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Summary of the Methodology for the Investigation of the Drug Laboratory at the William A. Hinton State Laboratory Institute

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INTRODUCTION

In 2012, the Office of the Inspector General (OIG) undertook an investigation of the Drug Laboratory at the William A. Hinton State Laboratory Institute (Drug Lab). The OIG issued its report in March 2014 (Hinton Report).[1] In February 2016, the OIG issued a supplemental report that described the results of the OIG's retesting of drug samples (Supplemental Report).[2]

After the OIG issued its reports, the Supreme Judicial Court in 2017 dismissed over 21,000 drug convictions because of former chemist Annie Dookhan's malfeasance at the Hinton Drug Lab between 2003 and 2011.[3] In 2018, the Supreme Judicial Court dismissed an additional 16,000 drug convictions because of former chemist Sonja Farak's malfeasance at the State Laboratory Institute in Amherst (Amherst Drug Lab) between 2004 and 2013.[4] Prior to working at the Amherst Drug Lab, Farak had been a chemist at the Hinton Drug Lab from 2003 to 2004.

Given the extraordinary impact that Dookhan's and Farak's misconduct has had on the Commonwealth, the OIG's Hinton Drug Lab investigation has continued to receive attention for its comprehensive findings about failures at the Drug Lab and misconduct by Dookhan. Just as notable, in its investigation, the OIG did not find evidence of misconduct by any chemist, including Farak, that may have impacted the reliability of drug testing at the Hinton Drug Lab other than what it reported about Dookhan. The OIG stands by its investigative findings. Nevertheless, Farak's misconduct at the Amherst Drug Lab has brought added scrutiny to her time at the Hinton Drug Lab.

What follows here is the summary of the methodology of the OIG's Hinton Drug Lab investigation, that is, how the OIG achieved its objective to conduct a thorough and complete top-to-bottom investigation of the Drug Lab from 2002 to 2012. This summary describes how the OIG conducted the investigation and includes information about how the OIG's investigation methodology encompassed Farak and the other chemists at the Hinton Drug Lab. It does not recap the full background of the Drug Lab crisis or the extensive findings from the investigation. For that information, readers should review the OIG's Hinton Report and Supplemental Report, which detail the OIG's comprehensive review of the lab over the course of thirty-nine months.

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[1] Office of the Inspector General, Investigation of the Drug Laboratory at the William A. Hinton State Laboratory Institute 2002–2012 (March 4, 2014), *available at* https://www.mass.gov/doc/investigation-of-the-drug-laboratory-at-the-william-a-hinton-state-laboratory-institute-2002-0/.

[2] Office of the Inspector General, Supplemental Report Regarding the Hinton Drug Laboratory (February 2, 2016), *available at* https://www.mass.gov/doc/supplemental-report-regarding-the-hinton-drug-laboratory-february-2016/.

[3] *Bridgeman v. Dist. Atty. for the Suffolk Dist.*, 476 Mass. 298 (2017).

[4] *Comm. for Pub. Couns. Servs. v. Atty. Gen.*, 480 Mass. 700 (2018).

EXECUTIVE SUMMARY

The OIG's top-to-bottom review of the Drug Lab included all aspects of lab management and operations that impacted drug testing, from the Drug Lab's oversight and resources to chemists, security and handling of individual samples. While no individual was a focus of the investigation, every aspect of the lab and every employee was subject to review. The OIG followed the evidence where it led as described in detail in the Hinton Report.

The OIG's investigation methodology encompassed the work of all the Drug Lab employees – including chemists Dookhan and Farak. In accordance with its methodology, the OIG:

- Embedded itself in the Drug Lab to inventory the contents, collect all documents and data, and familiarize itself with the physical layout
- Directed the creation of a searchable consolidated review database of all records and electronic data related to the Drug Lab operation, management, supervision of employees and testing documentation
- Retained e-discovery and forensic experts to assist throughout the investigation
- Obtained information from relevant stakeholders, accredited labs and forensic experts in other jurisdictions
- Identified relevant documents and data through a methodological search of the consolidated review database
- Reviewed records and data to understand and evaluate management, supervision and oversight at the Drug Lab
- Reviewed documents and data to identify the Drug Lab's policies and procedures related to testing samples and to assess compliance with its procedures
- Searched for evidence of misfeasance or malfeasance in Drug Lab records and data, including in personnel records, memoranda, email and testing documentation
- Analyzed testing data, including chemist productivity and gas chromatography and mass spectrometry (GC/MS) instrument data, to identify potential patterns that indicate misconduct
- Interviewed Drug Lab chemists, administrators and management, as well as other individuals likely to have information about how the lab operated day-to-day
- Retested samples that the Drug Lab had repeatedly tested with inconsistent results

The OIG worked in collaboration with its forensic experts throughout the investigation. The forensic experts advised the OIG on forensic drug analysis and how to identify evidence of misconduct. Over the course of the investigation, the OIG carefully studied the Drug Lab's policies and procedures and identified a number of deficiencies in practices and protocols. The OIG developed an understanding of the technical shortcomings of the lab and the personal dynamics that led to its failures. After a thorough and comprehensive investigation, the OIG found no evidence of any misconduct impacting the reliability of testing by any chemist other that Annie Dookhan.

