana University School of Medicine*
Medical Research Library Building Lab Renovation Indianapolis, IN
Iowa State University*
Molecular Biology Building, Consolidated Microscopy Facility Advanced Technology and Research Building, Ames, Iowa
Misericordia University*
Frank M. and Dorothea Henry Science Center Dallas, PA
Montclair State University*
CELS Transdisciplinary Science Building Montclair, New Jersey
University of Notre Dame*
Engineering Technology Building Crossroads Campus Project, East Building Laboratories Notre Dame, IN
Old Dominion University*
Systems Research and Academic BuildingCOSMIC Lab, Physical Science Building Norfolk, Virginia
Center for Medical Sciences at the University of Albany*
BSL3 animal facility Albany, NY
Saint Joseph College*
Organic Chemistry Lab and Lab Support Renovation West Hartford, CT
University of Buffalo*
Kapoor Hall School of Pharmacy Buffalo, NY
Vassar College*
Mudd Chemistry Building, Faculty Lab Renovation Poughkeepsie, NY
Virginia Commonwealth University (VCU)*
Sanger Hall Gross Anatomy Lab Renovation and Expansion Emphysema Research Center Lab Renovation Richmond, VA

**Experience prior to joining FCA*

Greg Gurevich

AIA, LEED AP
Senior Project Architect

An indispensable architect with nearly two decades of successful project delivery experience, having overseen the design and production of various project types, Greg has been involved as leader and coordinator on new buildings, renovations, and interior projects. With a focus on quality of product and a timely turnover, his goal is to deliver a high caliber of design that also meets the client's needs. Since no two projects are the same, Greg develops a flexible, individual approach to adapt to each project's path of development, working toward a unified design that addresses the client's and users input. Through the design and delivery process, the goal is to implement the most exciting and functional solution which is delivered on a timely basis.

Education
City College of New York
Bachelor of Architecture

Honors & Awards
1989, 1991, 1992, 1995, 1996
AIS Annual Art Competitions
Award in Design

Notable Experience
GSK
Exterior Link and Bridge Upgrades
Collegeville, PA
HealthAlliance of the Hudson Valley
Campus Transformation
Projects - Mary's Avenue
Campus Addition
Emergency Department
New Radiology Imaging Center
Broadway Campus Medical Village
Cath Lab
Kingston, NY
Hospital for Special Surgery
Caspary Building Re-Cladding and Imaging Project
New York, NY
Mount Sinai Health System
St. Luke's Master Plan
Clark 9 Behavioral Health
New York, NY
Northwell Health:
Southside Hospital
CT-ICU Bridge Projects
Switchgear Replacement Projects
Bay Shore, NY
NYC Health+Hospitals: Bellevue
Child CPEP Expansion
New York, NY
NYC Health+Hospitals: Elmhurst
Behavioral Health Primary Care Integration
Queens, NY
NYC Health+Hospitals: Gouverneur
Primary Care Integration
New York, NY
NYC Health+Hospitals:
Jacobi Medical Center
6ED Reconfiguration
Behavioral Expansion
Primary Care Integration
NYC Health+Hospitals:
Lincoln Hospital
Primary Care Integration
Bronx, NY
NYC Health+Hospital: Morrisania
Primary Care Integration
Bronx, NY
NYC Health+Hospitals:
Queens Hospital
Pharmacy
Queens, NY
NYC Health+Hospitals:
Roberto Clemente Center
Primary Care Integration
New York, NY
NYU Central
BMS Study
New York, NY
NYU Langone Medical Center
1999 Marcus Avenue
Medical Offices
Long Island, NY
NYU Langone at Trinity
4th Floor Expansion
New York, NY
NYU Medical Science Building
Repatriation
Sub-Cellars Rebuild HCC
New York, NY
NYU Tisch
New York, NY
Biomed/Regeneron*
LEED Silver Core/Shell Laboratory Building
Terrytown, NY
Bronx Indepenedent
Living Services*
Bronx, NY
Brunswick Upper School*
New Building and Renovations
Greenwich, CT
Department of Design
and Construction*
Rose M. Singer Infirmary
New York, NY
Forest City Raitner*
Atlantic Terminal Tower
Brooklyn, NY
Metro Tech Center Brooklyn, NY
Forest Laboratories*
Addition and Renovation
Commack, NY
High School of Art and Design*
15-story New Building New York
The New School*
Signature Base Building
New York, NY
North Fort Myers Army
Reserve Center*
Fort Myers, FL
Port Authority of NYNJ*
World Trade Center Vehicular Security Center and Tour Bus Parking Facility, George Washington Bridge Bus Station Redevelopment New York, NY
P.S. 24/25*
Additions and Renovations
Paterson, NJ
P.S. 152/113*
Modular Addition Queens, NY
P.S. 189*
Additions New York, NY
P.S. 360*
Additions Bronx, NY

**Experience prior to joining FCA*

Beverley Spencer

CID, EDAC, CDT
Senior Associate,
Senior Interior Designer

While leading the Interior Design Healthcare practice in New York City, Beverley's dedication to a broader integration within design disciplines helps her clients attain cohesive design solutions. Her ability to provide an equal balance of creativity and functionality ensure environments that are both unique and specific to each client's needs. As new Healthcare trends emerge, Beverley works to integrate flexibility, technology and wayfinding into a refined aesthetic while remaining empathetic to patient and staff needs. With experience in all phases of development from initial conception to completion and an in-depth knowledge of building codes, accessibility requirements and sustainable practices, she remains a trusted advisor committed to cultivating long-standing client relationships.

