

**COUNTY OF MILWAUKEE**  
INTEROFFICE COMMUNICATION

**DATE:** March 17, 2017

**TO:** Supervisor Theodore Lipscomb, Sr., Chairman, County Board of Supervisors

**FROM:** James Tarantino, Economic Development Director, Department of Administrative Services

**SUBJECT:** An Informational Update relating to the Public Policy Forum report “Breaking New Ground? Analyzing the potential for a public-private forensic science center in southeast Wisconsin”

**REQUEST**

This report is for informational purposes, there is no request at this time.

**BACKGROUND**

Previous Legislation -

File 14-568 – Consolidated Facilities Plan update, in part related to the Medical Examiner’s facility needs

File 16-393 – informational report regarding a collaborative effort between the OEM, Office of the Medical Examiner, State of Wisconsin Department of Justice Crime Lab, and the Medical College of Wisconsin in creating a Forensic Science and Intelligence Center.

File 16-721 – informational update on potential County Participation in Forensic Research Facility

Since the legislation listed above, Milwaukee County has commissioned the Public Policy Forum (PPF) to conduct an analysis of best practices in collaborative forensic science centers throughout North America. The PPF is a private, non-profit, independent research organization dedicated to enhancing the quality of public policy decision-making in southeast Wisconsin. The intent of this report is to inform Milwaukee County as it considers participation in a collaborative forensic research facility as an option to house the Office of the Medical Examiner and the Office of Emergency Management. The analysis took place at a time when the collaboration with the State Crime Lab was an option, as referenced in File 16-721. While that is no longer the case the analysis regarding collaboration between the County and MCW remains viable and the analysis contains valuable insight into that potential effort.

**REPORT SUMMARY**

Milwaukee County is seeking a new home for its Medical Examiner (ME) and Office of Emergency Management (OEM), and the Medical College of Wisconsin (MCW) is seeking to enhance its research capabilities and establish a forensic research curriculum. Between the parties, it is assumed that there is shared interest in a collaborative facility due to building efficiencies, service efficiencies, and improved ability to collaborate between institutions. In examining these assumptions, the PPF established the following research questions:

- What are the potential community benefits that would result from such a facility?
- Are there potential obstacles or pitfalls that might call into question the pursuit of colocation?
- What can we learn from the experience of other regions across the country that have paired law enforcement-based forensic science with academic settings, as well as those that have co-located state, county, and municipal law enforcement, medical examination, and related functions?

The PPF conducted an extensive interview process with local and international stakeholders. The results of their analysis are attached to this report and titled – “Breaking New Ground? Analyzing the potential for a public-private forensic science center in southeast Wisconsin”. Key insights provided by the PPF relate to the planning and construction of a facility, operations and governance of a facility, impact on talent attraction, potential limitations in pursuing a collaborative facility, and alternative options to the State’s participation.

**RECOMMENDATION**

This report is for informational purposes, there is no request at this time.



James Tarantino  
Director, Economic Development

Attachments (1): PPF Report – “Breaking New Ground? Analyzing the potential for a public-private forensic science center in southeast Wisconsin”

cc: Chris Abele, County Executive  
Teig Whaley-Smith, Director, Department of Administrative Services  
Dr. Brian Peterson, Chief Medical Examiner  
Christine Westrich, Director, Office of Emergency Management  
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# **BREAKING NEW GROUND?**

**ANALYZING THE POTENTIAL FOR A  
PUBLIC-PRIVATE FORENSIC SCIENCE  
CENTER IN SOUTHEAST WISCONSIN**



**PUBLIC POLICY FORUM**

## ABOUT THE PUBLIC POLICY FORUM

Milwaukee-based Public Policy Forum – which was established in 1913 as a local government watchdog – is a nonpartisan, nonprofit organization dedicated to enhancing the effectiveness of government and the development of southeastern Wisconsin through objective research of regional public policy issues.

## PREFACE AND ACKNOWLEDGMENTS

This report was undertaken to provide the Medical College of Wisconsin, Milwaukee County, and the many other organizations that could be involved in or affected by the development of a new center of forensic and educational excellence in southeast Wisconsin with information about the potential benefits and challenges such co-located facilities can generate. We hope the leaders of those organizations will use the report's findings as they consider the possibility of developing such a center in the region. This report does not represent an endorsement by the Public Policy Forum of the MCW and Milwaukee County proposal submitted in response to the Wisconsin Department of Justice Request for Proposals to construct a new state crime lab in southeast Wisconsin.

Report authors would like to thank the Medical College of Wisconsin and Milwaukee County's Economic Development Division for commissioning this research and sharing information with us, as well as the many other organizations and individuals in the Milwaukee area and throughout the U.S. and Canada that provided us with information and insight.





# **BREAKING NEW GROUND?**

*Analyzing the potential for a public-private  
forensic science center in southeast Wisconsin*

December 2016

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## INTRODUCTION

It is not a common occurrence for the interests of the State of Wisconsin, its largest county government, and its only private medical college to clearly and directly converge, but that may be the case with regard to forensic science. The State is planning to develop a new crime laboratory in southeast Wisconsin, while Milwaukee County is seeking a new home for its Medical Examiner (M.E.) and Office of Emergency Management (OEM), and the Medical College of Wisconsin (MCW) is seeking to enhance its program offerings and research capabilities.

On its face, the idea of co-locating these functions would appear to have promise. The M.E.'s forensic toxicology laboratory shares many common characteristics with the State Crime Lab, and the two entities often work closely in criminal investigations. Co-location with OEM also would appear logical, as the three agencies require similar secure building design characteristics, and the close proximity would aid collaboration during mass fatality and catastrophic scenarios.

Congruently, co-location of the State Crime Lab and Milwaukee County M.E. with MCW offers an opportunity for the Crime Lab and M.E. to be associated with the scientific rigor and pipeline of forensic and investigative talent that would be accessible through MCW. A 2009 report submitted to the U.S. Department of Justice found that too often forensic science facilities:

*“...have inadequate educational programs, and they typically lack mandatory and enforceable standards, founded on rigorous research and testing, certification requirements, and accreditation programs. Additionally, forensic science and forensic pathology research, education, and training lack strong ties to our research universities and national science assets.”<sup>1</sup>*

A new facility that would house both the State and County laboratories could open the door for MCW to become a national leader in forensic science, creating a center of educational excellence that could benefit all of southeast Wisconsin. Additional opportunities exist for partnering with other educational institutions in the region, such as the University of Wisconsin-Milwaukee's (UWM) Center for Forensic Science, Marquette University Law School, and Carroll University's chemistry department.

In July 2016, the Public Policy Forum was commissioned by Milwaukee County and MCW to conduct a research project to explore the concept of building a center of forensic and educational excellence in southeast Wisconsin. The focus of this research is the potential value of co-location; it assumes that the needs for new facilities for the State Crime Lab and County's offices of the Medical Examiner and Emergency Management already have been established.

Our research questions include the following:

- What are the potential community benefits that would result from such a facility?
- Are there potential obstacles or pitfalls that might call into question the pursuit of co-location?

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<sup>1</sup> Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, “Strengthening Forensic Science in the United States: A Path Forward,” August 2009, National Academies Press, p.14.  
<https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>



- What can we learn from the experience of other regions across the country that have paired law enforcement-based forensic science with academic settings, as well as those that have co-located state, county, and municipal law enforcement, medical examination, and related functions?

The Forum has a long history of assisting local governments in their efforts to explore service sharing or consolidation. For example, at the request of municipal and County leaders, the Forum has conducted multiple analyses during the past five years on possible fire service and public safety dispatch consolidation in Milwaukee County. In addition, we have facilitated efforts in Milwaukee County related to the joint purchase of elections equipment and a cooperative effort to construct a new public safety radio system.