BACKGROUND OF THE OIG'S INVESTIGATION

Annie Dookhan, a former Drug Lab chemist, resigned from her position at the lab in March 2012 following an internal Department of Public Health (DPH) investigation into allegations that she had violated chain-of-custody protocols at the lab in June 2011.[5] The Massachusetts State Police (MSP) assumed oversight of the Drug Lab from DPH in July 2012. At that time, the MSP learned of the June 2011 breach and other allegations that Dookhan had violated lab protocols. In August 2012, Dookhan confessed to MSP investigators that she engaged in misconduct at the lab that included falsifying drug tests, "dry-labbing," forging initials on quality control documents, violating chain-of-custody protocols and falsifying her credentials.

As a result of the MSP investigation, then-Governor Deval Patrick closed the Drug Lab on August 30, 2012, and the Attorney General's Office (AGO) opened a grand jury investigation of Dookhan.[6] The AGO also began a separate investigation of the Drug Lab's management and operations. In October 2012, members of the legal community – including the Massachusetts Bar Association, the Committee for Public Counsel Services (CPCS) and the American Civil Liberties Union of Massachusetts (ACLU) – publicly requested that the AGO turn the Drug Lab investigation over to an independent investigator.

On November 5, 2012, in response to Governor Patrick's request, the OIG agreed to conduct an independent investigation of the Drug Lab.[7]

[5] See Hinton Report at 5-11 for background information about the Drug Lab crisis and start of the OIG's investigation.

[6] Hinton Report at 5.

[7] Hinton Report at 7.

INVESTIGATION METHODOLOGY

When it undertook the investigation, the OIG determined its mission was to:

> conduct a comprehensive investigation of the operation and management of the Drug Lab from 2002 to 2012, to determine whether any chemists, supervisors or managers at the Drug Lab committed any misfeasance or malfeasance that may have impacted the reliability of drug testing at the Drug Lab, and to make findings and recommendations following its review.[8]

As described more fully below, to carry out its mission, the OIG assembled a team of experienced investigators and experts to perform the work of the investigation. Then the OIG collected the necessary investigative materials. The OIG and its experts developed a process to search and analyze the vast quantity of investigative material for relevant evidence. Finally, the OIG made findings and recommendations in its public reports.

I. Experts

At the outset, the OIG retained experts in e-discovery and forensic science to provide the level of expertise needed to collect, preserve and manage the volume of documents and data under review and to understand and analyze the Drug Lab's operations and testing data. Both the e-discovery and forensic experts were actively involved through the duration of the investigation.

Navigant Consulting, Inc. (Navigant) provided expert e-discovery support.[9] As discussed more fully in the sections that follow, Navigant oversaw the creation of a consolidated review database of scanned hardcopy records and electronic data from multiple sources. Navigant provided expert e-discovery services throughout the course of the investigation, including performing quality control of scanning and the database, assisting the OIG to develop queries for specific terms or types of documents, tracking the investigative team's review progress and providing technical assistance with the e-discovery.[10]

Marcum, LLP (Marcum) provided expertise in forensic science and drug testing analysis.[11] The principal Marcum team consisted of Frank Rudewicz, Jack Mario and Michael Wolf, with additional assistance from administrative staff.[12] From February 2013 through February 2016, Rudewicz, Mario and Wolf worked closely with the OIG and its e-discovery experts. As described in the sections that follow,

[8] Hinton Report at 1.

[9] See Hinton Report at 7-8 for descriptions of Navigant's e-discovery services and creation of the consolidated review database.

[10] The OIG assigned the Navigant contract to EOHHS following its investigation.

[11] Hinton Report at 8.

[12] See Hinton Report at 8-9 for the forensic experts' credentials.

they were involved in all facets of the investigation, including identifying issues, assisting with the workflow plan, scrutinizing Drug Lab policies and practices, reviewing chemist testimony, analyzing testing data, reporting findings and developing recommendations. They were an integral part of the investigation; they met and communicated regularly, often daily, with the rest of the OIG investigative team.