Education

New York Institute of Technology
Bachelor of Fine Arts, Interior Design

Professional Affiliations

National Council for Interior Design
Certified Interior Designer
NY State
New York School of Interior Design
MFA II Thesis Student Mentor
IIDA Futurist Forum Volunteer

Notable Experience

Atlantic Health: Morristown Medical Center
Surgical Master Plan Implementation
Morristown, NJ
Charles B. Wang Community Health Center
Health View Building
Queens, NY
HealthAlliance of the Hudson Valley
Campus Transformation Projects - Mary's Avenue Campus Addition
Emergency Department
New Radiology Imaging Center
Broadway Campus Medical Village
Cath Lab
Kingston, NY
Mount Sinai Medical Center
St. Luke's Master Plan Implementation
Comprehensive Cancer Center
Antenucci Building
Fierman Building Renovations
PACC Lobby Renovation
New York, NY
New York Hotel Trades Council: Brooklyn Health Center
Brooklyn, NY
NYC Health & Hospitals: Jacobi Medical Center
Emergency Department Renovation
4th Floor Behavioral Health Integration Renovation,
10th Floor Primary Care Integration Renovation
Bronx, NY
NYC Health & Hospitals: Bellevue
Child CPEP Renovation and Expansion
New York, NY
NYC Health & Hospitals: *Elmhurst*
3rd Floor Primary Care Integration Renovation
Queens, NY
NYC Health & Hospitals: Kings County Hospital
Brooklyn, NY
NYC Health & Hospitals: Queens Hospital
Pharmacy
Queens, NY
NYU Langone Medical Center
1999 Marcus Avenue Ambulatory Expansion
Sandy Cellars Rebuild
New York, NY
NYU Langone at Trinity
4th Floor Expansion
New York, NY
RWJBarnabas Health: Clara Maass Medical Center
Pediatric Emergency Department and Observation Unit
Belleville NJ
RWJBarnabas Health: Saint Barnabas Medical Center
Foundations Donor Initiatives
Livingston, NJ
George Washington University*
Ross Hall, Research Center for the Neglected Diseases of Poverty
Washington, D.C.
JT Mather Memorial Hospital*
Port Jefferson, NY
King Faisal Specialist Hospital & Research Center*
Riyadh, Saudi Arabia
Lancaster General Hospital*
Lancaster, PA
Memorial Sloan Kettering*
New York, NY
New York Presbyterian Hospital*
New York, NY
New York University Langone Medical Center*
New York, NY
Northwell Health System*
Huntington Hospital Emergency Department
Huntington, NY
South Nassau Community Hospital*
Oceanside, NY
St. Luke's Hospital*
Family Centered Care Unit New Bedford, MA

**Experience prior to joining FCA*

Eric M. Klingler

AIA
QA/QC

With a wealth of experience as a Project Architect and Designer for institutional, STEM lab research, and higher education projects, Eric believes in a concerted dedication to sustainable construction and procurement practices, innovating workflows, and pursuing opportunities for authentic craft and material expression in a world increasingly assembled from manufactured systems. He strives to execute lean but comprehensive project documentation and coordinated work flows which result in reflective and consequential environments. Eric believes it is an architect's duty to provide respite from an increasingly stimulating but often dissonant world.

Education
Yale School of Architecture
Master of Architecture
Boston College
B.A. Physics & Mathematics
Magna cum Laude

Registration
New York

Professional Affiliations
AIA
New York

Notable Experience
Amtrak
Office Renovation
New York, NY
Eisner Amper
Office Renovation
New York, NY
HealthAlliance of the Hudson Valley
Campus Transformation
Projects - Mary's Avenue
Campus Addition
Emergency Department
New Radiology Imaging Center
Broadway Campus Medical Village
Cath Lab
Kingston, NY
Main Line Health
Bryn Mawr Medical Center
Integrative Medicine Fit-out
Bryn Mawr, PA
RWJBarnabas Health
Saint Barnabas Medical Center
Emergency Department
Livingston, NJ
Albion Hotel*
Miami Beach, FL
Carleton College*
Northfield, MN
Hamilton Avenue School*
Greenwich, CT
Lafayette Colleget*
Skillman Library, Easton, PA
Nassau County*
Public Safety Center,
Westbury, NY
NYU Tandon School of Engineering*
Rogers Building upgrades,
Brooklyn, NY
Offices at 33 Kingston Street*
Boston, MA
Publix*
Publix on the Bay,
Miami Beach, FL
Spring Valley Academy*
Dayton, OH
Stanford University*
Old Chem Building, Stanford, CA
SUNY Maritime College*
Waterfront Site,
Throggs Neck, NY
UJA Federation of New York*
New York, NY
United Nations*
Capital Master Plan,
New York, NY
University of Pennsylvania*
Center for Cognitive
Research at Richards Medical
Laboratories, Philadelphia, PA
La Maison du Chocolate*
New York, NY

