

# Polymicrobial bacteremia from licking syringe plungers: a case report and scoping review



Molly Perri, MD<sup>1,2</sup>, Alyssa Cheng, DO<sup>1,2</sup>, Amy Bopp, APRN<sup>1,2</sup>, Cara Borelli, DO<sup>1,2</sup>

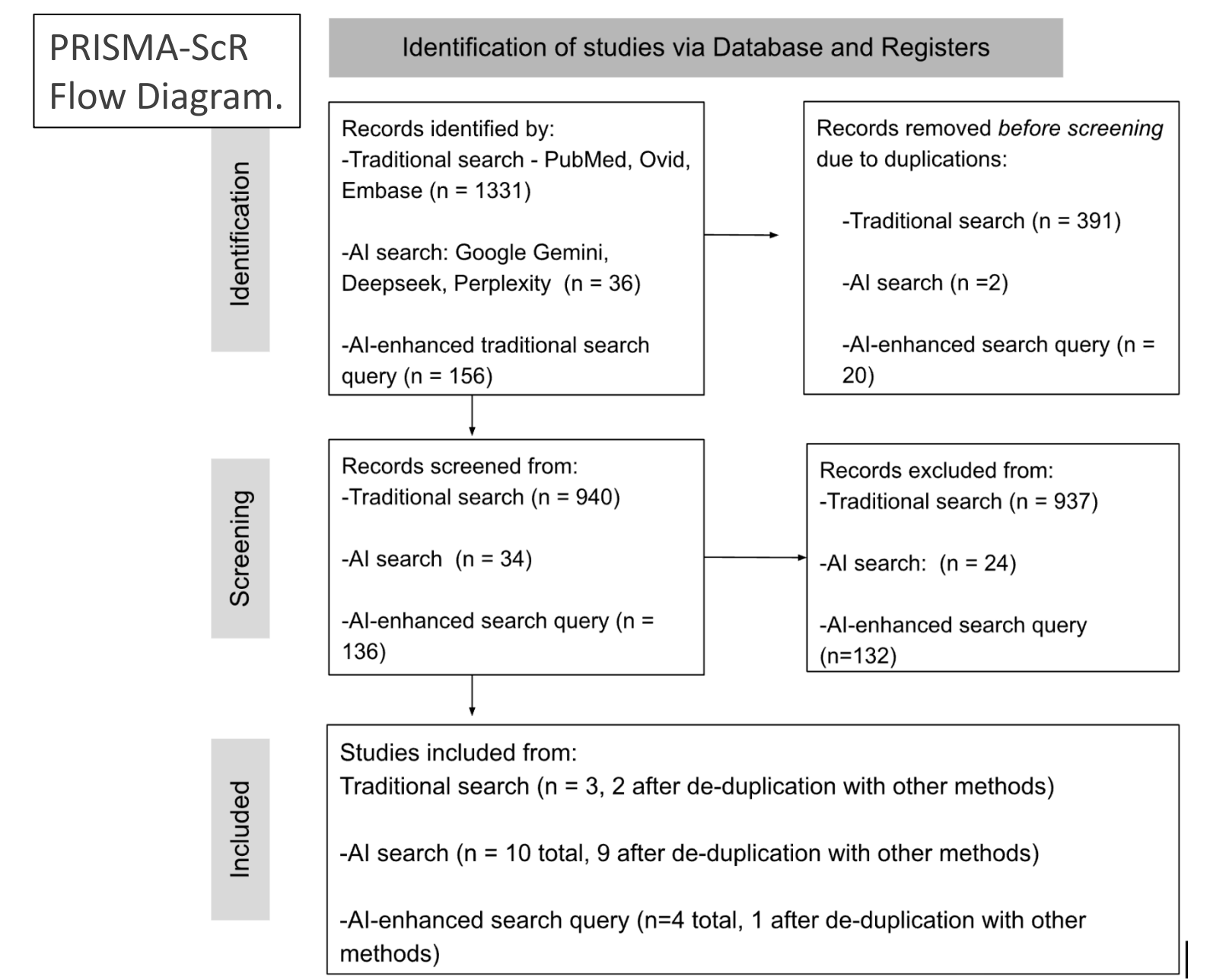
<sup>1</sup>Yale Program in Addiction Medicine, <sup>2</sup>Addiction Medicine Consult Service

## Background

- People who inject drugs (PWID) are at high risk for infectious complications.
- Injection practices introduce atypical bacteria for immunocompetent hosts.
- An estimated 21% of PWID lick syringes to:
  - Check drug quality
  - Cleaning the needle
  - Ritual
  - Assess needle sharpness

## Methods

A scoping review analyzed case reports and case series of PWID who have infections related to salivary contamination from the process of IV substance use.



The objective was to identify injection practices associated with infections from oral flora.

Artificial intelligence was used to augment the traditional scoping review.