In each of these instances, the Forum has found that intergovernmental cooperation can produce service efficiencies and reduce fixed costs associated with buildings and equipment. We have also observed that use of public/private partnerships is a growing trend throughout the United States that in many instances facilitates the completion of projects that might not be possible with more traditional methods of facility planning and development.<sup>2</sup>

For this qualitative study, we reviewed relevant literature and met with or conducted telephone interviews with representatives from MCW, the Milwaukee County M.E., OEM, and the Milwaukee County Economic Development Division. We also spoke with other potential partners and agencies that might be impacted by the center or that could provide insight into the likely impacts of co-location, including the Milwaukee County District Attorney, Milwaukee Police Department, UWM Center for Forensic Science, and Carroll University. In addition, to understand the potential benefits and pitfalls of co-located forensic science operations, we spoke with individuals from nine forensic science centers located throughout North America and an architect who has designed numerous forensic science centers in the United States and beyond.

In this report, we lay out the current strengths and needs of the possible partners, present pertinent information and insights gained from our local and national research, and explore the potential pros and cons of co-locating the various entities at a new facility in southeast Wisconsin. Our analysis considers a range of important issues, from constructing the facility to operations and staffing, and from financing to governance. We hope this document will provide valuable assistance to each of the potential project partners as they proceed in their efforts to develop new, modernized facilities.

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<sup>2</sup> M.B. Corrigan, et al. *Ten Principles for Successful Public/Private Partnership*. Washington, D.C.: ULI – the Urban Land Institute, 2005.





## BACKGROUND

Several institutions have come together in recent months to discuss the possibility of partnering on a new co-located forensic science facility in light of the State of Wisconsin's plan to develop a new crime lab in southeast Wisconsin. Below we summarize the major players, their facility needs, and the functions they could bring to a partnership.

### PROPOSED PARTNERS

**Wisconsin Crime Lab:** The Wisconsin Crime Laboratory Bureau has three labs that are located in Milwaukee, Madison, and Wausau, with each serving different areas of the state. The Milwaukee Southeast Regional Crime Laboratory is a full-service lab providing analysis in controlled substance, toxicology, DNA/serology, firearms/toolmarks, identification, forensic imaging, and trace chemistry.

The Milwaukee crime lab property has outdated building systems and laboratory conditions that do not meet program needs, and suffers from overcrowding and inadequate on-site parking. The lab was constructed in 1983-84 and expanded in 1992-1993 to its current 60,648 gross square feet of space.

The Department of Justice (DOJ) intends to co-locate the current operations of the Milwaukee crime lab with other DOJ divisions in a new facility. On September 10, 2016, the Wisconsin Department of Administration issued a request for proposals (RFP) for a southeast Wisconsin law enforcement facility to be located within western Milwaukee County or eastern Waukesha County.

**Milwaukee County Medical Examiner:** The Milwaukee County Medical Examiner is charged with investigating and determining the cause, circumstances, and manner in each case of sudden, unexpected, or unusual death, as well as performing other functions important to public health and safety. In 2014, the M.E.'s Office was granted a five-year accreditation by the National Association of Medical Examiners, and its toxicology laboratory is accredited by the American Board of Forensic Toxicology.

The Medical Examiner currently completes 6,000 death investigations per year (out of 10,000 death occurrences). It completes 1,000 autopsies for Milwaukee County and an additional 400 for other counties, including Ozaukee, Racine, Jefferson, and Kenosha. Approximately 40% of autopsies result in a finding of violent or accidental death.

In the past 10 years, drug overdose deaths are up 114% and homicides are up 54%. At the same time, staffing at the M.E.'s Office has not increased. In fact, a budget reduction in 2016 has precluded the M.E.'s Office from replacing anyone who retired, which has left the toxicology lab currently short of one position.

According to a report submitted by the M.E. to the Milwaukee County Board of Supervisors in June 2016, the current M.E. facility "has deteriorated beyond its useful life and will need to be relocated



to a new facility soon due to space limitations and the failure of current facilities to meet industry standards.”<sup>3</sup> Milwaukee County has been actively considering a new facility for the M.E. since 2012.

**Milwaukee County Office of Emergency Management (OEM):** The OEM coordinates emergency services for natural or manmade disasters, provides administration and direction for the County's paramedic system, manages the County's public safety radio system, and serves as the 911 call-taking and dispatching center for the County. The OEM includes five divisions: the Director's Office, Emergency Management, Emergency Medical Services, 911 Communications, and Radio Services.

- The Director's Office is responsible for overseeing emergency management during a Milwaukee County declaration of a state of emergency. One of the director's responsibilities is to develop partnerships with academic institutions like MCW in order to implement and maintain quality assurance and improvement processes, including training for OEM and its municipal partners.
- Emergency Management provides incident command during a declared state of emergency. This Division meets State of Wisconsin statutory obligations for emergency management duties and powers during a declared disaster, as well as preparatory mandates related to coordination of the 19 municipalities within the county.
- Emergency Medical Services (EMS) oversees the EMS system in Milwaukee County, providing initial and continuing education, quality assurance, communications, medical direction, and other oversight and administrative functions. The program provides out-of-hospital medical care using 500+ paramedics (most of whom are employed by municipal governments) and 1,000 Emergency Medical Technician providers.
- 911/EMS Communications Center provides for prompt response and delivery of emergency services to 911 callers, serving as the public safety answering point for Milwaukee County. This division also provides dispatching for the Sheriff, Medical Examiner, and other County functions.
- Radio Services administers and maintains a regional radio system, providing communications for public

#### Potential Collaborators

On April 12, 2016, MCW convened a meeting of potential forensic science center collaborators and organizations that could be affected if a co-located facility is developed. Attendees of that meeting included representatives from the following:

- Blood Center of Wisconsin
- City of Milwaukee
- City of Wauwatosa
- Drug Enforcement Agency
- Froedtert Hospital
- Marquette University
- Medical College of Wisconsin
- Milwaukee County
- Milwaukee Police Department
- Milwaukee Regional Medical Center
- UW-Milwaukee
- VA Medical Center
- Waukesha County
- Waukesha County Technical College
- West Milwaukee Police Department

<sup>3</sup> Peterson, Brian L. and Christine Westrich. County of Milwaukee Interoffice Communication. June 28, 2016. <https://milwaukeecounty.legistar.com/LegislationDetail.aspx?ID=2775128&GUID=E9A943AF-D856-44D1-B706-212235AFF2B9&Options=&Search=>



safety agencies and first responders in Milwaukee and Waukesha Counties with subscribers in law enforcement, fire service, EMS, transportation, public works, hospitals, and private shopping malls.

While OEM recently consolidated its 911 and EMS communications functions into one location at the County's Safety Building, it has cited the need for an expanded and modernized facility. Officials argue that there is no room for expansion at the current location to accommodate OEM's data center and that a modernized facility is necessary to implement Next Generation 911 technology and other technological enhancements.

**Medical College of Wisconsin:** Located within the Milwaukee Regional Medical Center in Wauwatosa, MCW serves as a national leader in the education and development of physicians and scientists. The College works to discover and translate new knowledge in the biomedical sciences, to provide clinical care, and to improve the health of the communities it serves.

MCW has 1,540 physicians and 600 other health care professionals providing adult and pediatric care to 430,000 patients per year (over 1.6 million visits). The College educates more than 1,200 students per year in three schools: the School of Medicine, the School of Pharmacy, and the Graduate School of Biomedical Science. Supervision is provided to 650 resident physicians, 200 fellows, and 160 post-doctoral research fellows. MCW has experience in collaborative efforts with the M.E., the Crime Lab, and OEM on research and training initiatives.