**Experience prior to joining FCA*

Laboratory Planning Approach Section Four

Clinical Laboratory Planning Approach

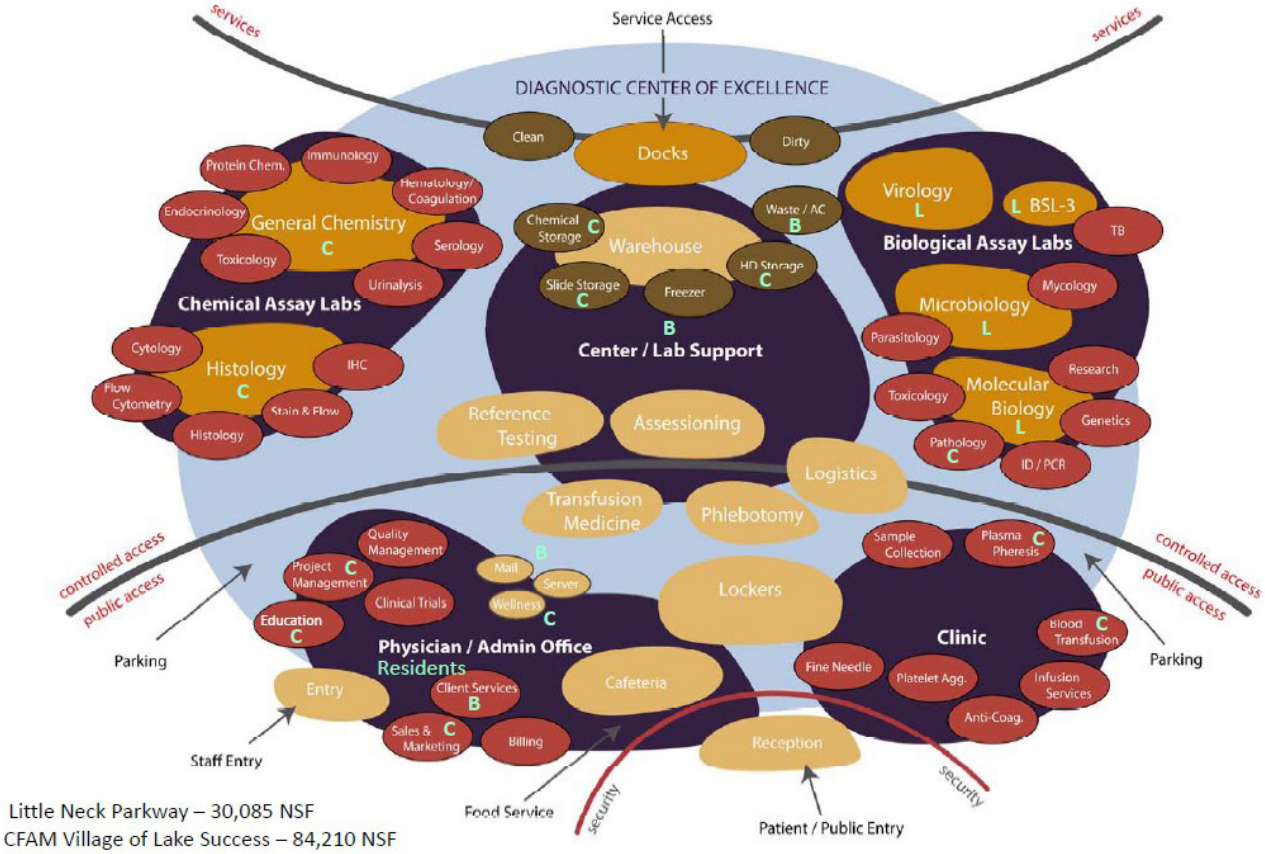
Planning a Clinical Testing Facility

A variety of programmatic and design issues impact the planning of a Hospital Laboratory. While, theoretically, program comes before design, the issues are intertwined. The following seven categories of planning and design considerations – all of which are relevant to creating a successful facility solution – are therefore not chronological, even though the first two are the likely initial steps in the process:

