

DRAFT (Preliminary Analysis)



SAFE Kit Submission to the KSP Forensic Laboratory:

An Analysis of Trends before and After DANY/SB63

A Report to the SAFE Kit Backlog Research Working Group

By

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Project Overview

In 2017, the SAFE Kit Backlog Research Project began to examine the problem of unsubmitted sexual assault forensic examination (SAFE) kits that were collected but never submitted to a crime lab for analysis. The SAFE Kit Backlog Research team seeks to provide a holistic research approach to examine this problem by providing data-driven insights into the Commonwealth's response to these problems. The research team is collecting data to understand the factors that contributed to the number of unsubmitted SAFE kits, the characteristics associated with SAFE kits, kit submission rates throughout the Commonwealth, as well as testing results and case outcomes. Additionally the project is evaluating the impact of efforts by the Sexual Assault Response Team Advisory Committee (SART-AC) and the DANY Grant Sexual Assault Evidence Taskforce, as well as the impact of Senate Bill 63 (SB 63) on responses to sexual assault in Kentucky.

The SAFE Kit Backlog Research Working Group is comprised of members from the following groups:

- Kentucky Office of the Attorney General's Office of Victims Advocacy
- Kentucky State Police Crime Laboratory
- Kentucky State Police
- Kentucky Association of Sexual Assault Programs
- Kentucky Department of Criminal Justice Training
- Kentucky Sexual Assault Response Team Advisory Committee
- DANY Grant Sexual Assault Evidence Task Force
- State, Local, and County Law Enforcement Agencies
- University of Louisville – Department of Criminal Justice
- University of Louisville – Southern Police Institute

The research team has been working with these organizations collaboratively to collect data that contribute to an understanding of the statewide response to sexual assaults. These organizations have implemented several reforms to address the volume of unsubmitted SAFE kits and to improve the response to sexual assaults in Kentucky. The research portion of this project employs an action research approach, which will allow the research to inform responses. This is one of several reports that will assist the Commonwealth in developing evidence-based responses to sexual assault.

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Background

The purpose of this report is to provide information about the impact of the DANY grant and Senate Bill 63 (SB63) on the KSP Forensic Laboratory's workload. The research team has collaborated with KSP Forensic Laboratory Director, Laura Sudkamp, to compile monthly data on SAFE kit submission before and after the onset of the DANY grant and SB63. The information presented in this report highlights an initial increase in KSP Forensic Laboratory workload, as well as long-term workload projections. We analyzed 10 years (July 2007-March 2018) of SAFE kit submission data at the monthly level to answer the following research questions:

1. What is the impact of DANY and SB63 on the monthly number of SAFE kits submitted to the KSP Forensic Laboratory?
2. What is the estimated long-term increase in monthly SAFE kits submitted to the KSP Forensic Laboratory after implementation of SB63?

To answer these research questions, we created two intervention points in the data: (1) January 2015 – the onset of the DANY grant, and (2) January 2017 – the onset of SB63. The following is a summary of descriptive statistics regarding monthly SAFE kit submission pre- and post-implementation of DANY and SB63.

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Summary Findings

Below, we provide tables and figures to display our findings. Our analyses show the following:

Preliminary Analysis of Changes in SAFE Kit Submission Pre/Post DANY

1. Table 1: Monthly non-backlogged SAFE kit submission dropped 15.72% (8.40 kits per month) after the DANY grant was implemented. This finding is consistent with other sites that have addressed a backlog of unsubmitted SAFE kits. Research has shown that when backlogs are addressed, an initial reduction in SAFE kit submission is expected.
2. Table 2: Overall SAFE kit submission increased after DANY, which is expected because of an influx of backlogged kits submitted to the KSP Forensic Laboratory. Average monthly submission increased by 102.13, representing a 192.21% increase.

Table 1. DANY: Changes in non-backlogged SAFE kit submission (July 2007 – March 2018)

Statistics	Pre-DANY Period (n=90 months)	Post-DANY Period (n=39 months)	Difference (% Change)
SAFE kit submissions per month (average)	53.43	45.03	-8.40 (-15.72%)
SAFE kit submission per month (median)	52.00	41.00	-11.00 (-21.15%)

Note: A reduction in number of non-backlogged SAFE kits is common in other jurisdictions addressing a SAFE kit backlog.

