

Bombed out – a cluster of 25x-NBOMe cases

Dr Rachel Sills
Royal Perth Hospital



- Novel psychoactive substance
- Marketed as 'synthetic LSD'
- Series of compounds
- Modified 2C-X
- Potent agonists of the 5-HT_{2A} receptor



What is NBOMe?

Case report

A fatal poisoning involving 25C-NBOMe



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ABSTRACT

This paper reports on a fatal overdose case involving the potent hallucinogenic drug 25C-NBOMe (2-(4-chloro-2,5-dimethoxyphenyl)-N-[(2-methoxyphenyl)methyl]ethanamine). In the present case, a young male was hospitalized after the recreational use of this potent drug. He died at the hospital at approximately 12 h after ingestion, with preceding signs of serotonin toxicity. Medico-legal autopsy was performed on the deceased, during which time peripheral whole blood, urine, vitreous humor, liver

A Case Review of the First Analytically Confirmed 25I-NBOMe-Related Death in Washington State

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This case was submitted to the Washington State Patrol Toxicology Laboratory in September 2014. A 15-year-old male went to a party where he ingested 25I-NBOMe and mushrooms. A short time later, he started to vomit and began seizing until he eventually passed out. Resuscitation efforts were made, but were unsuccessful. He was transported to a local hospital, where he died three days later of multi-system organ failure following cardiopulmonary arrest. The hospital admission samples were negative for ethanol and basic drugs and their metabolites. The hospital serum confirmed positive for delta-9-tetrahydrocannabinol (THC) and car-

schedule 25I-, 25C- and 25B-NBOMe into the Controlled Substances Act (CSA). NBOMe is normally seen as uncut powder or diluted into micro doses and applied to blotter paper (4). The DEA reports that NBOMe has been identified in 'powders and liquid solutions' as well as in 'food items laced with these substances'.

Previous case reports have described the following symptoms: agitation, aggression, confusion, visual and auditory hallucinations, tachycardia, hypertension, seizures, vomiting, rhabdomyolysis, organ failure and death (1–3). NBOMe is often marketed as

Fatal Intoxications with 25B-NBOMe and 25I-NBOMe in Indiana During 2014

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Over the last few years, NBOMe substances have been used either as a legal alternative to lysergic acid diethylamide (LSD) or sold surreptitiously as LSD to unknown users. These NBOMe substances have been detected in blotter papers, powders, capsules and liquids. We report the deaths of two teenage male subjects that were related to 25B-NBOMe and 25I-NBOMe in Indiana during 2014. Samples were extracted via a solvent protein precipitation with acetonitrile and an-

We report two unrelated deaths associated with 25B-NBOMe and 25I-NBOMe in the state of Indiana during 2014 and discuss the detection of these compounds in postmortem blood case-work in conjunction with pertinent case history and pathological findings at autopsy.

Case Report

25I-NBOMe related death in Australia: A case report

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ABSTRACT

We present a toxicologically confirmed 25I-NBOMe related death from Australia. 25I-NBOMe is a synthetic new psychoactive substance (NPS), which is a derivative of the 2C-X series of phenethylamines. NBOMe compounds have hallucinogenic and stimulant properties and are potent agonists of the human 5HT2A receptor. They have been associated with severe toxicity and fatalities. No case reports on deaths related to 25I-NBOMe toxicity from Australia have been published thus far. Very limited toxicological data is available in the current literature. The decedent in the presented case had a post mortem aortic non-preserved blood concentration of 25I-NBOMe of approximately 28 µg/L, a concentration that appears to be much higher than those previously reported in non-fatal cases of toxicity and analytically confirmed 25I-NBOMe related fatalities. The publication of new data is essential in improving knowledge and awareness amongst the forensic community regarding emerging

Clinical significance

The West Australian

Teen's death linked to synthetic drug N-bomb

Gabrielle Knowles, Chief Crime Reporter | The West Australian
Friday, 10 February 2017 6:24PM