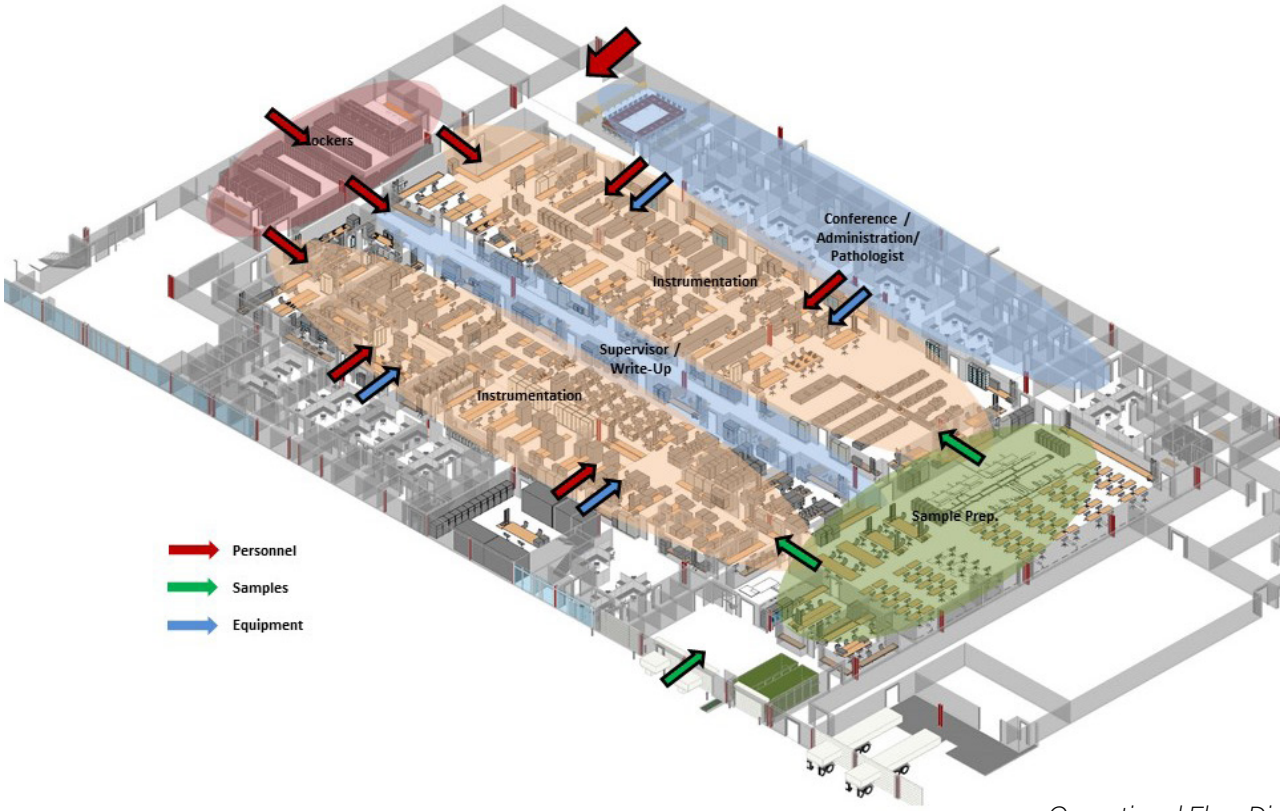
Establishment of the operational concept. Programming the space begins with an understanding of the staffing model (everything from hours of operation and the work-shift strategy to safety protocols and cleaning procedures) and the development of a logistical plan for sample management along the entire chain of custody control — receiving, sample log-in, distribution, testing, reporting, storage (freezer/cold room), waste removal, and management of consumables. Equipment-related optimization issues, such as capacity modeling, throughput analysis, and backup strategy round out this operational strategy.

Organization of flows. Applying Lean principles, the team evaluates work cell development, sample flows, efficient use of equipment and space, and layout opportunities, as well as personnel, equipment, sample, and waste flows. Flow analysis is a tool we use to confirm contamination control, sample integrity, and anticipated protocols. The team looks for opportunities for preventing contamination, process overlaps, and bottleneck conditions, and evaluates furnishings and equipment arrangement (sample prep and instrument layout) to help optimize work patterns and shared equipment opportunities. The team considers lab, office, and support space adjacencies, which are critical for connectivity / supervision, as well as interaction space for coordination among testing groups.

Modular planning for flexibility. An open lab concept allows the greatest flexibility of space for future change, with functional separations only where required. Within this space, utility distribution is planned to allow for open floor plates and flexible connections, and the team establishes a planning grid that allows for adaptability in the technology platform, lab automation, and assay / equipment upgrades. Sample preparation / solutions preparation, incubation,