Table 2. DANY: Changes in overall SAFE kit submission (July 2007 – March 2018)

Statistics	Pre-DANY Period (n=90 months)	Post-DANY Period (n=39 months)	Difference (% Change)
SAFE kit submissions per month (average)	53.43	156.13	+102.13 (+192.21%)
SAFE kit submission per month (median)	52.00	124.00	+72.00 (+138.46%)

Preliminary Analysis of Changes in SAFE Kit Submission Pre/Post SB63

1. Table 3: Non-backlogged SAFE kit submission increased after SB63, showing a delayed compliance with mandatory requirements to submit all sexual assault kits. Specifically, average monthly non-backlogged SAFE kits submitted to the KSP Forensic Laboratory increased 14.43% (7.22 kits per month).
2. Table 4: Overall monthly average SAFE kit submission increased after SB63 from an average of 80.26 to 139.06 kits per month, representing a 73.26% increase in average monthly submissions. This increase is expected because of the influx of backlogged kits tested by the DANY grant, as well as the implementation of SB63.

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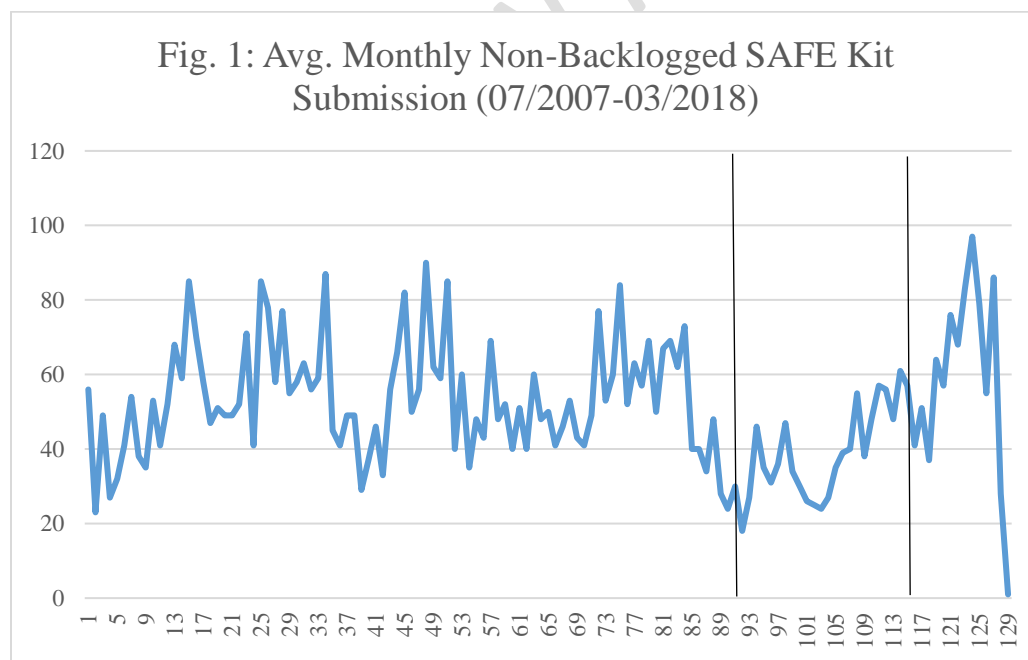
Table 3. SB63: Changes in non-backlogged SAFE kit submission (July 2007 – March 2018)