Melbourne

Three dead after overdosing on 'bad batch' of ecstasy in Melbourne, court told

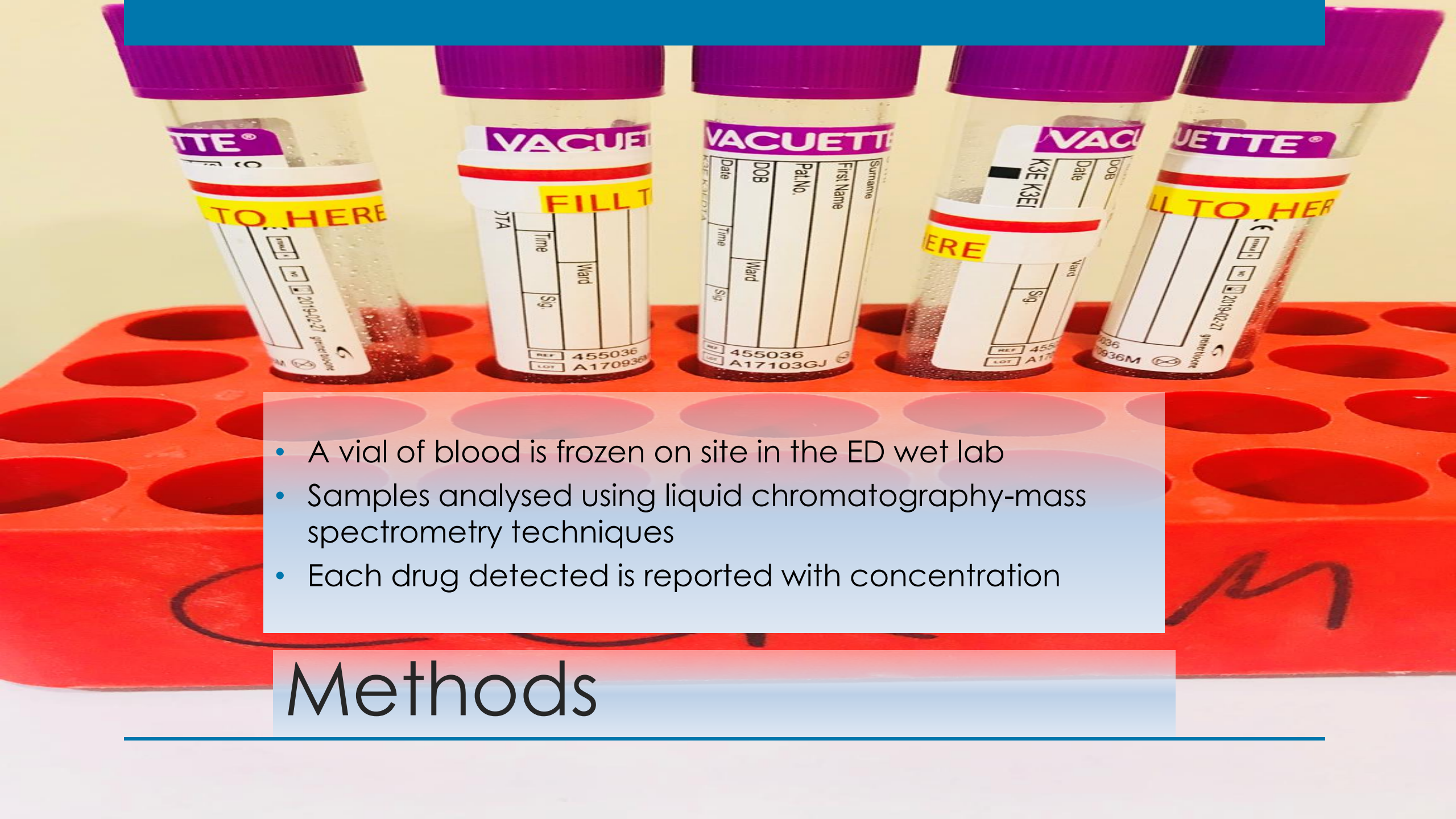
Police fear the MDMA tablets are still being sold after 20 who bought the drug in Chapel Street nightclubs taken to hospital



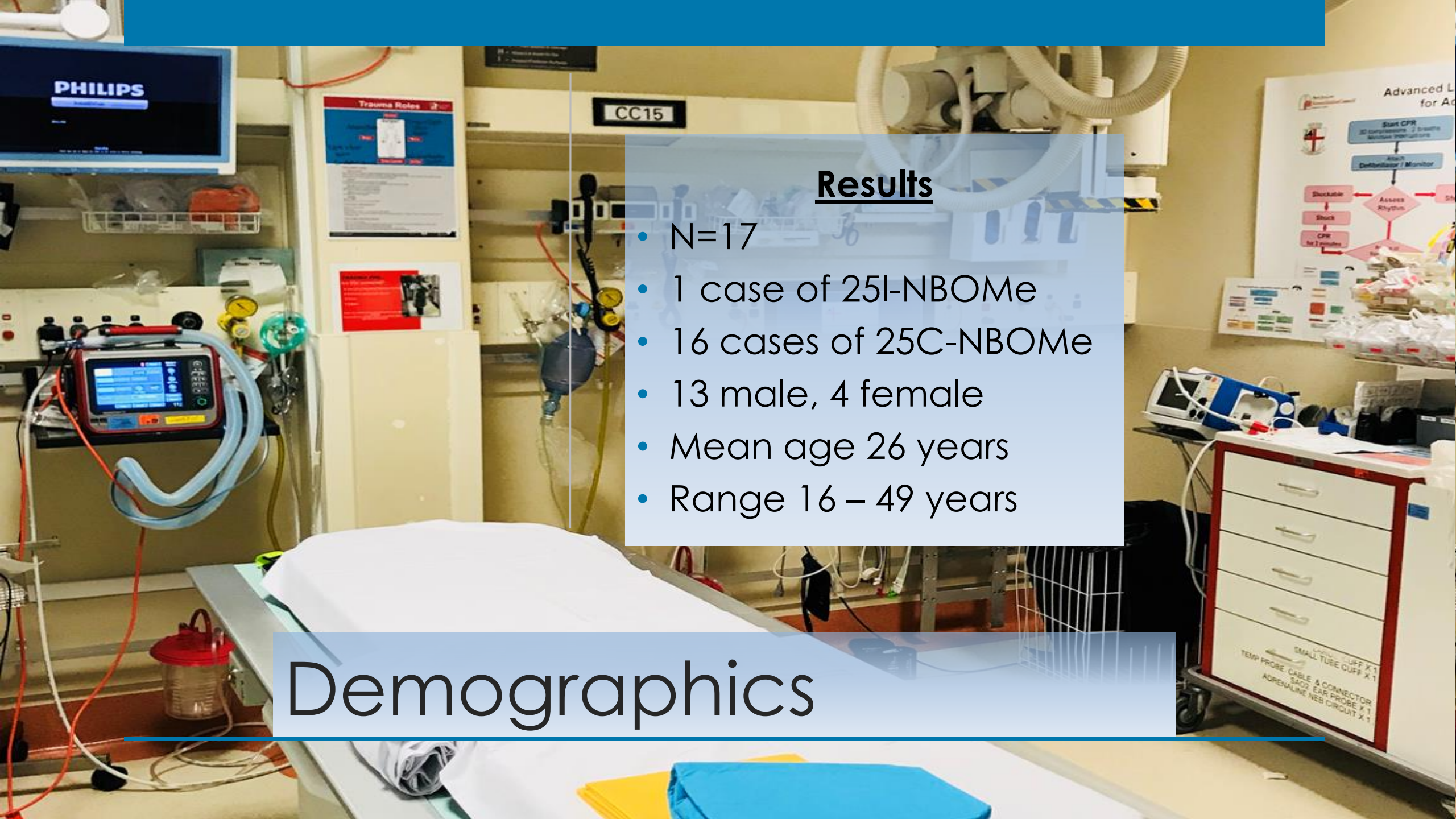
▲ MDMA tablets, commonly known as ecstasy. Three people, including a 30-year-old Elwood man, died after overdosing on the drug in Melbourne, a court has been told. Photograph: Sean Garnsworthy/Getty Images