Functional Relationship Diagram



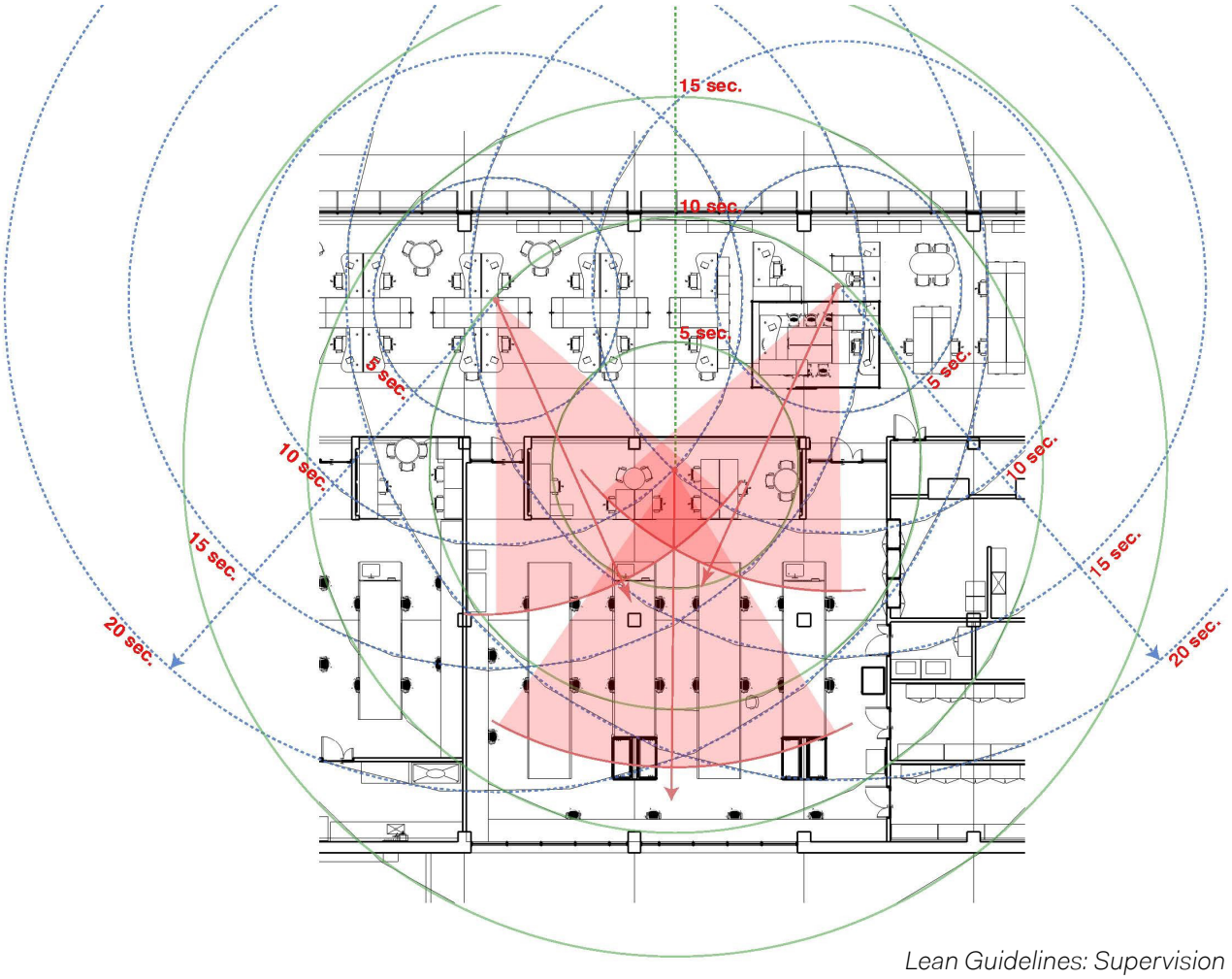
Operational Flow Diagram

amplification / detection, and recording stations (which are important to optimize movement between operations) are located within the grid, and both serviceability of equipment, and calibration requirements (utilization logs) are confirmed. Structural loading and vibration criteria, essential for sensitive equipment and robotics, are also reviewed. Development of a safety / containment strategy to determine biosafety level (BSL) or potency of compounds (RBEC level) and provide safeguards for personnel (PPE, personal protective equipment) and product (containment device or room), gown / degrown concepts, and isolation requirements. The team conducts safety / hazard and operability reviews and confirms intended Standard Operating Procedures.

Cross-contamination control involves functional separations of special testing needs; space pressure cascade / relations between adjacent areas; and special procedure/special design requirements, including those for cleanrooms designed to ISO standards, cleanable surfaces, particulate free finishes, environmental monitoring, and potentially HEPA filtration. An air-handling zoning, and cleanliness strategy will need to be put in place, whether using directional air flows or, when required, special spatial monitoring.

Regulatory impacts to space (besides typical building codes and standards) may include CDC / WHO guides such as BMBL - 5th Edition; Clinical and Laboratory Standards Institute (CLSI) regulations; ASHRAE standards; NFPA standards for flammable and life safety; and College of Applied Pathology (CAPS) laboratory accreditation.

Special systems and security considerations will involve controlled access, equipment monitoring and alarms, data storage, and multiple electronic reporting systems (especially those governing uninterruptible power supply, validation, redundancy, and protection of personal information), as well as a data backup strategy that is balanced against operational cost impacts. In all these areas, space benchmarks can assist evaluation of proportions of space and needs assessment.



Lean Guidelines: Supervision Diagram

White Paper
Section Five

When to Consolidate Clinical Testing (Core) Laboratories

Healthcare Facilities Today
May 24, 2019

by Wan Leung

Clinical laboratory testing is an integral part of healthcare delivery. According to the American Clinical Laboratory Association, national lab tests guide more than 70 percent of medical decisions and personalized wellness options, including early detection, personalized treatment, and wellness programs, and responses to an individual's genetic makeup. From my own discussions with clinical testing lab operators, the common feeling is that proper investment must be aligned with this critical patient care value.

Whether in an independent lab, hospital, or large healthcare system, the three primary business drivers are the same: competition, increasing regulation, and insurance reimbursement. Service providers can respond in three ways: expand their service lines or foot print, selectively or completely outsource, or divest. About a decade ago, healthcare providers wanted to offer all services, at a high quality, and expect to be compensated. However, with rising competition and increased operating costs, the need to create a more sustainable or valuable model is the concern of the moment.

There are few models gaining traction; continued outreach, partnerships, outsourcing, and consolidation, all which address specific market conditions. Consolidation, or a combination of consolidation with the other approaches, seems to be most attractive – Quest Diagnostics, LabCorp, Northwell Health, and Geisinger Health System have all recently undergone some form of consolidation. We will examine four key reasons why this might be the most appropriate direction for a health system to take.