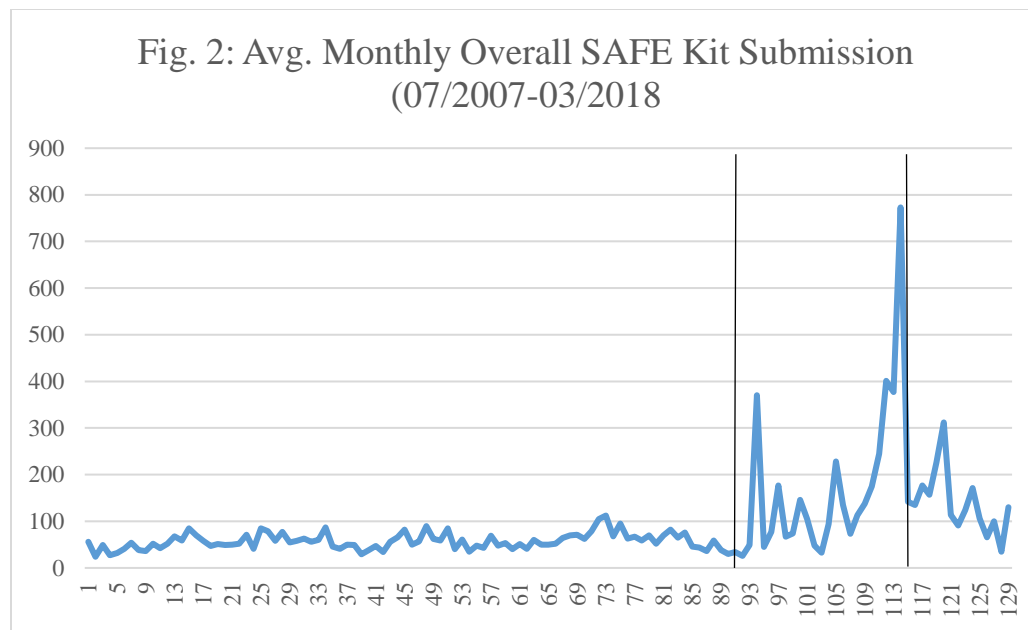
Statistics	Pre-SB63 Period (n=114 months)	Post-SB63 Period (n=15 months)	Difference (% Change)
SAFE kit submissions per month (average)	50.05	57.27	+7.22 (+14.43%)
SAFE kit submission per month (median)	49.00	57.00	+8.00 (+16.33%)

Table 4. SB63: Changes in overall SAFE kit submission (July 2007 – March 2018)

Statistics	Pre-SB63 Period (n=114 months)	Post-SB63 Period (n=15 months)	Difference (% Change)
SAFE kit submissions per month (average)	80.26	139.06	+58.80 (+73.26%)
SAFE kit submission per month (median)	58.00	130.00	+72.00 (+124.14%)

Findings from Tables 1 through 4 are visually represented in Figure 1 and Figure 2, with the first vertical line representing the onset of the DANY grant, and the second vertical line representing the implementation of SB63. Figure 1 displays the impacts of DANY and SB63 on submission trends for non-backlogged cases, while Figure 2 displays the effect of DANY and SB63 on submission trends for overall monthly SAFE kit submissions.