A co-located facility could allow MCW to enhance its role as a trainer of staff for the Crime Lab and M.E.'s Office. The College also could expand its role in validating the methodologies of the Crime Lab and M.E.'s office and in producing research to improve forensic science operations in southeast Wisconsin. Likewise, co-location of MCW's Emergency Medicine Department and OEM could allow for more in-depth fellow and resident participation in emergency services and enhanced EMS data-gathering and analysis.

**Other Potential Partners:** Additional organizations have expressed varying levels of interest in the forensic science center concept. Of particular significance among other academic institutions in the region is the University of Wisconsin-Milwaukee, which offers three undergraduate certificate programs in forensic science (Death Investigation, Forensic Science, and Forensic Toxicology), and which currently collaborates with MCW, the Milwaukee County M.E., and the Milwaukee Crime Lab. Carroll University, whose Chemistry program offers an emphasis in forensic science, also has expressed interest in being involved. UWM and Carroll have placed graduates at the Milwaukee Crime Lab and/or the Milwaukee County Medical Examiner's Office and both are interested in further collaboration.

Other organizations that have been engaged as possible collaborators include the Blood Center of Wisconsin (which includes the Wisconsin Tissue Bank), the Southeast Wisconsin Healthcare Emergency Readiness Coalition (HERC), and the Wisconsin Poison Center.

**Map 1** shows the existing locations of the organizations most likely to be involved as major partners in a new center of forensic and educational excellence in southeast Wisconsin.



**Map 1: Major partner locations**



# RESEARCH FINDINGS

## LITERATURE REVIEW: NATIONAL RESEARCH ON FORENSIC SCIENCE

In 2009, the National Research Council of the National Academy of Sciences (NAS), at the request of Congress, conducted research in response to concerns about critical issues facing the forensic sciences. The NAS report, entitled *Strengthening Forensic Sciences in the United States: A Path Forward*, concluded that:

*“The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country. This can only be done with effective leadership at the highest levels of both federal and state governments, pursuant to national standards, and with a significant infusion of federal funds.”<sup>4</sup>*

The NAS report made 13 recommendations aimed at establishing best scientific practices; promoting scholarly, competitive, peer reviewed research; and improving education and training for forensic science practitioners.

With the inclusion of MCW and other higher education partners, a center of forensic and educational excellence in southeast Wisconsin could bring together academic expertise and knowledge in a new state-of-the-art facility that addresses many of the recommendations set forth by the National Academy of Science in its 2009 report:

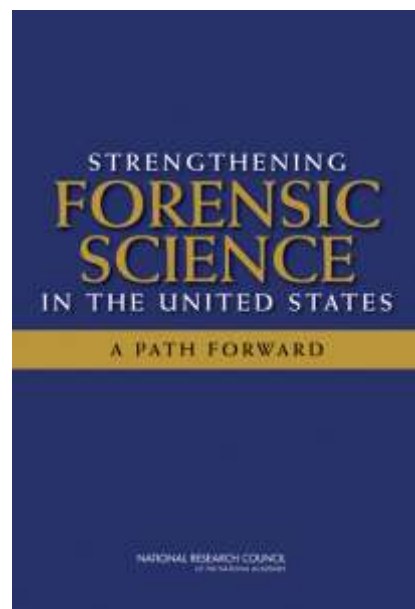
*From Recommendation 3: Competitively fund peer-reviewed forensic science research.*

*From Recommendation 6: Develop tools for advancing measurement, validation, reliability, information sharing, and proficiency testing in forensic science, and establish protocols for forensic examinations, methods, and practices.*

*From Recommendation 8: Establish routine quality assurance and quality control procedures to ensure the accuracy of forensic analyses and the work of forensic practitioners.*

*From Recommendation 11: Allocate funding for collaborative research to be conducted by medical examiner offices and medical universities.*

Collaboration between crime lab and medical examiner professionals and academic staff from local higher education institutions also could assist with the recruitment, training, and retention of new forensic professionals.



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<sup>4</sup> Committee on Identifying the Needs of the Forensic Science Community, National Research Council, *Strengthening Forensic Sciences in the United States: A Path Forward*, August 2009, National Academies Press. <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>



*From Recommendation 10: Attract students in the physical and life sciences to pursue graduate studies in multidisciplinary fields critical to forensic science practice and fund research programs to attract research universities and students in fields relevant to forensic science.*

*From Recommendation 11: Develop and promote standards for best practices, administration, staffing, education, training, and continuing education for competent death scene investigation and postmortem examinations.*

The NAS report includes a discussion of facility characteristics necessary to support advancements in forensic science and technology and to provide for program accreditation. This is relevant because while both the Milwaukee Crime Lab and the Milwaukee County Medical Examiner's Office currently are accredited, each has facility issues that could jeopardize accreditation in the future. Those issues pertain to negative air pressure, water treatment, safety, access, and parking; in addition, both operations are housed in buildings that are limited by age and size.

*From Recommendation 7: Make laboratory accreditation and individual certification of forensic science professionals mandatory.*

*From Recommendation 11: Fund the building of regional medical examiner offices. Fund the modernization of current medical examiner facilities to meet current Centers for Disease Control and Prevention-recommended autopsy safety requirements.*

The co-location of the Office of Emergency Management also would relate to an NAS recommendation involving preparation for mass emergency scenarios.

*From Recommendation 13: Prepare forensic scientists and crime scene investigators for their potential roles in managing and analyzing evidence from events that affect homeland security, so that maximum evidentiary value is preserved from these unusual circumstances and the safety of these personnel is guarded. This preparation also should include planning and preparedness (to include exercises) for the interoperability of local forensic personnel with federal counterterrorism organizations.*

Also relevant to the discussion of a collaborative forensic science center in southeast Wisconsin is a handbook developed by the National Institute of Science and Technology to guide laboratory directors, designers, consultants, and other stakeholders in planning and developing forensic science facilities. To assist communities in deciding whether the need for a forensic science facility is justified, the handbook recommends consideration of the following set of questions:



*Is the project essential to ensuring the safety and security of both assigned personnel and/or facility operations?*

*Is the project required to meet current/new/emerging regulatory compliance requirements, or will it improve the margin of compliance?*



*Is the project required to improve the integrity/handling/preservation of evidence?*

*Will the project improve mission performance, evidence analysis, and/or other critical operational requirements?*

*Is the project required to avoid a highly probable critical system(s) failure and/or provide mission redundancy to maintain mission reliability?*

*Have the existing facility's major infrastructure systems reached/exceeded their estimated design life/system capacity?*

*Is the project required to address a change/growth to the current mission and associated staffing?*

*Is the project required to provide a new capability/technology/process?*

*Will the project contribute to meeting sustainability and/or energy management goals/objectives?<sup>5</sup>*

These questions provide helpful context for considering the development of a new forensic science center in southeast Wisconsin and will be addressed in the pages that follow.

## LOCAL STAKEHOLDERS INTERVIEWS

To gain the perspectives of local stakeholders that could be involved in or affected by a collaborative forensic science center in southeast Wisconsin, we interviewed representatives from Milwaukee County, the City of Milwaukee, MCW, UWM, and Carroll University. While we were not able to interview representatives of the Wisconsin Department of Justice, we did speak with several individuals who possess knowledge of State Crime Lab operations.

All of the individuals with whom we spoke expressed support for the proposed co-location concept and identified specific benefits such a facility could produce, as well as a few challenges. We summarize their comments below.