Existing facilities and capabilities

Evaluation criteria for existing core labs falls into two categories: are there any deficiencies in the ability of the lab to provide the necessary services associated with the current and future service lines, and can it accommodate their current and potential future customer base as demands change? Identifying deficiencies often requires careful analysis, including input from subject matter experts outside of the lab operations group. Consider the following:

> The physical condition of the facility typically degrades over time. The items to examine in detail are those that cannot be easily retrofitted or exchanged. For example, the life of mechanical systems can hypothetically exist for as long as one can maintain them. But how well will they function? Do they have the ability to adapt? Finally, will their continued use cause detriment to the lab? In a recent project I was involved in, the existing ducts contained interior lined insulation, which was fraying and distributing particulates into the lab environment. These ducts provided essential ventilation and air to the labs and are integral to the facility. They could not be replaced without closing large portions of the laboratory to perform retrofits, which was not an option for the business.
>
> Can the facility maintain cross-contamination control, requiring separations of testing environments? That is, can separations be created that cannot be achieved through an operational protocol? Depending on the biosafety level and cleanliness of the labs, the existing facility may not have the capability to move to more critical testing.
>
> As regulations become more stringent than what existing facilities were designed under, older facilities have to upgrade and adapt.
>
> How flexible is the existing facility? Equipment is shrinking in size, but not in scale. Additionally, as testing volume continues to increase, more automation is integrated for efficiency and accuracy, and services lines are added, the ability to adapt remains key. Older facilities, especially those planned prior to the last decade, were based primarily on the manual testing model, which means change requires substantial retrofit and construction.

Increasingly, customers of clinical testing labs want a one-stop shop, particularly as large healthcare systems acquire smaller, more specialized independent practices. The population of customers looking for quality above all is shrinking in favor of lower cost and convenience. With this trend, pressure is applied to core labs to expand their services, deliver services as fast as possible and for the lowest price

possible, especially as reimbursement rates become lower. Older facilities find this particularly challenging, due to the possible deficiencies and the attractiveness of new facilities built on flexibility and through-put.

Business reasons and assets

The business of healthcare is anything but easy. Clinical testing labs need to balance a multitude of factors – as well as the pressure to grow, outsource, or sell – to maintain a cost-effective business model.

External pressures are among the strongest drivers for consolidation. Declining reimbursement is an ever-continuous trend. Most insurance policies have moved in the direction of higher deductibles or co-payment, informing the patient of the cost for testing services. Typically, labs offset lowering reimbursement with offers of new tests, enhancing the average cost per-test reimbursement.
Medicare adds another level of complexity, as reimbursement uses a weighted median from private payer rates. This requires analysis of ambulatory data and hospital data to effectively establish a strategy. In any case, expanding and growing allows the lab the ability to offer new tests and combat lower reimbursement.

The other element of external pressure is technology. Not only from changing equipment (automation), but from how tests are performed. Patient-centric data bases, specialty systems, and security systems impact test validation, systems redundancy, data back-up, speed of results, and, ultimately, operational costs.

Since growth is considered essential to business success, the volume of tests must grow and as a result, so too must the volume of employees and accompanying need for support. From a recent confidential client that combined joint venture, outreach, and consolidation as a future business model, the table below describes the significant changes required to the existing lab facilities:

Testing Volume Growth

Testing Volume Growth									
				2018		2021		2021	
Lab Area	2014	2018	2021	Increase 2014 to 2018	% Increase 2014 to 2018	Increase 2018 to 2021	% Increase 2018 to 2021	FTE All Shifts	Test/FTE
Microbiology	598,000	1,704,200	2,269,892	1,106,200	185%	565,692	33%	221	10,271
Automated Lab	7,945,065	15,785,000	19,539,927	7,839,935	99%	3,754,927	24%	236	82,796
Mol. Pathology	281,167	651,600	664,540	370,433	132%	12,940	2%	21	31,645
Virology	19,594	30,000	37,966	10,406	53%	7,966	27%	13	2,920
Reference Test / Send out	203,777	397,400	466,849	193,623	95%	69,449	17%	48	9,726
Cytopathology	119,076	298,000	521,888	178,924	150%	223,888	75%	115	4,538
Surgical Pathology	62,373	134,000	210,941	71,627	115%	76,941	57%	149	1,416
Cytogenetics	26,000	54,000	83,077	28,000	108%	29,077	54%	77	1,079
Totals	9,255,052	19,054,200	23,795,080	9,799,148	106%	4,740,880	25%	880	27,040

Testing Volume Growth

Program Comparison – Peak Load									
		2018 Increase				2021 Increase			
Staff 2015	Space 2015	Staff 2018	%	Space	%	Staff	%	Space	%
34	4,742	100	194%	10,793	128%	15	15%	2,521	23%
65	9,180	78	20%	11,996	31%	4	5%	2,601	22%
10	1,445	16	60%	2,001	38%	0	0%	531	27%
9	1,724	11	22%	1,614	-6%	2	18%	363	22%
12	645	16	33%	1,480	129%	4	25%	353	24%
30	1,764	46	53%	1,438	-18%	2	4%	4,29	30%
81	7,203	110	36%	17,593	144%	14	13%	1,646	9%
42	4,232	50	19%	3,035	-28%	12	24%	1,476	49%
283	30,935	427	51%	49,950	61%	53	12%	9,920	20%

Serviceability is also taking the form of one-stop shopping. It is attractive for customers to be able to obtain all of their testing at one provider – it provides convenience and efficiency. It also directly reflects the quality of the results: if re-tests are ordered too often, or contamination occurs, customers have different options to compensate.