II. Investigative Materials

The OIG developed its knowledge of the Drug Lab and the information necessary to evaluate the Drug Lab from a broad range of sources.

In the initial months of the investigation, the OIG team embedded itself in the Drug Lab to familiarize itself with the layout of the chemists' benches and testing areas, evidence office, intake area, evidence safe and supervisor and management offices. At the Drug Lab, the OIG team inventoried, collected, organized and labeled all hardcopy documents for scanning.[13] The OIG documented the condition of the lab with hundreds of photographs that it incorporated into the investigative file.[14]

In addition to the hardcopy documents from the Drug Lab, the OIG obtained electronic records from the lab. Collectively, the hardcopy documents and electronic data included staff emails, computer drives, data files from testing instruments, data files from the Drug Lab's case management system, books, memoranda, meeting minutes, policies and procedures, training materials, letters, log books, control cards, powder sheets, discovery packets and quality control documents.[15]

Using document requests and its summons authority, the OIG also collected records and electronic data from sources outside of the Drug Lab. At the OIG's request, DPH and the Executive Office of Health and Human Service (EOHHS) produced documents and electronic data relating to the Drug Lab's budget and finances, management and oversight, resources and personnel. The documents included records stored at the State Archives. DPH also provided electronic records and staff emails related to the Drug Lab. In addition, the OIG requested and obtained records specific to Dookhan, including DPH's internal investigation of Dookhan and the AGO's and the MSP's criminal investigations into her misconduct. The OIG obtained audio recordings and transcripts of chemists' testimony under oath in criminal proceedings. The OIG acquired additional records from other sources during the course of the investigation.[16]

For information about drug analysis and testing standards, the OIG contacted American Society of Crime Laboratory Directors/Laboratory Accreditation Board accredited labs and forensic lab experts around the country. In addition, the OIG spoke to individuals associated with the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) Core Committee and the National Forensic Science

[13] Hinton Report at 9.

[14] See Hinton Report at 9-10 for a summary of the OIG's process.

[15] Hinton Report at 9-10.

[16] *See* Hinton Report at 9.

Technology Center. The OIG also contacted state and local agencies in other jurisdictions that had conducted forensic lab investigations, including the New York State Inspector General's Office, the Montana Forensic Science Division and the St. Paul, Minnesota Police Department.[17]

Throughout its investigation, moreover, the OIG solicited input from representatives of stakeholders and entities within the criminal justice system that were responding to Dookhan's misconduct and the Drug Lab's closure. These entities included the AGO, the Massachusetts District Attorneys' Association, district attorneys' offices, CPCS, the ACLU, the state's Executive Office of Public Safety and Security, the U.S. Attorney's Office, the Federal Public Defender Office and justices of the Massachusetts Trial Court. The OIG also met with representatives of the Massachusetts Bar Association and the Boston Bar Association.[18] Finally, the OIG attended legislative hearings on the Drug Lab crisis and continuing legal education programs related to Drug Lab issues.

III. Data Analysis

As described below, the OIG developed a methodology to identify relevant documents and data, and it enhanced its understanding and knowledge through interviews with lab employees and others.

To collect, organize and review the documents and electronic data, the OIG worked closely with Navigant on the creation of the consolidated review database. This database ultimately contained approximately 3.5 million pages of scanned documents and 3,417 gigabytes of electronically stored information.[19] To facilitate the OIG's search and review of the vast quantity of materials, the OIG and Navigant developed a coding system for scanned hardcopy documents. In addition, Navigant optimized the OIG's access to the electronic data and instrument files from the Drug Lab. Navigant customized the e-discovery platform for the consolidated review database to enable OIG reviewers to tag, share and print relevant documents. Navigant prepared weekly status reports showing the count, type and source of documents uploaded to the database, along with user statistics and results of keyword searches by users.[20]

The OIG used the coding and optical character recognition (OCR) capability to find documents in the consolidated review database by document source, type and "custodian" (*i.e.,* the Drug Lab employee who created the document or possessed it when the lab closed). The OIG developed a workflow and batching method to review the scanned and electronic data. Throughout the investigation, the OIG used the consolidated review database in multiple ways, including to review batches of documents by category, such as policies and procedures, financial documents, emails and log books; to search the database for

[17] *See* Hinton Report at 10

[18] Hinton Report at 10.

[19] Hinton Report at 8.

[20] *See* Hinton Report at 8.

specific documents or types of information relevant to a particular subject; and to generate lists of specific drug testing data for analysis.

Along with its examination of records, the OIG interviewed Drug Lab chemists, administrators and managers, as well as other individuals who were likely to have information about how the lab operated day-to-day.