## Case Study

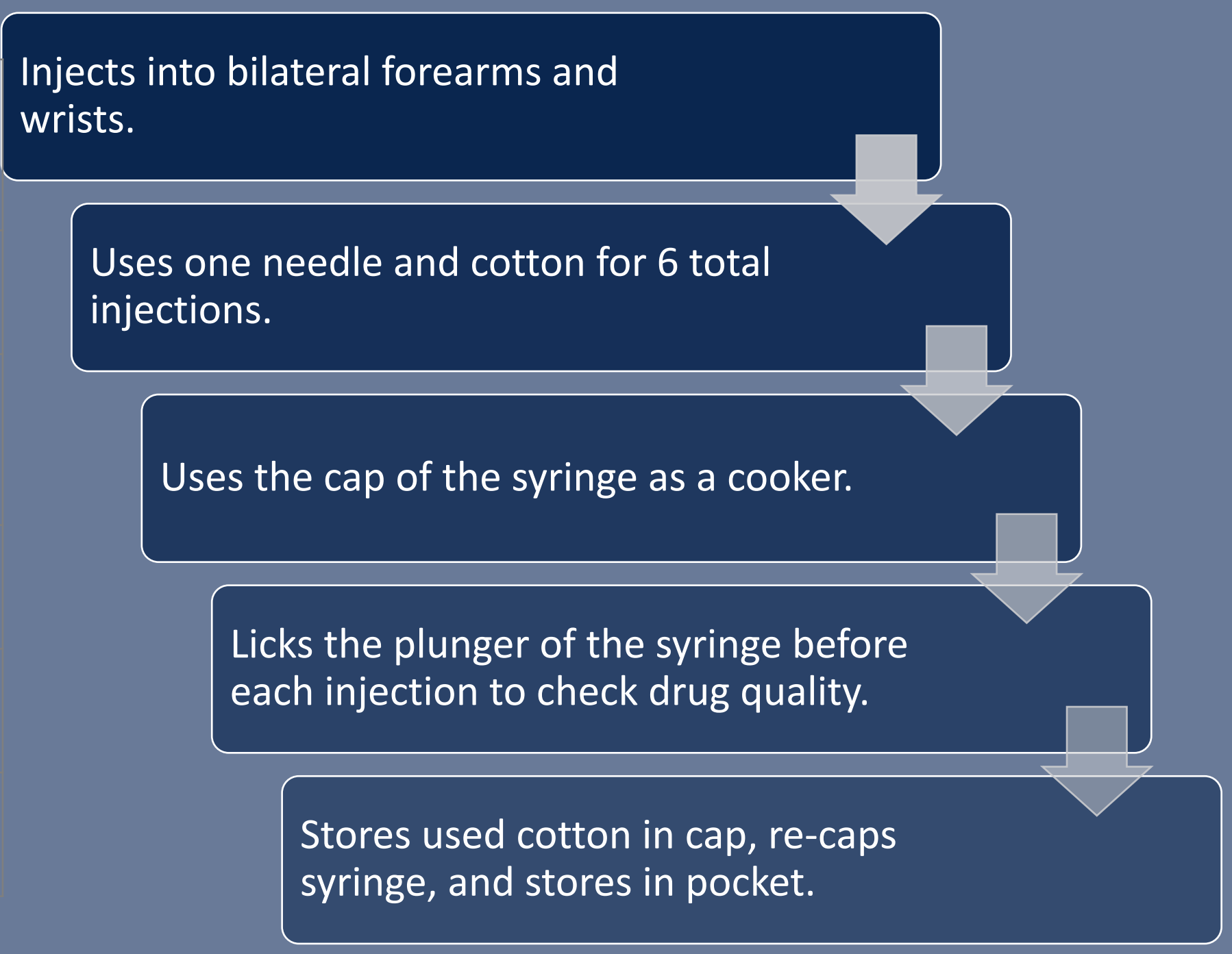
A 29-year-old man with severe opioid use disorder on methadone, ADHD, generalized anxiety disorder, and housing instability presented to the hospital with fevers for the past 3 days. He was found to have bacteremia with *Bacillus thuringiensis*.

**Bacteremia Episodes before and after this presentation:**

<b>Feb 2024</b>	<i>Candida dubliniensis</i> *, <i>Actinomyces odontolyticus</i> *, <i>Veionella parvula</i> *, <i>Streptococcus salivarius</i> *, <i>Rothia mulcilaginos</i> *
<b>April 2024</b>	<i>Burkholderia cepacia complex</i> , <i>Atopobium parvulum</i> *
<b>May 2024</b>	<i>Veillonella atypica</i> *, <i>Streptococcus mitis</i> *, <i>Rothia mucilaginosa</i> *, <i>Streptococcus anginosus</i> *, <i>Actinomyces odontolyticus</i> *
<b>Oct 2024</b>	<i>Bacillus thuringiensis</i> (current presentation)
<b>Nov 2024</b>	<i>Granulicatella adiacens</i> *, <i>Gemella sanguinis</i> *
<b>Dec 2024</b>	<i>Streptococcal mitis</i> *, <i>Streptococcal oralis</i> *