***Milwaukee County Medical Examiner:*** Co-location with the Milwaukee Crime Lab could facilitate interaction between the two agencies and reduce chain of custody issues. It also could allow the M.E. and Crime Lab to conduct simultaneous investigations. A shared toxicology lab would be possible, which could result in cost savings. Co-location with MCW could offer the M.E. advantages in recruitment of staff and fellowship candidates, training, and compensation. The M.E. would have easy access to academic experts and resources.

Possible challenges include the added time it would take for M.E. staff to get to the Milwaukee County Courthouse if the new facility is located at the Milwaukee Regional Medical Center in Wauwatosa.

***Milwaukee County District Attorney's Office:*** More involvement of academic institutions in Crime Lab work could enhance the quality of judicial investigations, provide a valuable level of independence, and facilitate research opportunities. New state-of-the-art DNA and toxicology laboratories could

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<sup>5</sup> *Forensic Science Laboratories: Handbook for Facility Planning, Design, Construction and Relocation*, 2013, National Institute of Science and Technology, U.S. Department of Commerce, p. 9.  
<http://nvlpubs.nist.gov/nistpubs/ir/2013/NIST.IR.7941.pdf>



speed up case work. From the D.A.'s perspective, the Milwaukee Regional Medical Center would be a good location for a new forensic science center, as approximately 1/3 of the D.A.'s staff currently is located there.

**Milwaukee County Office of Emergency Management:** Co-location would facilitate a better coordinated response to mass incidents, as the potential would exist to create a state-of-the-art command center for use during major emergencies. Emergency management functions also could benefit from increased data sharing among the agencies, which would be facilitated by co-location. Recruitment and retention of talent also could be improved with the creation of a new and modernized facility.

**Medical College of Wisconsin:** A new center of forensic and educational excellence could position MCW to become a national leader in forensic science. The facility could provide opportunities for new programs, research, and training initiatives. MCW would have the opportunity to hire expert Medical Examiner staff members to teach and/or work on shared research. Co-location also could increase the number of pathology residents and fellows, which now are in short supply, and may open up new forensic research grant opportunities.

**State Crime Laboratory:** Co-location with the M.E. would offer opportunities for easy transfer of medical evidence and would have a positive impact on the chain of evidence. In addition, officers required to attend autopsies as a part of investigations have convenient access. The Crime Lab also could benefit from greater collaboration with UWM's forensic science programs.

**Milwaukee Police Department:** While MPD plans to continue to maintain its own forensics operations – and has plans to improve its internal expertise by civilianizing its forensic staff – the department will continue to lean heavily on the State Crime Lab and the M.E.'s Office for various forensic-related functions. MPD sees significant potential for a new forensic science center to improve the overall speed and quality of forensic science work in the Milwaukee area. The department interacts with both the Milwaukee Crime Lab and Milwaukee County M.E.'s Office on a daily basis; if they both move to the Regional Medical Center, the only concern would be increased travel time for officers, though the officials with whom we spoke felt that would be outweighed by the benefit of improved forensic science.

**University of Wisconsin–Milwaukee:** The opportunity for UWM to co-locate some of its forensic science programming in a new State-County-MCW facility would offer new applied teaching and learning opportunities. It also would serve as a valuable marketing tool that could increase the number of students enrolled in the university's three forensic science certificate programs and could help in recruiting new faculty. Joint appointment between the Milwaukee Crime Lab and UWM would be possible. There also would be potential for increased research opportunities.

**Carroll University:** Carroll's chemistry program had a connection with the State's Milwaukee Crime Lab in the past and Carroll would be interested in rekindling that relationship through involvement in a new forensic science center. Internship and research opportunities also could be expanded.





## INSIGHTS FROM OTHER FORENSIC SCIENCE CENTERS

To understand the process behind the development of new forensic science facilities and the benefits and challenges co-location may provide, we interviewed representatives from nine forensic science centers that have been built in North America during the last 12 years. **Table 1** provides an overview of the characteristics of those facilities.

It is important to note that in general, we were able to interview one or two individuals in leadership positions at each center – typically a chief medical examiner and/or crime lab director. Therefore, the insights we gained from the interviews are limited by the fact that we were not able to speak with leaders from every partner agency involved in each center. A complete list of the individuals we interviewed from each center is provided in the **Appendix**. To supplement our interviews with the center directors themselves, we also spoke with an architectural firm that was involved in designing most of the facilities we studied.

**Table 1: Forensic science facilities interviewed**

<b>Location</b>	Albuquerque, NM Baltimore MD Dallas, TX Indianapolis, IN Manassas, VA, Pinellas County, FL San Diego, CA Topeka, KS Toronto, ON (Canada)
<b>Year Opened</b>	<b>Range:</b> 2004 – 2013
<b>Square Footage</b>	<b>Range:</b> 44,000 sq. ft. – 185,000 sq. ft. <b>Average:</b> 115,000 sq. ft. (Outlier removed: 550,000 sq. ft.)
<b>Cost</b>	<b>Range:</b> \$13.8 million – \$85 million <b>Average:</b> \$58 million (Outlier removed: \$1 billion)
<b>Partners Included</b>	Medical Examiner (7 locations) Crime Lab/Forensic Lab (6 locations) University (4 locations) Department of Toxicology/Health Sciences (2 locations) Fire Marshal (1 location) Emergency Management (1 location)

As would be expected, the cost of constructing each facility was impacted by year of construction, square footage, and the number and types of partners. For example, the center in Pinellas County, FL – which had the lowest building cost – was the oldest and smallest of the facilities and included



only two partners. The most expensive building, in Toronto, was the newest and largest facility and included the most partners (five). Cost-to-build figures were supplied by the facilities, but we were unable to confirm that the basis of the costs was standardized across all facilities.

All nine facilities included co-location of multiple forensic science facilities and/or a university. However, no two facilities included the same mix of partners and none of the facilities had a mix of partners that is identical to that proposed for southeast Wisconsin. Yet, three of the four major partners proposed for southeast Wisconsin – the medical examiner, crime lab, and medical school – represent the three most commonly included functions among the facilities we studied. Also, regardless of the specifics of the co-location, there were common lessons learned.

Below, we present the results of our qualitative research on co-location, which is divided into four major subsections: issues related to the facility (development, design, and construction; funding and cost savings); those related to human resources (staffing, development, and cost savings); those related to operations (governance, operational cost savings, collaboration, and operational lessons learned); and those related to scientific advancement of forensic science (general research and methodology validation).

## **FACILITY ISSUES**

### **Development, Design, and Construction**

While San Diego cited the development of a master plan to bring county operations together in one location as a driver behind the development of its new facility, the rationale for most of the facilities was the same as that expressed in Greater Milwaukee – the need to replace existing facilities that had become outdated and too small. Facility issues related to air handling, safety, and difficulties meeting forensic standard and accreditation requirements were frequently cited. While the needs for new facilities were evident, it generally took a champion from county or state government to serve as the driving force for developing new facilities. In some cases, such as in Kansas and New Mexico, state legislation was required to move the projects forward.