The OIG conducted field interviews and interviews pursuant to summonses for "private sessions" conducted under oath.[21] The OIG used these interviews and private sessions for several purposes, including to fully understand both the technical shortcomings of the lab and the personal dynamics that led to the failures there. To prepare for the interviews of these individuals, the OIG team compiled prior recorded statements by or about the individual, as well as relevant emails, memoranda and testing data. The OIG's forensic experts helped the OIG prepare questions, attended the private sessions of chemists and supervisors, and reviewed the testimony for leads.

The OIG conducted field interviews with individuals who were directly or indirectly involved with the Drug Lab operations. These individuals included former full-time and temporary Drug Lab employees, security personnel, college administrators, police detectives and evidence officers, and DPH employees.[22] In the field interviews, the investigators asked questions and followed leads related to a variety of topics, including background information about the Drug Lab, lab evidence intake and return procedures, lab personnel credentials and the Drug Lab's security system.[23]

The OIG interviewed twenty-four individuals who had worked for the Drug Lab, DPH and EOHHS in private sessions.[24] These individuals included upper management from DPH and Drug Lab employees from 2002 to 2012. In the private sessions, the OIG asked the interviewees about their backgrounds and roles within the Drug Lab, policies and procedures, security access and protocols, observations of other employees, awareness of Drug Lab funding sources, training procedures and opportunities, and noteworthy test results or cases they worked on. The OIG asked a broad range of questions intended to elicit information about suspicious behavior or concerning conduct they had observed at the Drug Lab.

The OIG followed up on leads and new questions that came from the interviews and private sessions.[25]

[21] A "private session" is a formal interview pursuant to Section 15 of Chapter 12A of the General Laws.

[22] Hinton Report at 9.

[23] *See* Hinton Report at 9-10.

[24] Hinton Report at 9-10.

[25] *See* Hinton Report at 9.

INVESTIGATIVE PROCESS

The OIG and its experts used the information described above to investigate the operation and management of the Drug Lab "to determine whether any chemists, supervisors or managers at the Drug Lab committed any misfeasance or malfeasance that may have impacted the reliability of drug testing at the Drug Lab."[26] Because the focus of the investigation was broad, the OIG considered all documents, data and witness information as potentially relevant to multiple areas of review. Below are examples that illustrate some of the ways the OIG used this information to conduct the investigation.[27]

As an essential part of its mission, the OIG set out to fully understand management, supervision and oversight at the lab and to identify any failures in those areas. To that end, the OIG reviewed DPH records to understand the Drug Lab's position within the Hinton State Laboratory Institute. The OIG studied budgets, financial reports, memoranda, meeting minutes, policies, practices, archived documents and prior reports about the lab. The OIG compared budget information with productivity records to understand the impact of funding on the lab's operations, personnel, resources and priorities. The Drug Lab had not been accredited, so the OIG looked at the reasons why the lab had not been accredited and why accreditation was important. To help it identify issues, the OIG reviewed DPH and Drug Lab staff emails and interviewed senior management and staff. In addition, the OIG reviewed grant submissions to see whether management made the requisite disclosures. The OIG learned information from these sources that informed many of the findings in the Hinton Report.[28]

In addition to the steps described above, to fully understand management, supervision and oversight at the lab, the OIG needed to examine how lab supervisors managed personnel. The OIG interviewed personnel at all levels to understand the dynamics of the lab and what impact they had on the lab's operations. The OIG examined chemists' personnel records, training records and curricula vitae. The OIG looked at whether lab management had verified those records. The OIG also reviewed audio and transcribed copies of chemists' in-court testimony. The OIG examined how often and how effectively the Drug Lab supervisors conducted audits of chemist samples. The OIG considered whether supervisors' audits could have detected potential issues. From the documents, transcripts, interviews and follow-up research, the OIG developed its knowledge of the chemists as well as management.[29]

Also as part of its mission, the OIG carefully studied the Drug Lab's policies and procedures to identify any deficiencies in its practices and protocols. Early in its investigation, the OIG learned that when the Drug Lab closed, its most current written procedures manual for drug analysis was dated 2004.[30] The

[26] Hinton Report at 7.

[27] These examples do not include all the matters the OIG investigated or all matters discussed in the Hinton Report and Supplemental Report.

[28] For specific findings on management, supervision and oversight, see Hinton Report at 13-33, 79-85, 114-117.

[29] *See*, *e.g.*, Hinton Report at 23-30, 44-47, 49-52, 63-73, 79-81, 83-85, 114-116.

[30] Hinton Report at 31.