- Blood sampling of ED patients suspected of being intoxicated with **stimulant**, **hallucinogenic** or **cannabinoid** drugs
- Relate the identified drugs, with their detected concentration in the blood, to their clinical effects on the patient
- Identify novel psychoactive substances and describe their clinical effects
- Relate the substance identified to what the patient thought they had taken

Western Australian Illicit Substance
Evaluation Study - WISE

- 
- A vial of blood is frozen on site in the ED wet lab
 - Samples analysed using liquid chromatography-mass spectrometry techniques
 - Each drug detected is reported with concentration


Methods



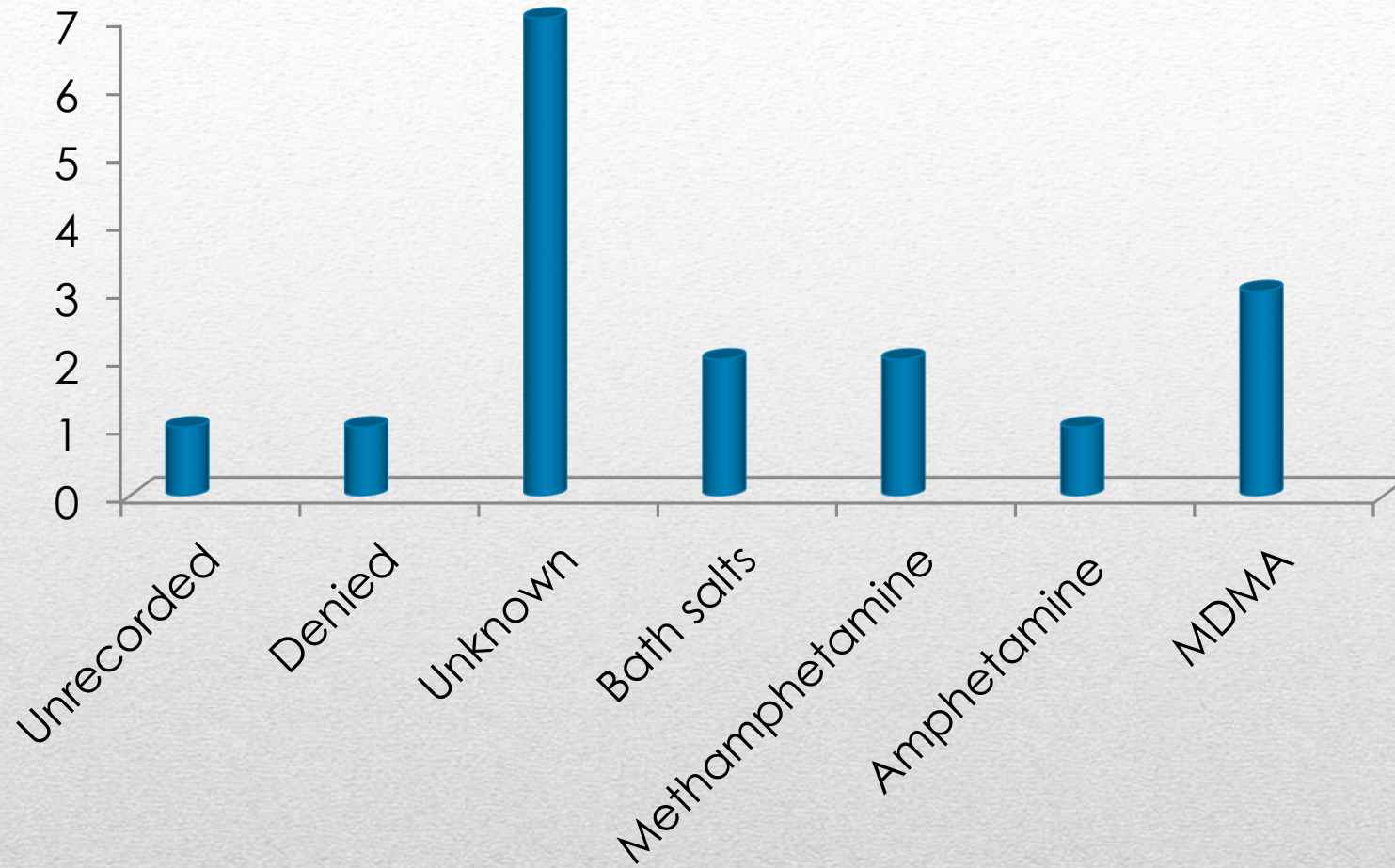
Results

- N=17
- 1 case of 25I-NBOMe
- 16 cases of 25C-NBOMe
- 13 male, 4 female
- Mean age 26 years
- Range 16 – 49 years