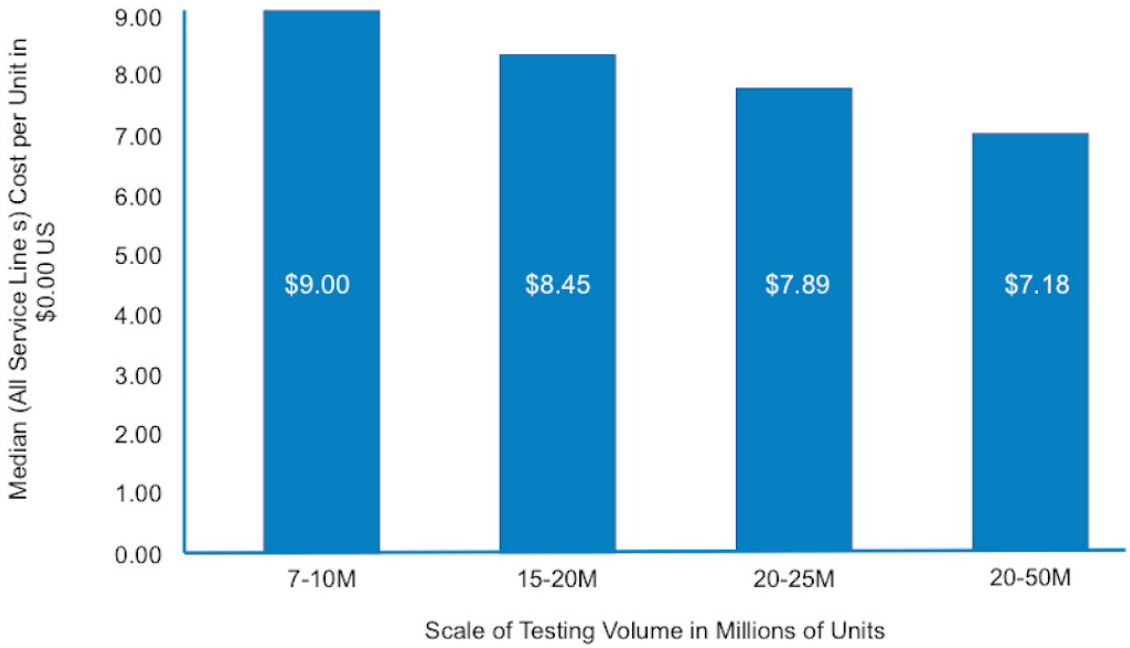
Consolidation of services lines go hand-in-hand with core lab consolidation. As the need to reduce redundancy and shift focus to what each lab does best, to encourage best quality results, service lines are co-located, rolled into others, or eliminated or outsourced. This may employ the standardization of instruments and test menus, installation of a common laboratory information system and specimen tracking system, and then optimizing this use of equipment around the clock. When looking at the same lab, the operator can project significant efficiencies in terms of cost-per-test when scaling through standardization is considered.

Additionally, staffing pressures added through retirements, location, and licensing have a significant impact on productivity. Following the status quo would mean adding additional FTE's when volume increases, but this runs contrary to the need for efficiency. Labs are using metrics to increase productivity and reduce labor through normal attrition. If we look at example labs and the required productivity increase based on units (volume of tests) produced per hour, then a metric can be established for consolidation. In planning a sample lab, the operator can identify a target productivity for each lab area for the growth and consolidation process to be successful. This is based on using the day one metric (base value), then increasing the volume units to the final growth projection (target value). Efficiency is a more complicated metric, as clinical testing labs involve human interaction – it would be incorrect to calculate against a perfect efficiency ratio.

Consolidation presents the idea of a single local regulatory authority, compared to multiple, when satellite locations exists, reducing the need for varying compliance routines, and facility up-keep. The ever-present fact of competition, through physician practices and national reference laboratories, requires hospital labs and regional labs to look for more cost-effective operating measures.

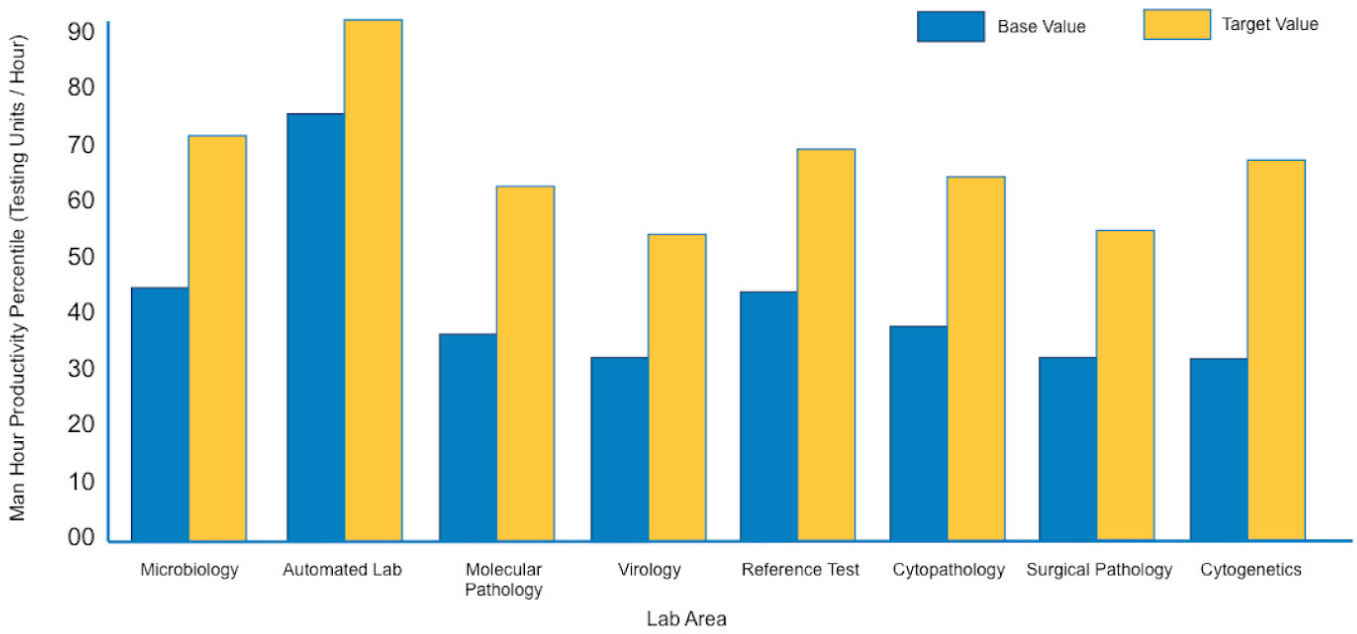
Economies of Scale through Standardization of Test, Menus, Equipment, Etc. (Projected)