OIG searched for information about lab policies, procedures and protocols, whether formal or informal, including updates and revisions, in memoranda, meeting minutes, emails, standard operating procedures, quality assurance and quality control records, and chemist testimony. The OIG also looked at testing documentation, including chemists' notes, preliminary and confirmatory analysis records, and quality control documents, to see how the lab complied with its own policies, procedures and protocols. In addition, the OIG questioned supervisors and chemists about the lab's policies, procedures and protocols during private sessions. These steps led to the OIG's findings throughout the Hinton Report, including those related to oversight, training, protocols, testing practices and quality control measures.[31]

As a result of its in-depth of review of management, supervision, oversight and lab procedures, the OIG uncovered issues with the Drug Lab's approach to sampling and weighing methods for multi-item samples in drug trafficking cases.[32] With the assistance of its forensic experts, the OIG looked closely at the Drug Lab's procedures and how they compared with SWGDRUG recommendations for sampling and weighing. The OIG identified the deficiencies in the Drug Lab's procedures and then created a process to review testing documentation to check chemists' methods. Consequently, the OIG reviewed the testing documentation (including powder sheets, control cards, GC/MS reports, drug receipts and control sheets) for 3,381 samples that the Drug Lab had reported to be within 25% above trafficking weight. Based on this work, the OIG made detailed findings about the Drug Lab's methods for sampling and weighing multi-item samples as well as how it documented and reported its methods.[33]

The OIG also uncovered issues with the Drug Lab's quality control measures, which led the OIG to closely examine quality control procedures and how well the Drug Lab personnel complied. In addition to looking at the Drug Lab's written procedures, the OIG reviewed the Drug Lab's quality control documentation, including the hardcopy quality control binders, for anomalies. The OIG also reviewed thousands of relevant electronic documents, including meeting minutes, emails, standard operating procedures, GC/MS instrument reports and chemist testimony. The OIG studied the Drug Lab's practices and procedures for quality control of its instruments, including documentation for quality control mixes, blanks, standards and tune reports. The OIG looked at the Drug Lab supervisors' monthly audits of chemist samples as well as the chemists' daily and monthly quality control checklists to see how effective these quality control measures were. The OIG made detailed findings on the Drug Lab's quality control measures in the Hinton Report.[34]

The OIG also focused its attention on security issues at the lab. The OIG inspected the physical features of the Drug Lab itself as well as the Drug Lab within the State Laboratory Institute. The OIG investigated who had access to the Drug Lab and the spaces within it, including the drug safe. The OIG

[31] Hinton Report at 25, 27, 31-46, 87-104.

[32] See Hinton Report at 87-88 for an explanation of sampling and weighing methods and the significance of those methods in drug trafficking cases.

[33] *See* Hinton Report at 87-105.

[34] *See e.g.*, Hinton Report at 24, 31, 39, 43-47, 65, 69, 83, 116.

obtained and examined data from the lab security system to see how the system worked and how it was used day-to-day at the lab. The OIG also examined the procedures for the security of drug evidence, including evidence intake, chain-of-custody, computer access, and logging samples in and out of the evidence room. As a part of this work, the OIG reviewed the lab's electronic and manual chain-of-custody entries for samples for multiple years. In addition, the OIG searched the consolidated review database for emails, memoranda and reports of security issues. The OIG's investigation of Drug Lab security informed its findings throughout the report, including on management, supervision, chain-of-custody and misconduct.[35]

Another primary objective of the OIG's mission was to determine whether any chemist, supervisor or manager at the Drug Lab had committed misfeasance or malfeasance that impacted the integrity of drug testing. The OIG intentionally included all personnel, including short-term and temporary employees, at the Drug Lab from 2002 to 2012 within the scope of this review. No employee was a target of the investigation, nor was any employee excluded from the investigation.

The OIG adopted a broad scope for this part of its investigation. Because Dookhan was not the focus of the investigation, the OIG considered, but did not limit its investigation to, the types of misconduct that she allegedly committed. With assistance from its forensic experts, the OIG examined where and how any Drug Lab employee could impair the reliability of results, including through testing misconduct, forgery of log books, chain-of-custody breaches, failures in quality control measures, false testimony, and general failures to comply with Drug Lab policies and procedures for testing drug evidence.