Regardless of the drivers and the process, representatives from all of the facilities we interviewed reported that the efforts took considerable time:

*The Office of the Medical Investigator began its push for a new facility in 1994 and in 1995 the State “fast-tracked” the development . . . despite being “fast-tracked,” it took until 2010 to get the approval of the legislature and governor. – New Mexico*

*It was an eight-year process from ask to completion. – Maryland*

Putting together the right partners for the co-location varied across facilities. Some, like Indiana and Pinellas County, already were co-located. Some, like the Kansas Bureau of Investigation and Washburn University, already had a loose collaboration. Others studied the issue at the time of construction. In a couple of cases, collaborations fluctuated even during the construction process:

*One key challenge during the development phase was that the Office of the Fire Marshal and Emergency Management Ontario didn’t join the partnership until the facility was already under construction. Therefore, the space needed to be redesigned as it was being built. – Ontario*



At another facility, there was not consensus at the time of construction and the partnership still is fluid:

*The M.E. was instructed to build collaborations with other departments for the facility. Agencies that were considered included the Sheriff's Crime Lab, the County Public Health Department, the County Department of Mental Health, and the Department of Agriculture's veterinary pathology lab. The vet lab was interested, but due to budget cuts and "political" reasons the collaboration was not successful. However, the building design for a collaborative partnership remains. The County Sheriff's crime lab will be in place next door in 2018. It will be interesting to see if collaboration improves.*

– San Diego

At Northern Virginia, the collaboration developed after the new crime lab was built. George Mason University approached the lab about moving graduate students from Fairfax (35 minutes away) to its western campus across the street from the lab in Manassas. The University also wished to use the crime lab for classes. Faculty members now have offices in the lab. In the future, the plan is to move undergraduate students to the western campus as well.

Finally, one lab expressed regrets at the final co-location decisions:

*The state crime lab was going to be included originally, but in the end that couldn't be agreed upon. That lab does DNA testing, and UNM has strength in DNA analysis. State legislators in Santa Fe wouldn't support it because jobs would have been transferred from Santa Fe to Albuquerque. Its lack of inclusion is now regretted by all. – New Mexico*

Once the partners were in place, many facilities stressed the importance of seeking internal input from all of the agency partners and building users; putting together the right team to guide the project through the design and development process; and obtaining outside input from others that had developed similar facilities. Project leaders typically toured other similar facilities as well. This process facilitated staff buy-in and brought in beneficial knowledge from the forensic science community.

*It's very important to put together the right team that can work together toward common goals. Each partner is protecting its own interests and reputations, and each should have a project manager representing them. You then need to have the right organizations represented when key decisions are made, and to allow different partners to lead at different points to ensure that all are satisfied with the end result. For example, Washburn University wanted control of the design of the exterior of the building on its campus, and the crime lab wanted control of the interior of the building. – Kansas*

*Each agency had a specialty architect, there was a general architect, and each of the three agencies had representation throughout the process. – Indiana*

Most agencies stressed the importance of adequate needs assessments that examined the unmet current needs of each of the partners and considered future growth, changing requirements, and emerging technologies. These considerations include the need to examine changes in the community that affect the demand for forensic work, such as changes in driving habits; drug abuse rates; and crime rates. For example, interviewees from Pinellas County indicated they quickly outgrew their space, especially because of the space required for DNA storage.



We built 15,000 to 20,000 square feet of undeveloped space for future growth, following the lead of a facility built in San Antonio, TX. Forensic facilities often are built too small for changing requirements, leading to competition for space over time. – Maryland

When designing the building, avoid things that “lock you in.” Incorporate flexibility where possible, as requirements and equipment change over time. Consider the needs of faculty, students, employees, and other users. – Northern Virginia

We projected our space needs out 20 years. – Kansas

**Interviewees also had advice regarding construction:**

Use a Construction Manager at Risk (CMAR) approach to designing and constructing the building. This approach allows the owner to have ongoing conversation with the designer and builder over time and make decisions/changes throughout the process without adding a great deal of cost. An “at risk” amount is negotiated and built into the project budget, with a guaranteed maximum price set. Savings can benefit the owner and/or the contractor. “For such a highly specialized, technical facility, it’s the only way to go.” – Kansas

As part of the contract, the construction supervisor remained onsite every day for one full year after the building was completed. Our facility includes a Bio Safety Level 3 laboratory that has been called the most complicated building in the state. – New Mexico

**Funding for Construction**

As shown in **Table 2**, funding for the facilities we considered came from varied sources, including land exchange, public/private partnership, state government, and county government.

**Table 2: Funding sources for co-located forensic science centers**

Land Exchange	Public/Private Partnership	State	County
<b>Maryland</b> – the State exchanged an old building and the land it was on for the new facility with a 66-year land lease.	<b>Northern Virginia</b> – the State issued general bonds and bought the private company out.	<b>New Mexico</b>	<b>Dallas County</b> – County general fund
<b>Kansas</b> – the Washburn University President offered to lease land to the crime lab in exchange for space for classes, research, and internship opportunities.	<b>Kansas</b> – the City of Topeka financed the construction through bonding. The State is paying the City back over 20 years at which time Washburn University will own the building with an option for State purchase.	<b>Indiana</b>	<b>Pinellas County</b> tapped into its existing 1% sales tax known as “A Penny for Pinellas.”
	<b>Ontario</b> – the project will result in a \$1 billion investment by the government over 30 years for the \$600 million complex. The Province requires bids from designer, builder, financier, and maintenance consortiums (DBFMs) that construct and maintain the building. After 30 years, the Province will own the facility.		<b>San Diego</b> attempted to obtain grant money but ultimately financed the project with property taxes.



## Cost Savings

All respondents reported construction cost savings from co-location. Savings came from infrastructure sharing and sharing of space for common uses. In regard to infrastructure, portions of the HVAC, electrical, plumbing, and waste water disposal systems can be combined and result in construction savings. Sharing underutilized common spaces, such as the lobby and entryway, parking, training labs and classrooms, conference rooms, restrooms, and break and lunch rooms all resulted in construction cost savings. Facilities also were designed to allow for multiple purpose use. For example, in one, the basement/garage could be used during mass fatalities. In another, a teaching lab had the ability to convert to a secure forensic science lab when demand warranted.

## HUMAN RESOURCES

### Staffing and Staff Development

Attracting sufficient highly qualified staff into forensic science is a concern of the National Academy of Science, as the following passages from its 2009 report indicates:

*“...the quality of forensic practice in most disciplines varies greatly because of the absence of adequate training and continuing education, rigorous mandatory certification and accreditation programs, adherence to robust performance standards, and effective oversight. These shortcomings obviously pose a continuing and serious threat to the quality and credibility of forensic science practice.”*<sup>6</sup>

*Forensic examiners must understand the principles, practices, and contexts of science, including the scientific method. Training should move away from reliance on the apprentice-like transmittal of practices to education at the college level and beyond that is based on scientifically valid principles.”*<sup>7</sup>

Locally, the Milwaukee County Medical Examiner expressed concern about the ability of the office to continue to attract and retain forensic pathologists and pathology fellows to work in its aging facility. Our interviews with representatives from new forensic science centers indicated that the development of a modern facility with an academic partner can address this challenge:

*We need a relationship with the universities for staffing. There is a shortage of pathology residents. We also need to make a contribution to increasing the number of pathologists.* – Maryland

*We have the ability to observe and evaluate students as potential hires. Partnership with the University offers good talent for open positions. The lab has employed two of these graduates. (All of the employees at the lab working with DNA have master’s degrees.)* – Northern Virginia

*We have two to three medical students doing rotations at all times. Most students are studying to be surgeons or internal medicine docs rather than forensic pathologists. We get students from many places. We also support student research projects. The Navy and University of Southern California each have a pathology resident and they use the Forensic Science Laboratory for autopsies. We have a commitment to education.* – San Diego

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<sup>6</sup> Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, “Strengthening Forensic Science in the United States: A Path Forward,” August 2009 p.6

<sup>7</sup> Ibid, p. 26-27



## Personnel-Related Cost Savings

To the extent that co-location allows forensic science facilities to share functions and space, it may be possible to derive savings through shared personnel-related costs. For example, the architect we interviewed noted that the electrical and maintenance engineer can be shared across the entire facility. Others identified savings through shared security staff. Use of university staff as experts also may reduce the need to hire outside consultants.