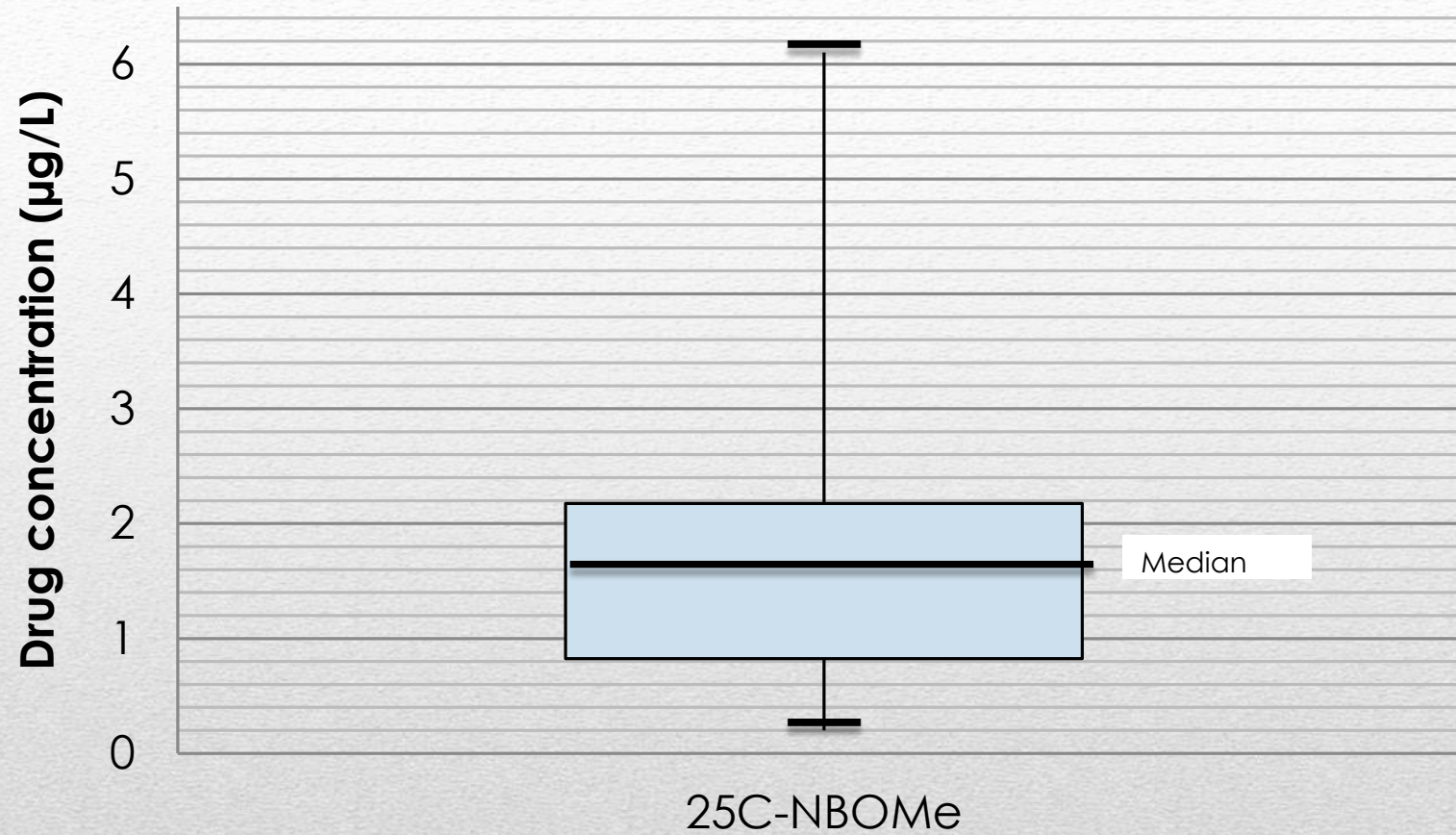
Demographics

- 
- All 25C-NBOMe samples also contained 4- Fluoroamphetamine
 - 10 samples contained methamphetamine
 - MDMA was found in 6 samples
 - Cocaine, amphetamine and sildenafil also detected