To learn whether there were specific, prior instances of either misfeasance or malfeasance at the Drug Lab that management knew of but had not disclosed, the OIG reviewed all Drug Lab employee emails for evidence of misconduct or breaches of lab policies or procedures. The OIG also reviewed the lab personnel files and available performance evaluations. In addition, the OIG searched for any memoranda, meeting minutes, reports or other records of any reference to misconduct or breaches of policies or procedures by any lab employee. The OIG also explored issues and followed up on leads with questions in field interviews and private sessions with lab personnel. The OIG included findings from these reviews in its report, including information that pointed to issues at the Drug Lab that did not rise to the level of misfeasance or malfeasance.[36]

The OIG also looked for evidence of possible misconduct or breaches of policies or procedures that Drug Lab management had not detected or documented. For example, the OIG examined quality control documents and evidence log books, security systems and records, corrective action reports, and related documents. The OIG reviewed Drug Lab employees' email communications, including chemists' communications with prosecutors and police evidence officers. The OIG checked chemists' credentials and whether the chemists had attended the trainings that the chemists included on their curricula vitae.

[35] *See e.g.*, Hinton Report at 49-52.

[36] *See e.g.*, Hinton Report at 21-26 (detailing failures by specific lab management and supervisors), 35-41 (detailing chemists' inconsistent approaches to testing practices), 87-105 (detailing various issues by chemists in sampling drug trafficking cases).

The OIG also reviewed chemists' in-court testimony from criminal cases. As with other areas of the investigation, the OIG explored issues and followed up on leads. The OIG included findings in these areas in its report.[37]

In addition to the steps described above, as part of its investigation, the OIG worked with its forensic experts to identify ways to analyze the testing data and to review the testing documentation to identify chemist misconduct. Based on the forensic experts' recommendations and its own evaluation of the information it had collected, the OIG looked in-depth at chemist productivity and chemists' testing work.

With respect to productivity, the OIG and its experts considered how to measure chemist productivity and how productivity data might reveal possible misconduct. From the start of her employment with the Drug Lab, Dookhan tested a larger-than-average number of samples compared to her peers. After the *Melendez-Diaz* decision, while her coworkers' testing numbers decreased, Dookhan continued to test a remarkably high volume of samples despite spending substantial time testifying in court.[38] Her productivity caught the attention of her supervisors. Forensic expert Mike Wolf of Marcum compared Dookhan's sample-testing numbers to sample-testing number of other chemists at the Drug Lab. He looked specifically at cocaine and heroin samples because those substances required both preliminary and confirmatory tests. Wolf noted that some chemists had brief periods in which their cocaine and heroin sample-testing volume was comparable to Dookhan's. Because Drug Lab management had raised concerns about Dookhan's productivity, Wolf recommended that the OIG apply the same process used to review Dookhan's work to the work of a number of other chemists. The OIG agreed with Wolf's recommendation, but went further and reviewed the work of all chemists at the Drug Lab from 2002 to 2012, not just the chemists noted by Wolf.[39]

In evaluating chemists' productivity, the OIG also looked at what constitutes a "sample" and whether chemists tested more of one type of sample than another. The OIG considered that, due to a number of factors, testing numbers do not correlate directly to productivity.[40] The OIG evaluated how much time it took chemists to perform certain tests at the Drug Lab compared to other labs. The OIG considered what the chemists' roles were within the Drug Lab and whether their roles would impact the number of tests that the chemists completed. The OIG also evaluated the impacts of overtime, earned

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[37] *See e.g.*, Hinton Report at 21-26 (detailing failures by specific lab management and supervisors), 43-47 (detailing various issues by chemists and management with respect to quality control measures), 49-52 (detailing issues pertaining to lab security), 53-62 (detailing various issues pertaining to chain-of-custody and evidence logbook procedures), 75-78 (detailing a previously unreported chain of custody breach by Dookhan), 87-105 (detailing findings with respect to sampling in drug trafficking cases).

[38] In 2009, the United States Supreme Court decided the case of *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, a ruling which required chemists to testify in court in cases where a certificate of drug analysis is introduced as evidence against a criminal defendant. As a result of the *Melendez-Diaz* ruling, chemists generally spent less time performing tests in the lab in order to testify in court. Significantly, unlike the other chemists, after a short period of declining productivity following the *Melendez-Diaz* decision, Annie Dookhan's numbers rebounded and again reached nearly twice that of the next highest-producing chemist. *See* Hinton Report at 63-64.

[39] *See* Hinton Report at 108; Supplemental Report at 4.