## FACILITY OPERATIONS

### Governance and Funding

Co-location in a forensic science center among multiple partners requires that agreements be reached regarding building governance and how ongoing operational costs of the facility will be distributed among tenants. The resolution of these issues is partially determined by who owns the building. However, even with one co-located agency having ownership and the others existing as tenants, all building occupants have regulatory requirements and their own internal standards that must be addressed. The facilities we studied have tackled these issues in varying ways.

*The Maryland Forensic Medical Center is owned by the Maryland Department of Health. However, the University of Maryland is the controlling body, with a Post Mortem Committee chaired by the head of the Department of Pathology. The Committee's Vice Chair is from John Hopkins University and also includes someone from the City of Baltimore's Health Department and from the State. This controlling body insulates the facility from government for policy and procedure development and implementation. – Maryland*

*New Mexico's new facility is owned by the State's Scientific Laboratory Division and the University of New Mexico is a tenant. The State's Scientific Laboratory Division dictates operations and maintenance, but each of the three tenants in the building pays maintenance fees and the three agencies have quarterly meetings to discuss maintenance issues. This structure appears to be working very well. – New Mexico*

*The crime lab is under the umbrella of the medical examiner in Pinellas County. Their partnership dates back to 1985 and is the only example of this type of collaboration in Florida. The facility is privately managed. Pasco County pays Pinellas County for medical examiner services; 20% of funding comes from the State and the remainder is from the County. – Pinellas County*

### Cost Savings

Co-located facilities generally have smaller footprints than the sum of separate facilities for each agency. This typically results in utility savings on electricity, backup generators, boilers, and chillers.

MCW's Central Plant already produces steam and chilled water for heating and cooling buildings on campus. The availability of that system should produce savings if a co-located facility is built on the MCW campus.



## Information Technology / Data Sharing

Milwaukee County Office of Emergency Management operations could be enhanced by combined information technology and data sharing. Despite this potential, representatives from all of the co-located facilities we interviewed cautioned that they needed information technology systems that were structurally separated due to security and confidentiality issues and the unique data needs of each agency. Representatives from Northern Virginia indicated that, while data must be separated, they saw the benefit of some data sharing that could be accommodated using comma delimited data. Data for use in research would need to undergo required clearance and data release procedures.

## Partner Functions

The crime labs we interviewed saw definite advantages from the partnerships generated through co-location, including enhanced communication with co-located agencies that have shared interests. Specific to co-location with a medical examiner, crime labs identified the ability to more easily discuss unusual autopsy findings with the M.E. (e.g. an unusual tool used in a homicide). They also stated that co-location has facilitated attendance at autopsies for officers or crime lab staff, eased the transfer of evidence between the crime lab and the M.E., improved their ability to control the chain of custody for evidence, and enhanced their ability to identify bodies.

Benefits cited from the perspective of crime labs include the following:

*The crime lab does all of the toxicology lab work for both the crime lab and the M.E. Sample transfer for toxicology is easier because of the co-location. – Northern Virginia*

*We saw real possibilities for lab scientists and medical school staff members collaborating with DNA testing. This was seen as a possible means of attracting staff members. – New Mexico*

There were also some challenges identified with co-location:

*Projects get put on hold frequently due to the university's schedule, which is difficult for crime lab staff members who are there every day all year. – Indiana*

*One challenge from a security perspective was developing a vehicle examination room. We had to work it out so that the university could access the space for forensic anthropology and criminal justice classes, but the lab can take that space over in a secure manner when needed. – Indiana*

Representatives from Northern Virginia and other locations also stated that while co-located partners can collaborate on some functions and can share common areas, they also have separate functions and security needs that must be addressed through the provision of separate, secure work space. The facilities we spoke with followed this theme in construction of their buildings, creating a common entry with secure, limited access structures for most, if not all agencies.

In addition to the benefits and challenges to co-locating medical examiner's offices with crime labs already mentioned above, the Maryland Forensic Medical Examiner noted that from the M.E.'s perspective, co-locating with a crime lab can be challenging, as space becomes an issue and "living



people get priority.” The M.E. in Maryland was not interested in giving up his toxicology lab to share with the crime lab, fearing that the needs of the M.E. would be moved below those of the crime lab.

M.E. offices cited several major benefits to co-locating with university medical school programs. Through co-location, the M.E. can reach out to faculty experts for advice during autopsies and can benefit from applied academic research. They also can benefit from an enhanced pipeline of students interested in forensic pathology and can introduce or expand fellowship and residency programs at their facilities.

Close relationships with M.E. offices and crime labs are seen as highly attractive for university students and faculty, as well. Students have enhanced learning opportunities and some have the opportunity to work at the facilities. The relationship gives the university access to labs and practitioners it might not otherwise have. It provides opportunities for practicums for students and ready access for internships, residencies, and fellowship programs.

Strong alliances between universities and forensic science agencies exist at five of the facilities we interviewed. **Table 3** shows the academic institutions included in each of those associations as well as the additional partners involved in the co-location. Other facilities also worked with colleges and universities, but did not have a formal relationship.

**Table 3: Universities involved in co-located forensic science centers**

Location	Academic Partner	Additional Partners
New Mexico	University of New Mexico School of Medicine	New Mexico Office of the Medical Investigator New Mexico Department of Health – Scientific Laboratory Division New Mexico Department of Agriculture – Veterinary Diagnostic Services Division
Dallas	University of Texas Southwestern Medical School	Dallas County Medical Examiner’s Office Dallas County Crime Lab
Maryland	University of Maryland John Hopkins University (also George Washington, Howard, & Bethesda for student placement) This collaboration includes work with the Tissue Bank at the University of Maryland	Maryland Office of the Medical Examiner
Kansas	Washburn University	Kansas Bureau of Investigation
Northern Virginia	George Mason University	Virginia Dept. of Public Safety – Northern Region Forensic Science Lab Virginia Dept. of Health – Northern Region Medical Examiner





Additional details gleaned from interviewees on the intricacies of the relationships between university and government partners are summarized below:

*In New Mexico, the state legislature moved the Office of the Medical Investigator (OMI) to the University of New Mexico (UNM) campus in 1972 in a building owned by the University. All employees of the OMI became University employees at that time. They recognized that the expertise of the UNM medical school made it a natural place to locate OMI. The salaries of OMI staff are paid in part by UNM and in part by the State.*

*In Dallas, the previous building was on the UTSW campus. The new building is not on campus but very close. The staff members of the medical examiner's office are County employees and also are professors at UTSW, so they must be approved by both when hired. Most are adjunct professors, though some are assistant or associate professors; all only receive a stipend for their academic work. At the Dallas facility, the Neuropath program does brain cutting procedures at the M.E. office, and the M.E. can easily reach out to University departments for help on cases.*

*When building the previous facility in Maryland in 1968, the University of Maryland (UMD) and John Hopkins University fought over which campus would house the facility. The governor decided it would go to UMD. However, both universities have continued a relationship with the M.E. The new M.E. building includes a large teaching facility. All of the M.E.'s doctors are on the faculty of the UMD and some are on the faculty of John Hopkins. UMD provides the M.E. with a teaching and research coordinator. The M.E. office plays a role in providing sufficient autopsy experience for residents to obtain Board certification. The M.E. program also takes students from the Pathology Assistants Program.*

*The new facility in Kansas has 88,000 sq. ft. of space for the Kansas Bureau of Investigation's secure lab. The remaining space is for Washburn University classrooms, wet labs (for chemistry and biology), and offices, as well as common/shared areas. Crime lab staff members teach many of the classes held at the facility. Academic programs are enhanced by access to the lab and lab staff and by increased research opportunities.*

Offices of emergency management were not common partners in the facilities we studied; in fact, only at the facility in Toronto did such a co-location exist. While co-location of OEM in a forensic science center in southeast Wisconsin could provide unique opportunities, particularly given the existing relationship between MCW and OEM, we lack sufficient information to offer detailed input on the pros and cons of such a move.