Consumables, Reagents, Supplies, Etc., Per Test Unit



Production Units vs. Man-Hours by Lab Area

(Productivity Increase with Volume Increase)



Operational gains when consolidating

The goals of any consolidation include improvements to quality and efficiency while incurring no additional costs, and in fact sometimes creating a reduction in costs. In terms of operational improvements, the focus is specifically on quality, efficiency, safety, regulatory compliance, and data reporting and recording.

Consolidation offers opportunity for improvement in safety and containment. The ability to apply the latest strategies in facilities design and safety protocols will reduce errors and chance contamination. Part of the consolidating planning process includes the development of a sample management plan incorporating chain-of-custody control, which will include material receiving, test sample registration, distribution, test application, results reporting, storage, bio-waste, and material removal. Since consolidation will eliminate or reduce satellite locations, this centralized resource and control mechanism provides simple and improved control and monitoring. Maintaining labs under a single roof usually means the operator only needs to accommodate a single local regulatory environment. In terms of operating license, reporting, and data management, the more simple structure allows the operator to focus more on the quality of testing and customer satisfaction than compliance documentation.

Reporting and information custody can be greatly improved by implementing and validating the latest centralized Laboratory Information System and Specimen Transportation System, which can trace the location of all patients' specimens. Collecting and analyzing patient outcome data has become more essential in the laboratory services business sector, not only for ease of documentation but for the ability to retrieve and review over time with a health provider.

Core Labs can also offer a single location for multiple tests, providing for improvements in early diagnostics and therapeutics. A sample(s) can be distributed internally to different testing lines, and provide quick turn around results, without the need to outsource or separate specimens.

Taking advantage of new technologies

Advancements in testing technologies and testing equipment permits labs to consolidate its testing process and offer services at lower costs. They also serve to improve the quality of test results. It makes more sense to consolidate the technology, as once the basic infrastructure is in place, the system can be expanded more simply in one location. Consolidation of tests such as blood banking, ICP Analysis, and others, greatly improves efficiency. This consolidation is made possible due to interchangeable activities for each type

of test. In order to do this, equipment analyzers are modified to perform various tasks and tests, although, structurally, the equipment is the same. If we consider the operations of a sample presentation, results review, and quality control, these are very similar even though they might be performed on various analyzers.

Transformation of less lucrative testing: simply put, these are performed as quickly as possible in specific processes, and on equipment dedicated to "churn."

Automation has long been and continues to be a factor behind the changing clinical testing lab, especially the consolidated core facility. In recent years, advancements in all phases of the automated laboratory process – including the preanalytical stage, analytic, and post analytic stage. Specimens may still have to be transported manually to a centralized lab if outside a hospital environment (one can assume, not too long into the future, automated robots/delivery can fill this gap), but once at the lab, automation can transfer, sort, and distribute the specimen to specific analytic stage service lines.

Analyzers can perform test with little to no manual intervention. Additionally, modular laboratory automation has allowed incremental inclusion of automation for the entire laboratory, one element at a time. This technology starts with a basic service spine and permits the lab to "add" or "remove" modules/equipment as needed. Eliminating manual processes can eliminate risks of mistakes and reduce testing error rates. As previously mentioned, automated Laboratory Information Systems can also automate much of the post-analytic stage of the testing process. Results can be sent directly to the physician, and billing and collection can also be automated to various levels.

Summary

Clinical testing labs of all types are facing very similar challenges: dealing with less revenue and increased competition and customer choice. The decision to consolidate should be made in a strategic manner. It needs to be inclusive of all stakeholders within the organization, as well as the patients they serve. Laboratory leadership should examine the customers it wishes to service, where it wants to position its lab services, and its goals as a business enterprise. The obvious trend is mergers, acquisitions, or partnerships that embrace the advantages of size. Although perhaps the decision should be to divest the service all together and rely on a reference lab.

Technology is playing an instrumental role in a possible paradigm shift in the clinical testing market place. However, whether they can be utilized in a sustainable business structure is still yet to be determined. It will largely depend on the ability to apply the technology at a cost that payers/reimbursors are willing to commit to.

We have yet to see real impacts from Point of Care Testing or Home-Based Testing, but it's likely the focus for centralized core lab facilities will be on esoteric testing. In all cases or scenarios, the trend of lower labor costs, and therefore the reduction in cost-per-test, will continue.

FCA

Francis
Cauffman
Architects