Preliminary Analysis of Changes in KSP Forensic Laboratory Workload Post-SB63

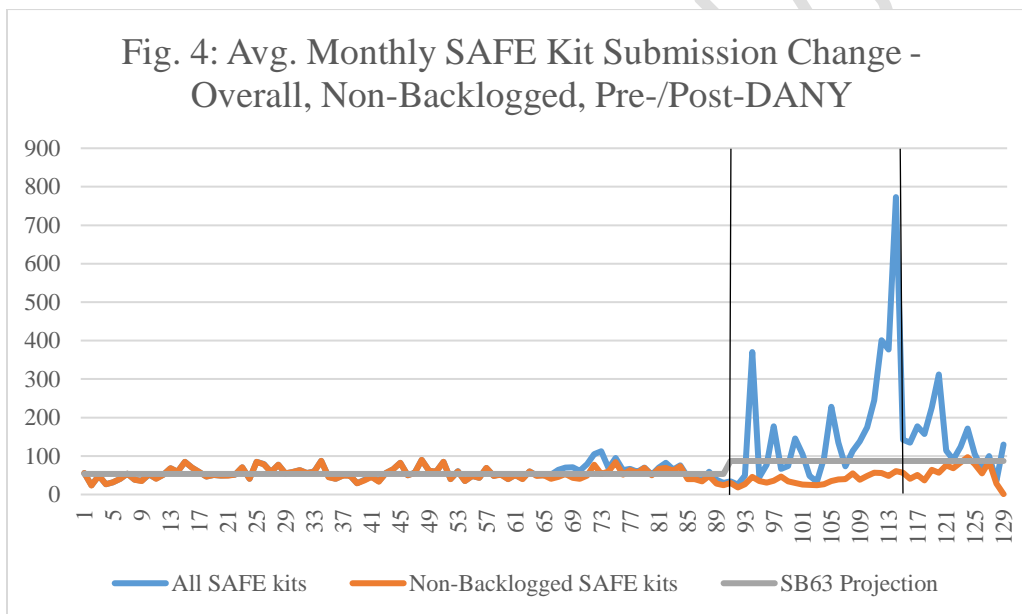
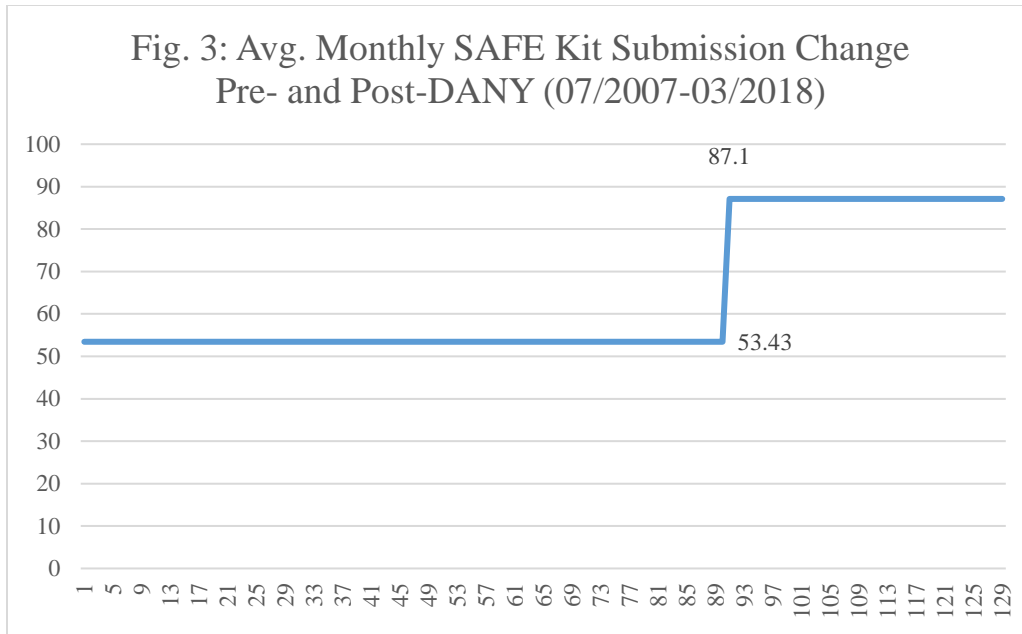
1. Table 5 presents average monthly submission trends over 10 years (from July 2007 to March 2018). We compare average monthly submission of non-backlogged kits to the projected average if SAFE kits were submitted in compliance with SB63. If law enforcement submitted all kits within one month of collection, we estimate that average monthly SAFE kit workload would increase from 53.43 kits per month to 87.10 kits per month. This represents a 63.02% increase in average monthly SAFE kit submissions to the KSP Crime Lab.
2. Findings from Table 5 are visually represented in Figure 3 and Figure 4. Figure 3 displays the change in average monthly submissions, and Figure 4 displays trend lines from Figures 1 through 3 together to display the post-SB63 monthly submissions in context.

The findings presented here are descriptive in nature. Future analyses will use inferential statistics (e.g., Autoregressive Integrated Moving Average (ARIMA) modeling) to determine the statistical significance of long-term changes in SAFE kit submission.

Table 5. Changes in average monthly KSP SAFE kit workload (July 2007 – March 2018)

Statistics	Without Backlogged SAFE Kits	With Backlogged SAFE Kits	Difference (% Change)
SAFE kit submissions per month (average)	53.43	87.10	+33.67 (+63.02%)
SAFE kit submission per month (median)	52.00	60.00	+8.00 (+15.39%)

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