The final recommendation from the NAS' *Strengthening Forensic Science in the United States* report, however, suggests that the inclusion of OEM in a forensic science facility would have merit:

*From Recommendation 13: Congress should provide funding to the National Institute of Forensic Science (NIFS) to prepare, in conjunction with the Centers for Disease Control and Prevention and the Federal Bureau of Investigation, forensic scientists and crime scene investigators for their potential roles in managing and analyzing evidence from events that affect homeland security, so that maximum evidentiary value is preserved from these unusual circumstances and the safety of these personnel is guarded. This preparation also should include planning and preparedness (to include*



*exercises) for the interoperability of local forensic personnel with federal counterterrorism organizations.<sup>8</sup>*

## SCIENTIFIC ADVANCEMENT OF FORENSIC SCIENCE

The NAS report called for bringing forensic scientists together with academic and scientific communities. The recommendations stress the need for implementing the scientific method in developing best practices in the forensic science field and in pursuing research to advance the field.

Because most of our facility interviews were with chief medical examiners and/or crime lab directors, rather than university leaders, the results provided limited insight into the potential for forensic science centers to expand research opportunities and/or attract additional funding in support of research. Three centers did speak to their collaboration's impact on research, however:

*We couldn't speak strongly enough about the value of the collaboration between the Office of the Medical Investigator (OMI) and University of New Mexico (UNM). Our programs are very integrated. The collaboration provides the OMI with access to clinical consultants, and faculty members and students do research at the facility. In fact, the partnership has helped them attract millions of dollars in grants to support research, which makes it an attractive place for forensic pathologists to work.*  
– New Mexico

*We are not able to conduct research using the M.E.'s case material due to the sensitive nature of the cases. However, we are able to conduct research on brain tissue through a collaboration with the Dallas Brain Collection, which harvests brain tissue with the consent of families.* – Dallas County

*The focus of our crime lab is service, not research, and we do not see this changing as a result of our collaboration with the universities. Our facility does use students to conduct validation studies and method development, however, which we find very helpful to the crime lab. Crime lab employees do not generally have the time to conduct these studies and this academic involvement offers a means of moving forensic science forward.* – Northern Virginia

## SUMMARY

Our interviews with other forensic science centers in North America confirmed the potential for many of the co-location benefits anticipated by local stakeholders. Cost savings from construction, operations, and/or personnel efficiencies were realized in each of the facilities. Co-located facilities also have improved collaboration among the partners involved to varying degrees.

Perhaps the greatest functional benefits of co-location have been realized through partnerships between medical examiner offices and medical schools. Such partnerships appear to be beneficial in attracting and retaining university students and faculty and M.E. staff, and they have resulted in enhanced laboratory practices through student validation and methodological studies. Co-location also offers the opportunity for new state-of-the-art laboratory/autopsy teaching facilities that can be secured as necessary for use by the M.E.

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<sup>8</sup> Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, "Strengthening Forensic Science in the United States: A Path Forward," August 2009, p. 285.



While M.E. and university functions must be securely separated from a crime lab, co-location with a crime lab can provide benefits as well. It can facilitate body identification; enhance the speed and coordination of cases; and result in savings on toxicology and DNA analysis if labs are shared.



## KEY INSIGHTS & CONCLUSION

Concerns have been expressed nationally regarding the need for state-of-the-art forensic science facilities and methodologies that are grounded in scientific research. New demands placed upon forensic science functions, significant advances in technology, and changes in the needs of criminal justice stakeholders all call for setting new standards and upgrading forensic science operations.

Even without this context, aging and overcrowded crime lab and M.E. facilities in Milwaukee are in dire need of replacement. The concept of co-locating those functions with one or more higher education partners and OEM in a center of forensic and educational excellence offers clear opportunities to enhance the missions of key State and Milwaukee County public safety agencies and to advance forensic science in our state and region.

Our interviews indicate that each of the major local stakeholders that would participate in this endeavor or be impacted by it – the M.E.'s office, MCW, OEM, the District Attorney, MPD, and UWM – sees great promise in pursuing it. While we were not able to directly engage the Wisconsin Department of Justice on that question in light of the current RFP process, our interviews with individuals who have knowledge of State crime lab operations also pointed to potential benefits.

Consequently, once we identified those potential benefits, we sought to verify them – and identify potential pitfalls – by exploring how the development of multiple-partner forensic science facilities in other parts of the country (and in Canada) had fared. As a result of those interviews, we are able to offer the following insights into the potential construction and operations of a new forensic science center in southeast Wisconsin, as well as how the concepts of public/private partnership, intergovernmental cooperation, and co-location of key forensic science providers might play out here.

## PLANNING & CONSTRUCTION

**Long-range needs assessments are critical to facility planning.** Detailed assessments of the functional and space needs of each partner are essential to ensure that the new facility provides for future growth and change. These assessments must consider changing demands and emerging technologies.

**All partner organizations in co-located facilities need a seat at the table during planning and construction.** Each organization has specific needs, priorities, and regulatory requirements they must meet. The planning process for other co-located facilities included regular meetings with representatives (and in some cases, architects) from each of the partner organizations to ensure that those needs were met in the design and construction of the new facility.

**There is real potential for a co-located forensic science center to produce significant construction cost savings.** One of the benefits of co-location most frequently cited by representatives of similar facilities is construction-related cost savings. Forensic science facilities are highly complex, technical, and costly to build. Crime labs and medical examiner offices have expensive laboratory, air handling, water disposal, and backup generator needs, which are more efficient and less costly to construct when they can be co-located in one building. Additional savings can be obtained from shared



common areas, such as lobby space, secure central access, cafeterias/break rooms, parking, meeting spaces, and classrooms and teaching laboratories. These facilities also can share technology, like video conferencing.

## OPERATIONS & GOVERNANCE

**Key decisions must be made regarding facility governance and how operational costs will be distributed among the building's tenants.** These decisions are partially based on which organization owns the building and on the regulatory requirements of each partner.

**The operational needs of each partner in co-located facilities must be given voice on an ongoing basis.** According to the facility representatives we interviewed, providing consistent opportunities for input from all agencies in the facility can ensure that all of their needs are met while also increasing possibilities for valuable collaboration.

**Co-location has the potential to produce operational cost savings that are even larger than those available from construction.** Utilities and ongoing operations of complex HVAC and water disposal systems required for forensic science facilities can be very costly. The efficiencies gained through sharing those systems can produce significant cost savings over time.

## HUMAN RESOURCES

**A collaborative forensic science and education center could help to attract and retain forensic and investigative talent in southeast Wisconsin.** Based on the experiences of other metro areas, such a facility could attract new students, faculty, and forensic professionals, and provide additional medical residency and fellowship opportunities. It also could offer exciting possibilities for staff development; the classrooms, laboratories, and expertise necessary for ongoing training would be readily available both for those working at the facility and for the community at large.

**Cost savings from reduced human resource needs also are possible through co-location.** Fewer staff members are necessary to operate and maintain shared common spaces, building systems, and security operations than would be the case if each partner operated in separate facilities.

## RESEARCH AND METHODOLOGY VERIFICATION

**A new forensic science center could become a regional and national flagship for advanced research in the area of forensic science.** Bringing together academic scientists with expertise in chemistry, biology, pathology, and anthropology with professionals proficient in crime lab investigations and death investigations offers opportunities to advance the discipline of forensic science. It also makes possible the development and verification of new methodologies.