[40] Hinton Report at 63-64.

leave time and court time on a chemist's numbers. The OIG also examined other employment issues that might impact a chemist's productivity. The OIG included its findings related to productivity throughout its report.[41]

As part of this in-depth review of chemists' work, the OIG and its forensic experts identified GC/MS instrument data as an objective source of testing data that could be reviewed to identify potentially improper testing practices. The GC/MS instrument created contemporaneous testing data that investigators could compare to the preliminary analysis of the same sample. At the OIG's direction, Navigant created a list of all drug samples that had more than one GC/MS "run." Navigant also provided the OIG and its experts with all available preliminary testing documentation (control cards, control sheets, powder sheets, handwritten and typed batch sheets, drug receipts and certificates of analysis) and GC/MS testing data for each drug sample on the list. The OIG reviewed the available documentation and data on over 10,000 drug samples. Forensic experts Wolf and Mario assisted the OIG in analyzing the results and determining which samples required further scrutiny, including retesting.[42]

Based on the GC/MS multi-run review, the OIG did not find widespread testing inaccuracies or patterns of misconduct by chemists other than Dookhan.[43] It did find that for most years under review, the Drug Lab did not keep discrepancy logs to document when a sample was returned to the primary chemist, nor did it have a policy related to documenting when a sample had multiple runs on the GC/MS instrument. When the lab adopted a policy for chemists to record all GC/MS sequences, moreover, the chemists adhered to the policy sporadically. Further, the OIG discovered that the Drug Lab did not provide documentation of the multiple GC/MS runs or reports in discovery in criminal cases.[44] As a result, the OIG determined that it was appropriate to retest certain samples to ensure the accuracy of the Drug Lab's findings that had been reported to prosecutors.[45]

[41] *See e.g.*, Hinton Report at 14-17, 21, 35-41, 63-64, 98.

[42] *See* Hinton Report at 108-109; Supplemental Report at 4-5.

[43] *See* Supplemental Report at 25.

[44] Hinton Report at 107; Supplemental Report at 3.

[45] The OIG and its forensic experts identified 3,980 samples for possible retesting. For the multi-run methodology and results of the retesting review see the Supplemental Report. The OIG notified prosecutors of the results of retesting its experts conducted using a TruNarc testing device. The OIG also provided prosecutors with the results for samples that the independent lab retested and that were inconsistent with the results reported by the Drug Lab. Supplemental Report at 11-23.

CONCLUSION

The OIG's methodology satisfied its mission "to conduct a comprehensive investigation of the operation and management of the Drug Lab . . . to determine whether any chemists, supervisors or managers at the Drug Lab committed any misfeasance or malfeasance that may have impacted the reliability of drug testing at the Drug Lab, and to make findings and recommendations following its review." As set forth in the Hinton Report and Supplemental Report, based on its investigation, the OIG made extensive findings of fact and recommendations.

Farak's misconduct in Amherst has brought added scrutiny to her time at the Hinton Drug Lab. In addition, Dookhan's malfeasance has cast a shadow on other chemists' work, particularly in the area of productivity. The OIG addresses these specific issues below to show how its mission and investigative methodology encompassed Farak's work at the Hinton Drug Lab as well as chemist productivity.

Sonja Farak worked as a chemist at the Hinton Drug Lab for approximately fifteen months between 2003 and 2004. In August 2004, she transferred to the Amherst Drug Lab where she worked until her arrest in January 2013 for tampering with drug evidence. In 2018, the Supreme Judicial Court determined that Farak began stealing from the methamphetamine standard in late 2004 or early 2005, after transferring to the Amherst lab.[46] Beginning in 2009, she started stealing from police-submitted samples and engaging in widespread evidence tampering.[47] Although she worked at the Hinton Drug Lab before Amherst, the OIG's investigation found no evidence that she engaged in similar misfeasance or malfeasance when she was employed at the Hinton Drug Lab.

Farak's work during her employment at the Hinton Drug Lab from May 2003 to August 2004 was within the scope of the OIG's investigation. As detailed above, the OIG investigative team reviewed Drug Lab chemists' emails, personnel files and available performance records. The OIG reviewed all available documents for information about concerns, issues or allegations of wrongdoing raised by or against lab employees.[48]

The OIG examined lab security measures, including who had key access to the lab, drug safe and case management database. The OIG found that security at the lab was lacking in many ways, including security for the evidence safe and case management database.[49] However, the OIG did not find evidence of misconduct with respect to security by chemists or employees other than Dookhan. Also, the OIG found no evidence that lab management or other chemists had concerns that any employee had improperly accessed standards.

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[46] *Comm. for Pub. Couns. Servs*, 480 Mass. at 706.

[47] *Id.* at 705.

[48] Despite questions and allegations that have been raised about Farak's work at the Hinton Drug Lab, no one has come forward with any evidence of misconduct by Farak there.

[49] Hinton Report at 49-52.