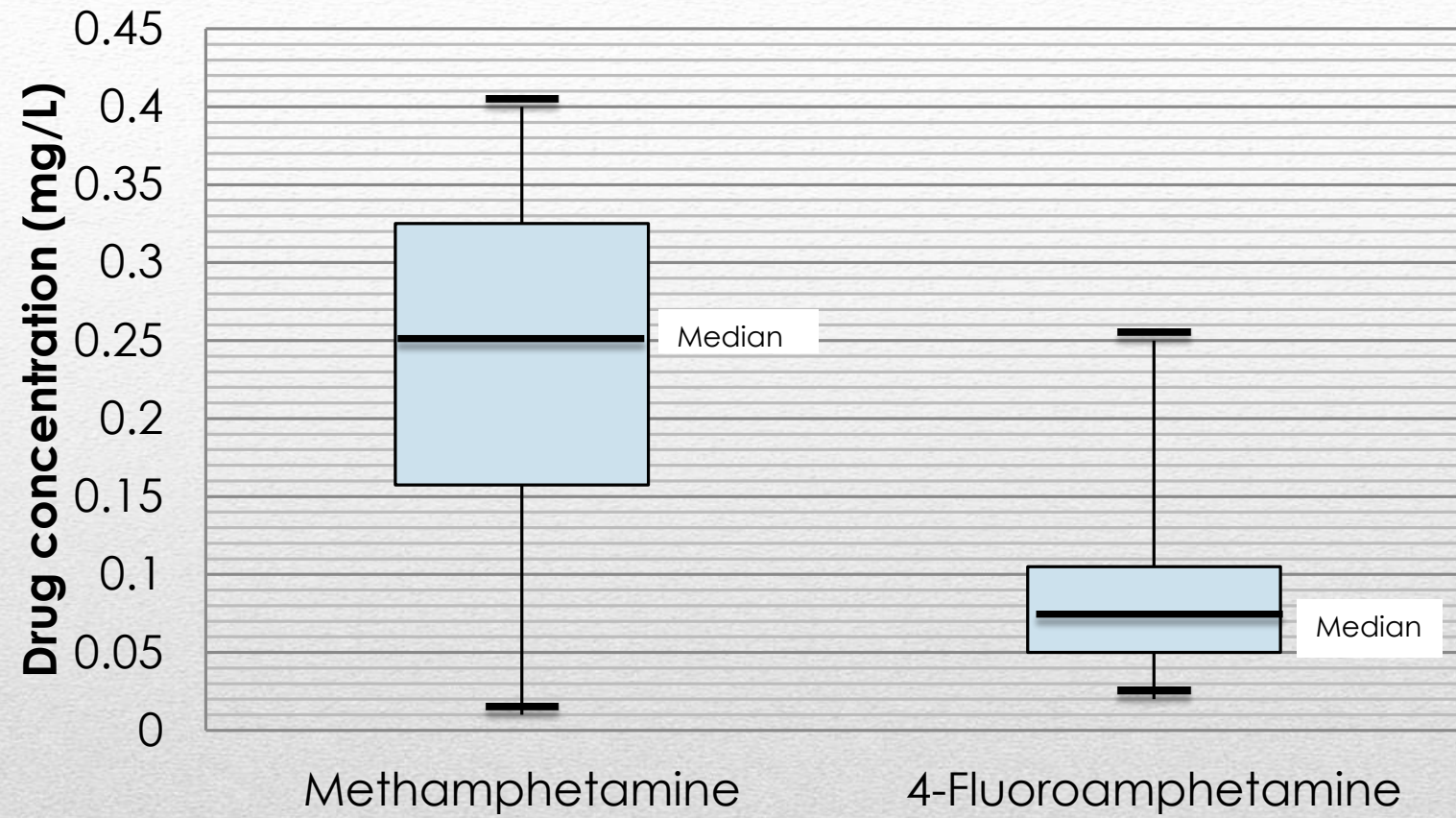
Drugs detected



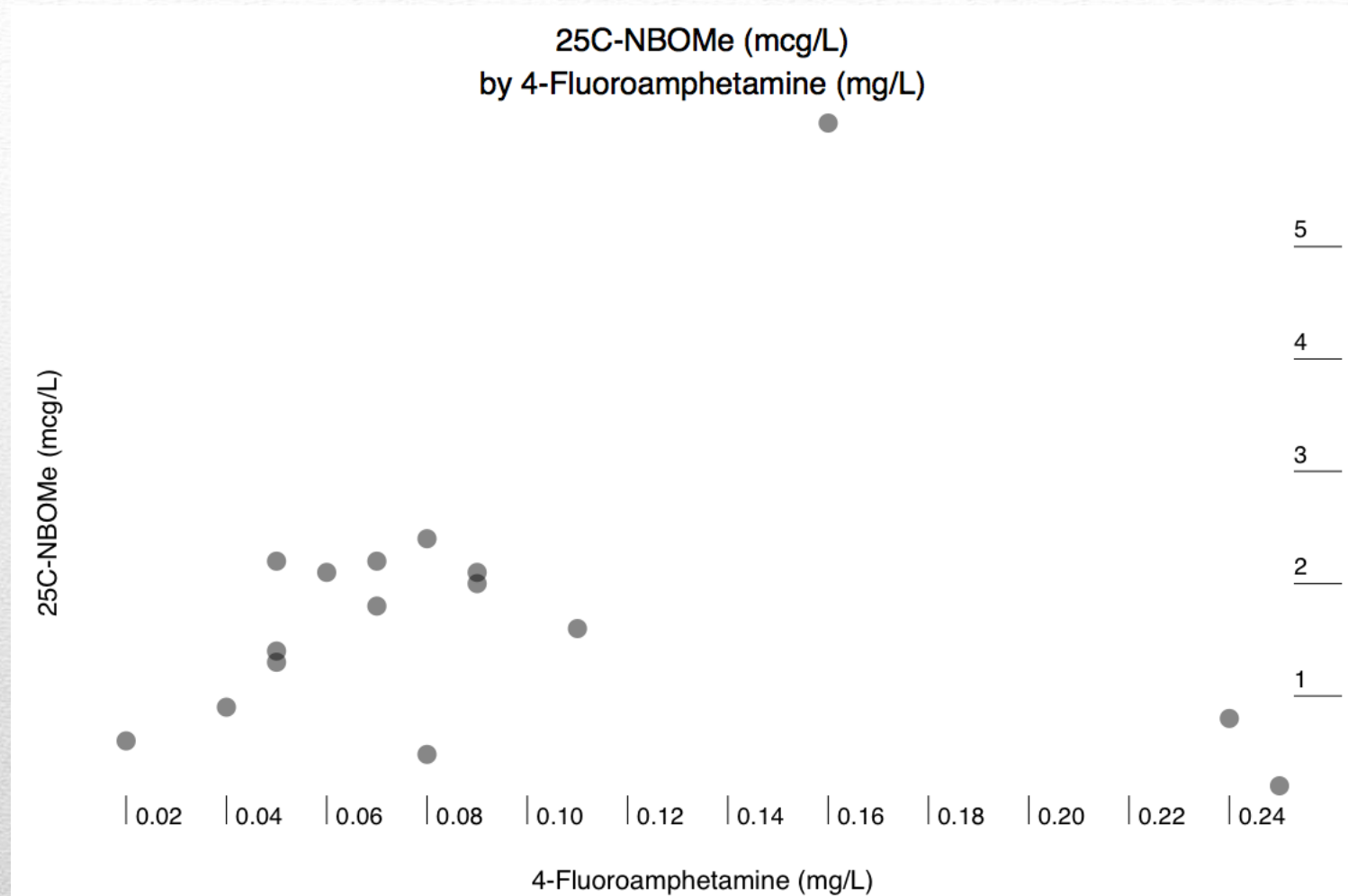
Patient report of drug ingested



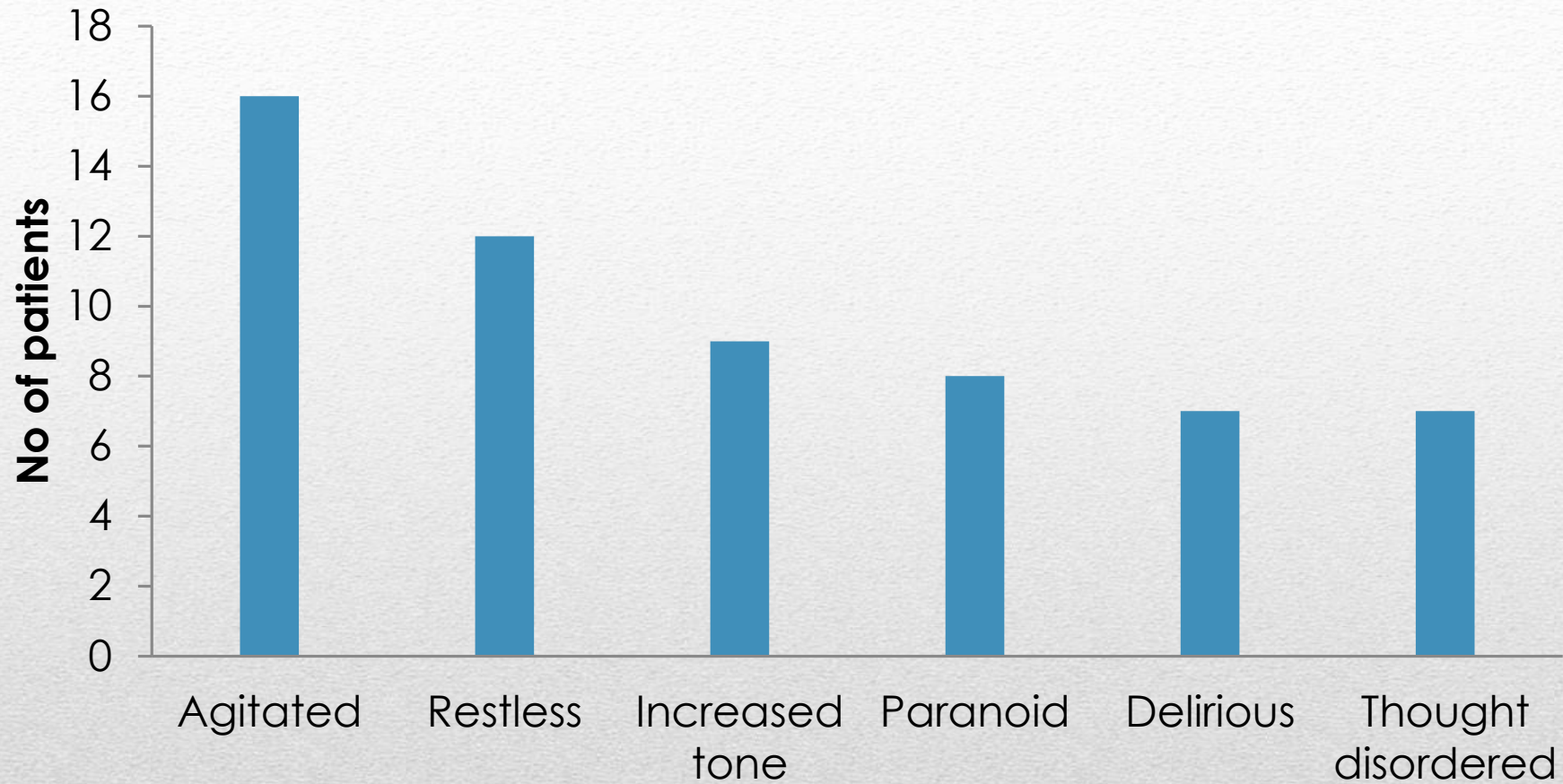
Results – 25C-NBOMe Concentration



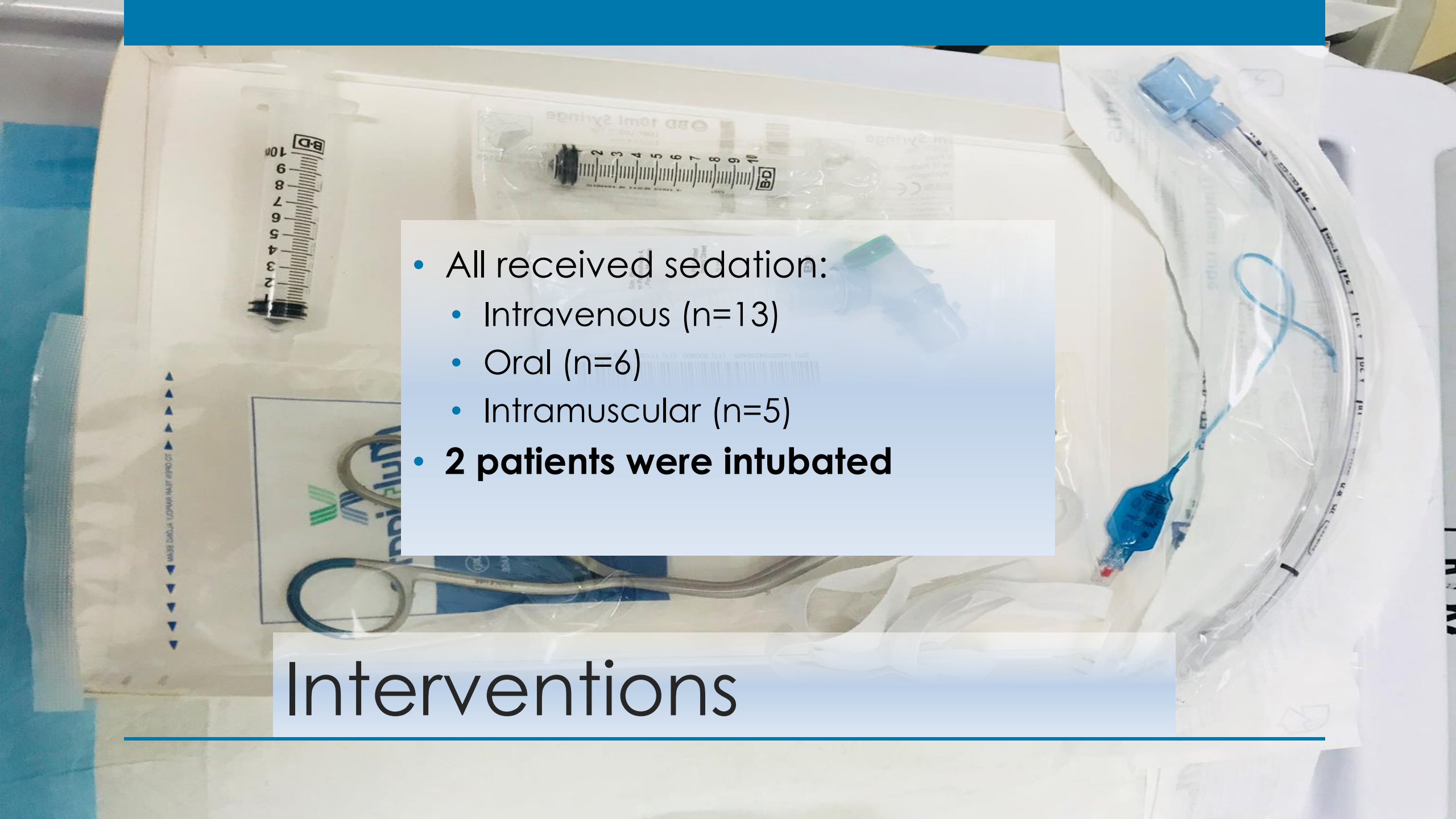
Results



$r = 0.024$
 $p = 0.924$



Clinical features - 25x

- 