## LIMITATIONS

**The potential for functional collaboration between the Milwaukee County Medical Examiner and the State Crime Lab appears to be limited.** Collaboration is most apparent between medical examiner offices and crime labs in places with shared toxicology labs. Yet, one medical examiner stated that it is essential to have a separate toxicology lab in order to control the scheduling and prioritization of



their work. Aside from possible partnering in toxicology, co-located medical examiner offices and crime labs have very different security and confidentiality issues and do not appear to interact a great deal.

**The impact of co-location on university research often is constrained because of confidentiality concerns.** While our interviews provide an incomplete picture of the potential for forensic science centers that involve academic partners to increase research opportunities, we heard from some facility representatives that their efforts were impeded by the need for medical examiners and crime labs to protect sensitive information. Similar limitations may pose obstacles in southeast Wisconsin.

## OTHER OPTIONS

**If the proposal submitted by MCW and Milwaukee County is not selected by the State for its new crime laboratory, other strong alternatives could be considered.**

Partnership between MCW and Milwaukee County: One option would be for MCW to partner solely with the Milwaukee County Medical Examiner's office, where the most significant possibilities for collaboration have been observed in other locations. Additional local partners, including the Milwaukee County Office of Emergency Management, could be included for added cost savings gained through construction and operational efficiencies.

Development of a Regional Center of Forensic and Educational Excellence: Given the expense of forensic science facilities and opportunities for economies of scale through co-location, we observed significant gain from construction of facilities that reached beyond the boundaries of one local government. Most of the interviews we conducted were with leaders of facilities that involve multiple counties or entire states. The Milwaukee County Medical Examiner currently does contract work for Ozaukee, Racine, Jefferson, and Kenosha Counties, as well as some occasional work for other counties and states. Substantial gain may be achieved from reaching out to additional counties and establishing a regional collaboration with MCW in the formation of a new forensic science center.

## CONCLUSION

The rationales for new facilities for the State Crime Lab and the Milwaukee County Medical Examiner's Office and Office of Emergency Management are well documented. Clearly, each entity could elect to pursue its own new facility that would meet its individual requirements and aspirations. Given that the need for these new facilities is occurring at the same time, however, an opportunity exists for State and local policymakers to proceed in a manner that may be more economically efficient and mindful of taxpayer dollars and that could simultaneously allow the southeast Wisconsin region to become a leader in the field of forensic sciences.

After exploring the concept of developing a center of forensic and educational excellence that co-locates the State's southeast Wisconsin crime lab, the Milwaukee County M.E., and OEM in a new facility on the MCW campus, we see several potential benefits. The construction and operation of such a facility could save money; open up new training opportunities and increase the pipeline of forensic specialists; facilitate collaboration and communication that improve the quality of operations and advance criminal justice investigations and testimony; support the development and validation of new scientific methodologies; and spur significant research opportunities.



Yet, we also would caution that the potential for collaboration should not be over-sold. In fact, our interviews with representatives from other collaborative forensic science facilities throughout the U.S. (and one in Canada) demonstrate that such collaboration can be limited by the distinct missions and security requirements of the individual partners, and that considerable planning and persistence must occur for any such potential to be maximized.

Overall, we do believe the pluses far outweigh the minuses, and that the potential co-location and partnership between academic institutions and multiple layers of government in a center for forensic and educational excellence in southeast Wisconsin is a rare and potentially ground-breaking opportunity. We would urge continued due diligence on pursuit of this exciting possibility.



# APPENDIX

## LOCAL STAKEHOLDER INTERVIEWS

### Milwaukee County

Dr. Brian Peterson, Medical Examiner	Milwaukee County Office of the Medical Examiner
Christine Westrich, Director	Office of Emergency Management
James Tarantino, Director	Office of Economic Development
John Chisholm, District Attorney	Milwaukee County Office of the District Attorney
Norm Gahn, Former Prosecutor	Milwaukee County Office of the District Attorney

### City of Milwaukee (Milwaukee Police Department)

William Jessup, Asst. Chief, Investigations and Intelligence Bureau	City of Milwaukee Police Dept.
Jeff Point, Captain of Police, Investigative Management Division	City of Milwaukee Police Dept.

### Medical College of Wisconsin

Jenny Bultman, Director of Communications, Operations, and Planning  
Stephen Hargarten, MD, MPH, Professor and Chair, Department of Emergency Medicine  
Cecilia Hillard, PhD - Professor and Director of the Neuroscience Research Center  
William Campbell, PhD - Professor and Chair, Department of Pharmacology and Toxicology

### University of Wisconsin – Milwaukee

Fred Anapol, PhD - Professor of Anthropology and Director of Forensic Science Center  
Rodney Swain - Dean of the College of Letters and Science and Professor of Psychology  
Kristene Surerus - Dean of the College of Letters and Science and Professor of Chemistry

### Carroll University

Kevin McMahon, PhD - Chair, Chemistry Program

## NATIONAL INTERVIEWS

### Indiana Forensic Science Center - Indianapolis, IN

<u>Partners</u>	<u>Interviewees</u>
State Police Crime Lab	Todd Reynolds – Lab Manager
State Department of Toxicology	Eric Lawrence – Director of Forensic Analysis
State Department of Health Lab	Steve Holland – Major of the Laboratory Division

### Kansas Bureau of Investigation Forensic Science Center - Topeka, KS

<u>Partners</u>	<u>Interviewees</u>
Kansas Bureau of Investigation	Thomas L. Price – Assistant Laboratory Director
Washburn University	

### Maryland Forensic Medical Center - Baltimore, MD

<u>Partners</u>	<u>Interviewees</u>
Maryland Office of the Chief Medical Examiner	Dr. David Fowler – Chief Medical Examiner
University of Maryland	

### McClaren, Wilson, and Lawrie, Inc. (Architecture firm)

Russell McElroy – Senior Principal Architect





**New Mexico Office of the Medical Investigator - Albuquerque, NM**

Partners

New Mexico Office of the Medical Investigator  
University of New Mexico School of Medicine

Interviewees

Yvonne Villalobos – Director of Operations  
Dr. Kurt Nolte – Chief Medical Examiner

**Northern Laboratory and Northern District Office of the Chief Medical Examiner - Manassas, VA**

Partners

VA Dept. of Public Safety Northern Region Forensic Science Lab  
VA. Dept. of Health Northern Region Medical Examiner

Interviewees

John Griffin – Director, Northern Lab  
Dr. David Barron – Deputy Director,  
VA Dept. of Forensic Science

**Ontario Forensic Services and Coroner's Complex - Toronto, ON**

Partners

Ontario Centre of Forensic Sciences  
Ontario Coroner's Office  
Ontario Forensic Pathology Service  
Office of the Fire Marshal  
Emergency Management Ontario

Interviewees

Tony Tessarolo – Director, Centre of Forensic Sciences

**Pinellas County Forensic Science Center - Largo, FL**

Partners

Pinellas County Medical Examiner's Office  
Pinellas County Forensic Laboratory

Interviewees

William Pellan – Director of Investigations, M.E.'s Office  
Reta Newman – Director of Forensic Laboratory

**San Diego County Medical Examiner/Forensic Center - San Diego, CA**

Partners

San Diego County Medical Examiner  
San Diego County Department of Environmental Health

Interviewees

Dr. Glenn Wagner – San Diego County M.E.

**Southwestern Institute of Forensic Sciences - Dallas, TX**

Partners

Dallas County Office of the Medical Examiner  
Dallas County Criminal Investigation Laboratory  
University of Texas Southwestern Medical Center

Interviewees

Dr. Reade Quinton – Medical Examiner & Assoc. Prof.