Of the individuals interviewed by the OIG, thirteen were employees who overlapped with Farak during her fifteen-month tenure at the Drug Lab. These individuals had ample opportunity to raise concerns about Farak as well as any other chemists. Two individuals were specifically asked questions about Farak and her productivity because Farak had mentioned in an email that she was told not to be as productive at the Amherst Drug Lab as she had been at the Hinton Drug Lab. The OIG did not find evidence of wrongdoing by Farak with respect to her productivity. While witnesses voiced concerns and complaints about a variety of topics and had observed Dookhan not following lab protocols, none of them reported any concerns or mentioned any issues suggesting Farak or any other chemist engaged in misconduct that affected the Drug Lab's testing reliability.

As explained above, the OIG included the work of all chemists, including Farak, in the multi-run review.[50] Among the issues identified from the multi-run review, Farak's work did not stand out. Nor was Farak either the primary or confirmatory chemist on any of the samples identified in the Supplemental Report.[51]

In total, sixty samples that Farak was assigned as primary chemist fell within the OIG's criteria for retesting. Thirty-five of these samples were not available for retesting, either because they had been destroyed in the ordinary course by the custodian police department, could not be located by the police department, or consisted of only residue not sufficient for retesting. The OIG's forensic experts retested the available twenty-five samples using a TruNarc field test. The forensic experts confirmed the original reported results for twenty-three of the samples. The OIG sent two samples to an independent lab for additional retesting. The independent lab results were also consistent with the original reported results.[52]

While the above discussion is specific to Farak because of her misconduct at the Amherst Drug Lab, the OIG looked at the same documents and data with respect to all employees at the Hinton Drug Lab. For instance, the OIG looked at personnel files, emails and work product. The OIG looked for documents, data or reports about misconduct or mistakes in testing relative to the entire lab, not just Dookhan. Furthermore, the OIG interviewed numerous people employed at the Drug Lab between 2002 and 2012. The OIG found the interviewees were generally candid about their co-workers, not just Dookhan. Because the OIG did not find evidence that any other Drug Lab employee engaged in misfeasance or malfeasance that impacted the reliability of drug testing, the OIG found that Dookhan was the sole bad actor.

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[50] *See* Hinton Report at 108; Supplemental Report at 4.

[51] *See* Supplemental Report at 11-21.

[52] As detailed in the Supplemental Report, the OIG and its experts identified a total of 10,821 unique multi-run samples from the Drug Lab. Of this number, the OIG identified 3,980 that had inconsistent results between multi-runs and fit the criteria for retesting. As explained in the Supplemental Report, among other reasons, the OIG eliminated samples from the list if the samples had been destroyed by police in the ordinary course, were residue only or had not resulted in an adverse criminal disposition. The OIG's forensic experts field tested 1,203 samples with the TruNarc. The TruNarc's findings were consistent with the Drug Lab reported results for 739 samples. Ultimately, the OIG sent 645 samples to an independent laboratory for retesting. See Supplemental Report at 3-7, 11-21.

The OIG and its forensic experts focused on productivity during the investigation in part because Drug Lab management had raised concerns about Dookhan's productivity and Dookhan had admitted to MSP that she had dry-labbed test results. As detailed above, the OIG and its experts examined chemist productivity at the lab in multiple ways and in light of other evidence. Because productivity alone is not evidence of misconduct, the OIG conducted an extensive review of chemists' personnel files and emails for evidence of misconduct or breaches of policies and procedures. The OIG did not uncover evidence of the types of red flags that Drug Lab management had noted about Dookhan. With respect to her, lab management and other chemists had raised concerns such as her higher-than-average number of "returns" on her GC/MS submissions due to discrepancies with her preliminary testing results, transcription errors, forged initials and her failure to perform necessary calibrations on her scales.

As previously noted, the OIG looked at productivity in context and considered the fact that testing numbers do not correlate directly to productivity.[53] The OIG included information about chemist productivity throughout the Hinton Report. For instance, the OIG reported that financial constraints along with an increase in the number and complexity of samples over time impacted testing at the Drug Lab.[54] The OIG found that supervisors let some chemists test only certain types of drugs based on the chemist's preference.[55] Furthermore, the OIG developed an understanding of the testing practices at the Drug Lab, including how chemists deviated from the written protocols.[56] In addition, the OIG closely examined the testing documentation of 3,381 trafficking samples.[57] The OIG also looked at chemist productivity to understand Dookhan's testing volume in context.[58] Lastly, the OIG and its forensic experts identified the multi-run GC/MS data as a possible way to identify patterns of misconduct. As the OIG stated in the Supplemental Report, it did not find widespread testing inaccuracies.[59]

[53] Hinton Report at 63-64.

[54] Hinton Report at 14-17.

[55] Hinton Report at 21.

[56] Hinton Report at 35-41.

[57] Hinton Report at 98.

[58] Hinton Report at 63-64.

[59] Supplemental Report at 25.