- The background image shows various medical supplies. On the left, there are two BD 10ml syringes with black plunger tips. Below them is a clear plastic bag containing a blue endotracheal tube with a blue connector and a blue cuff. The tube has markings along its length. The entire scene is set against a white background, possibly a clinical setting.
- All received sedation:
 - Intravenous (n=13)
 - Oral (n=6)
 - Intramuscular (n=5)
 - **2 patients were intubated**

Interventions

Patient1

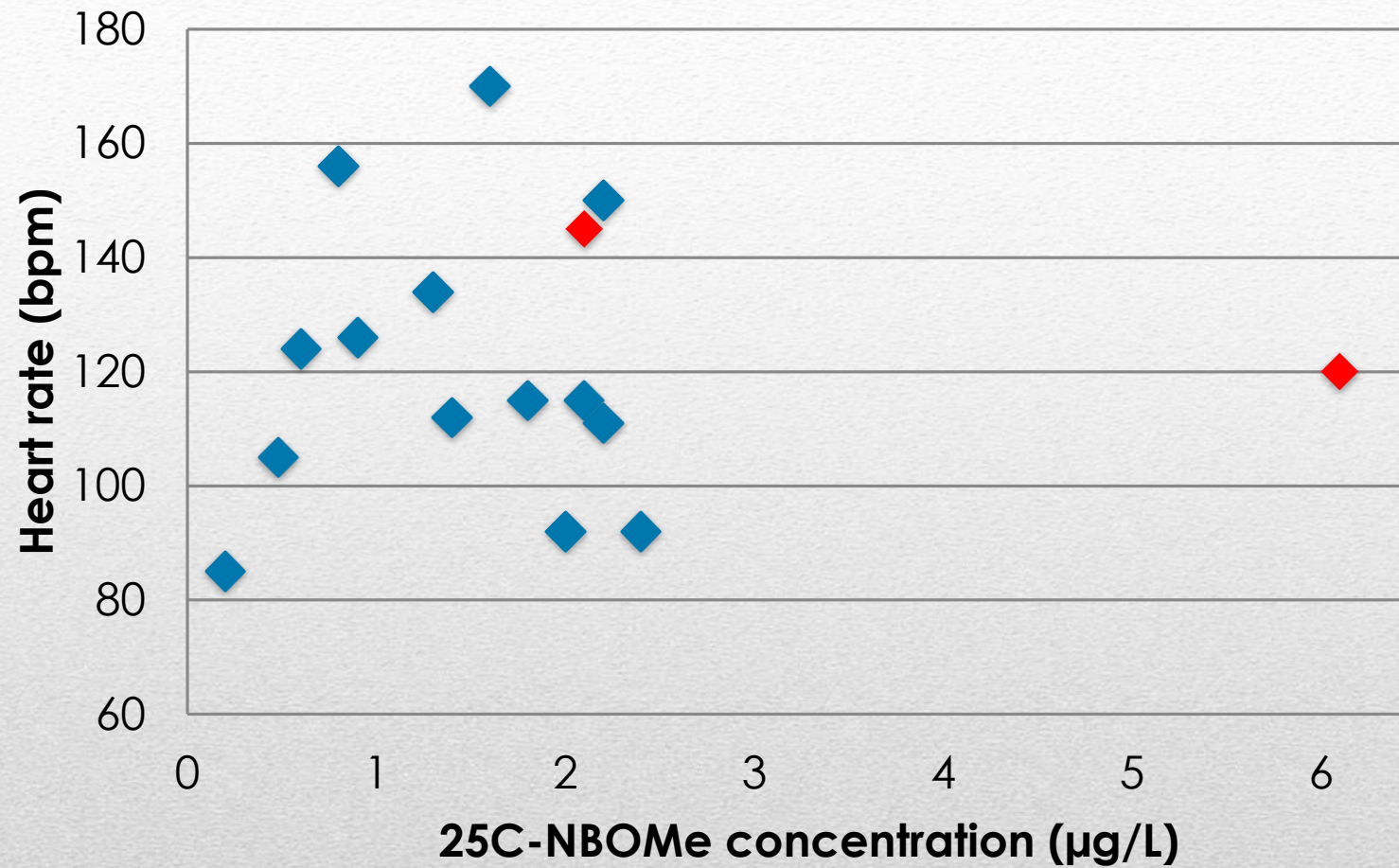
- Method of ingestion = insufflation
- 10mg midazolam
- 180mg ketamine
- HR 120 bpm, SBP 150, temp 38

