



A review of the sexual assault kit backlog and the methods of biological analysis in crime laboratories



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1 Background

- Sexual assault kits (SAKs), are provided to victims of sexual assault to obtain evidence of the crime and aid in identifying the perpetrator.
- There is a nationwide backlog of SAKs - a large number of untested kits which accumulated in police custody - that has been a problem for decades.

2 Research Question

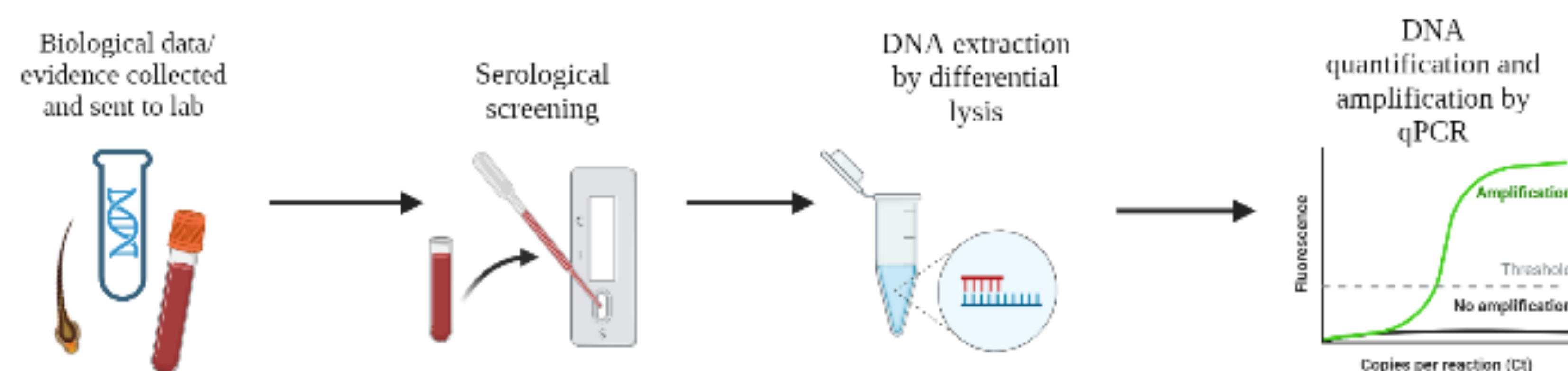
Information gathered from the following questions was used to provide suggestions on what should be done moving forward.

- **How have sexual assault kits accumulated to create the backlog?**
 - **What methods of DNA analysis are used on these SAKs?**
 - **Are there more efficient methods for SAK testing?**