\*Organism found predominantly in oral cavity

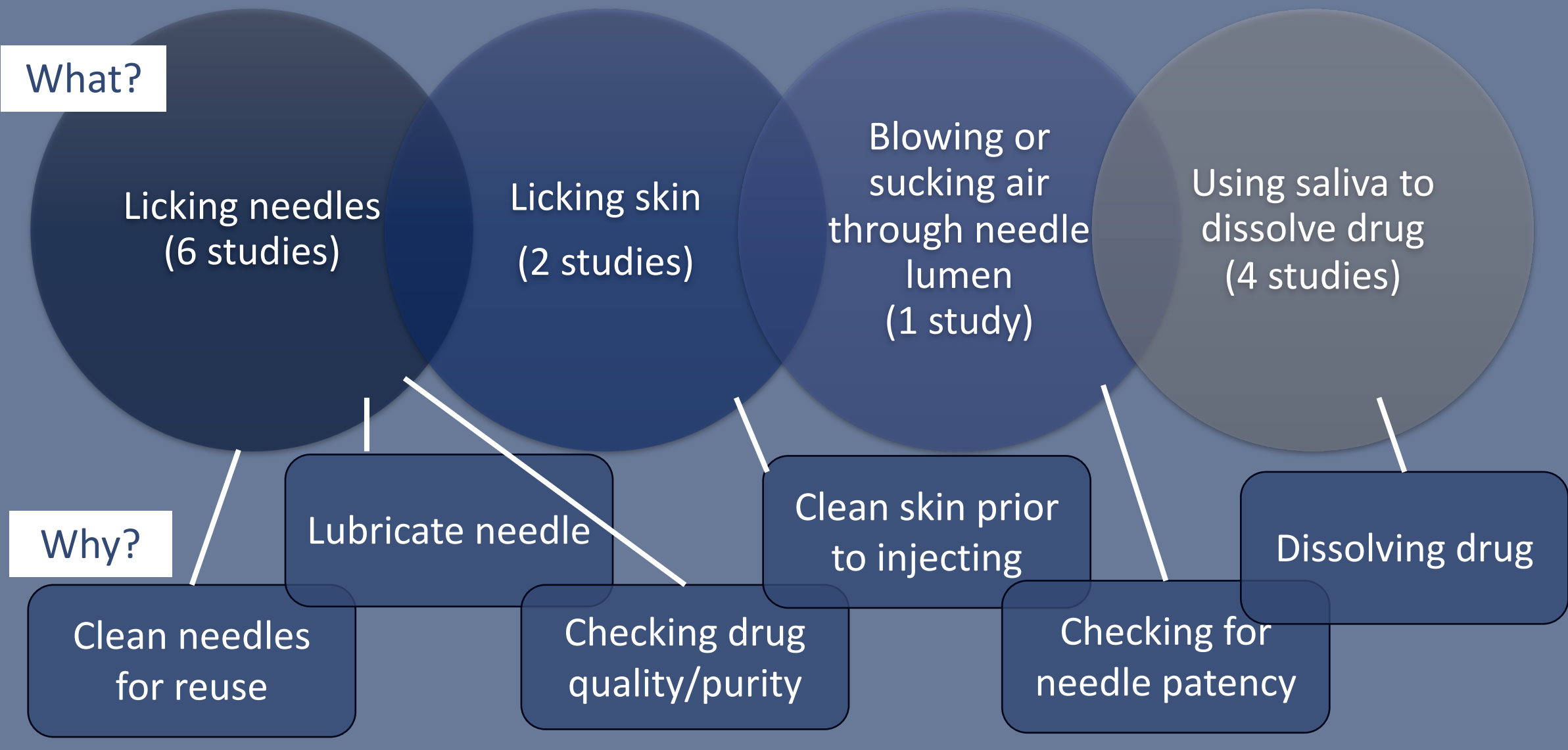
Due to these atypical bacteria, he was re-interviewed to learn detailed injection practices.



## Scoping Review



Multiple unsafe injection practices were identified in the scoping review of oropharyngeal bacterial infections linked to injection practices.



## Acknowledgements

We would like to thank our patient featured in this case study who graciously shared his story. We would also like to acknowledge the work of our colleagues on the Consult Service.

## Disclosures

The authors have no relevant financial relationship to disclose.

## Results

- 13 studies identified in the scoping review
- Patient demographics, unsafe injection practices, reason for unsafe injection practices, and infectious complications are outlined in this table.



## Conclusion

If a patient presents with atypical infectious organisms, investigate their injection practices to identify any modifiable habits that may be putting them at risk.

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