3 Limitations of Current Approach

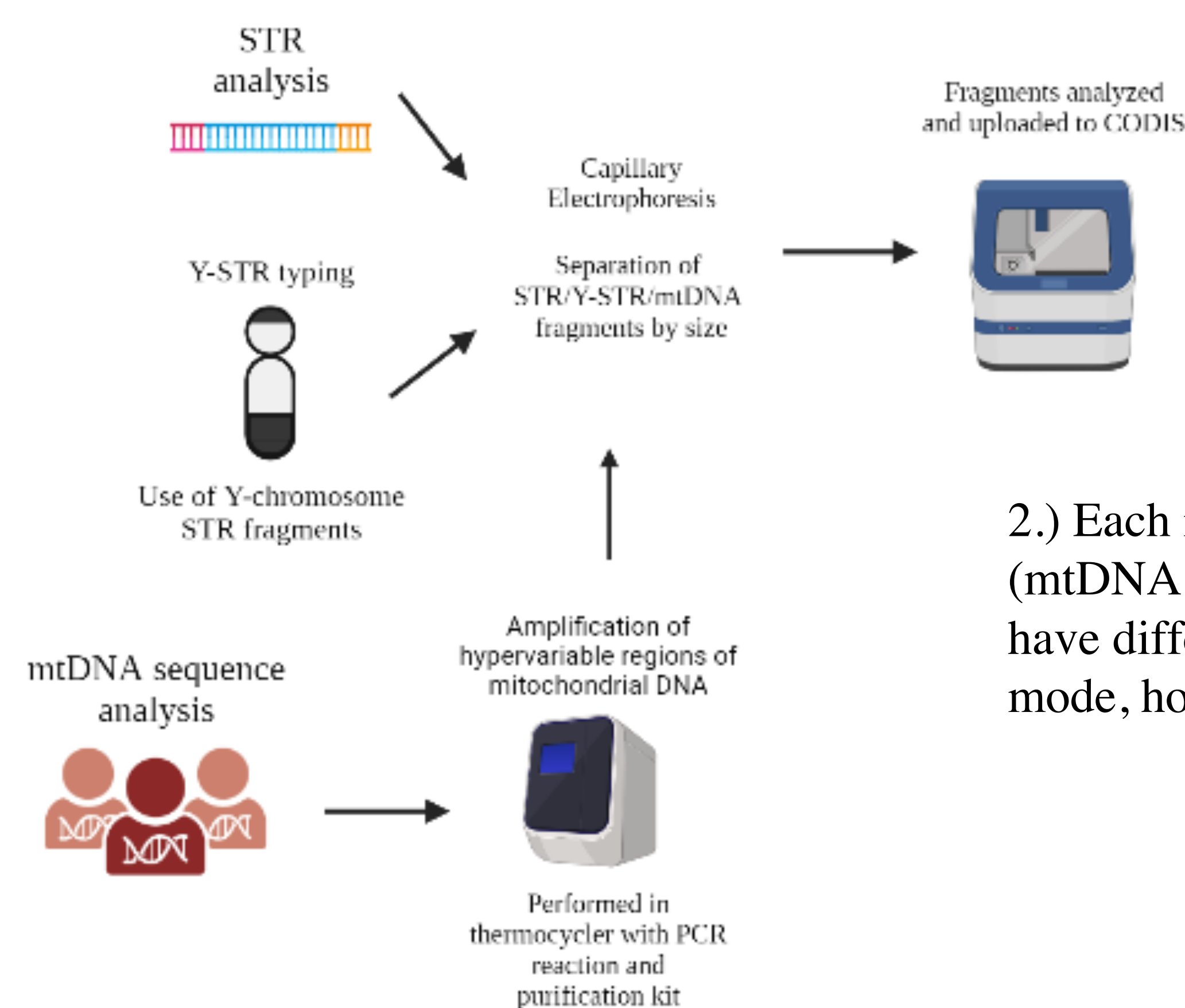
- Speed of DNA analysis, at 1hr and 50 min./kit [6]
- Cost of processing an SAK, at ~ \$1,487 [5, 6]
- Inconsistent testing protocols between crime labs [5]
- Investigators picking and choosing what SAKs are tested [5]
- Preconceived notions on sexual assault and victim blaming [2]

4 Current Methods of DNA Analysis



1.) Before samples can undergo analysis, they must be screened, extracted, and quantified/amplified [1].

STR : Short tandem repeats. Short sections of repeated DNA sequences such as A-T, A-T, A-T
Y-STR: Short tandem repeats on the Y-chromosome
mtDNA: Mitochondrial DNA



2.) Each method of analysis (mtDNA, STR, and Y-STR) will have different benefits. The standard mode, however, is STR analysis [2].

5 Conclusions

- Influences outside the fields of science, such as the bureaucracy associated with the stigma of sexual assault victims, has more of an impact on the backlog than effects of DNA analysis.
- Cases of sexual assault are disregarded by authorities if they are not deemed useful to the case.
- There have been several great improvements made to DNA analysis over the past thirty years, such as the implementation of differential lysis [3].
- Methods in use now for DNA testing can provide great success, if an SAK makes it to this step.

6 Moving Forward

- Advancements in DNA testing occur everyday, providing promise for the future in regard to lowering testing time and cost, increasing sensitivity of the modes of analysis
- SAK initiatives were created to combat the backlog, these require the testing of all kits regardless of their history or possible outcomes [5].
- Initiatives also supply money to laboratories for this testing to be complete. This solution has provided the most progress in stopping the nationwide backlog [5].
- All SAKs should be tested, regardless of outside influences.

References/Acknowledgements

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