Patient2

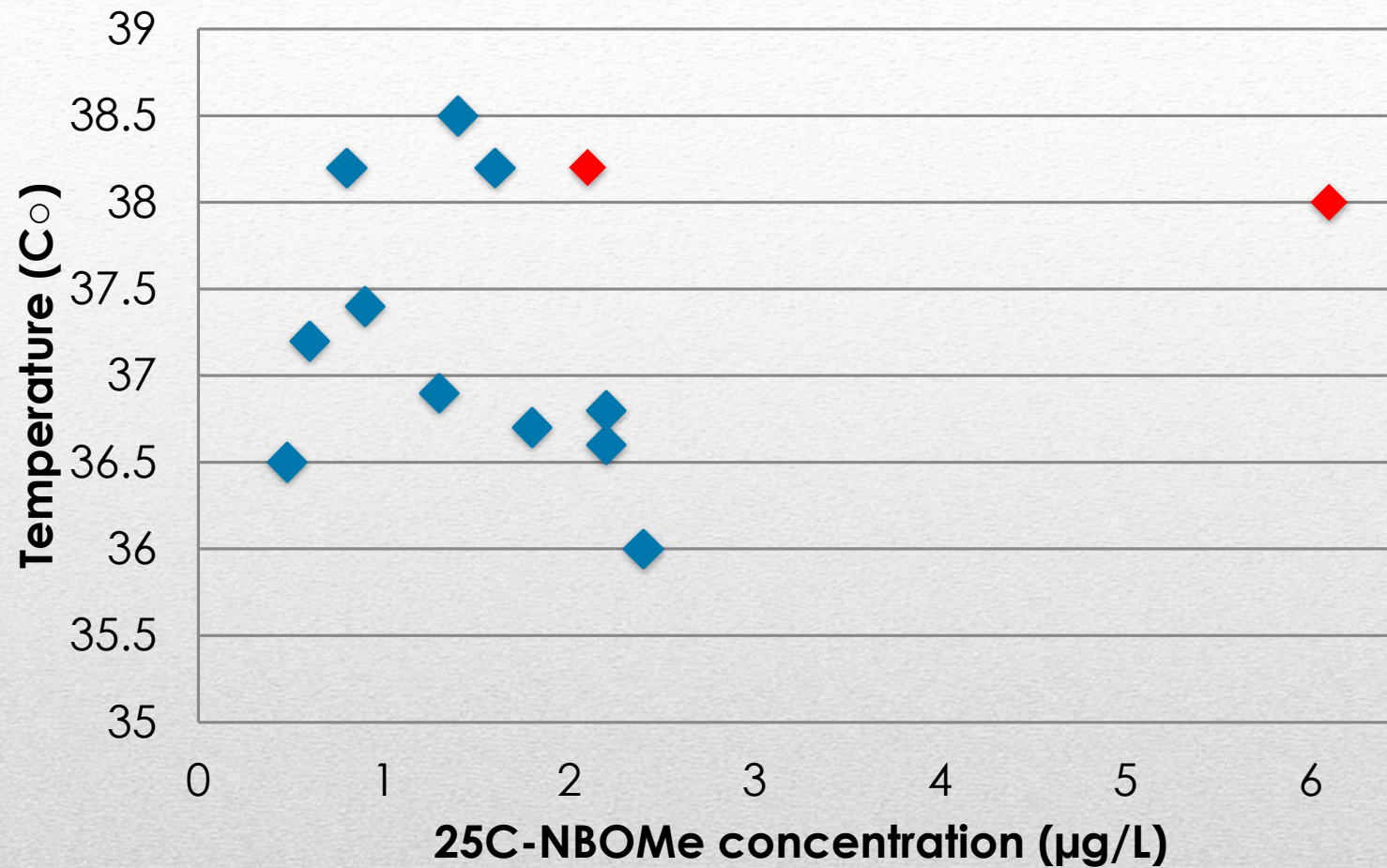
- Method of ingestion = insufflation
 - 10mg midazolam
 - 160mg ketamine
 - HR 145 bpm, SBP 166, temp 38.2
-

- Isolated case
- No other drugs detected
- Level 3.1 µg/L
- HR 90 BPM, afebrile, BP 115/78
- Elevated CK and lactate

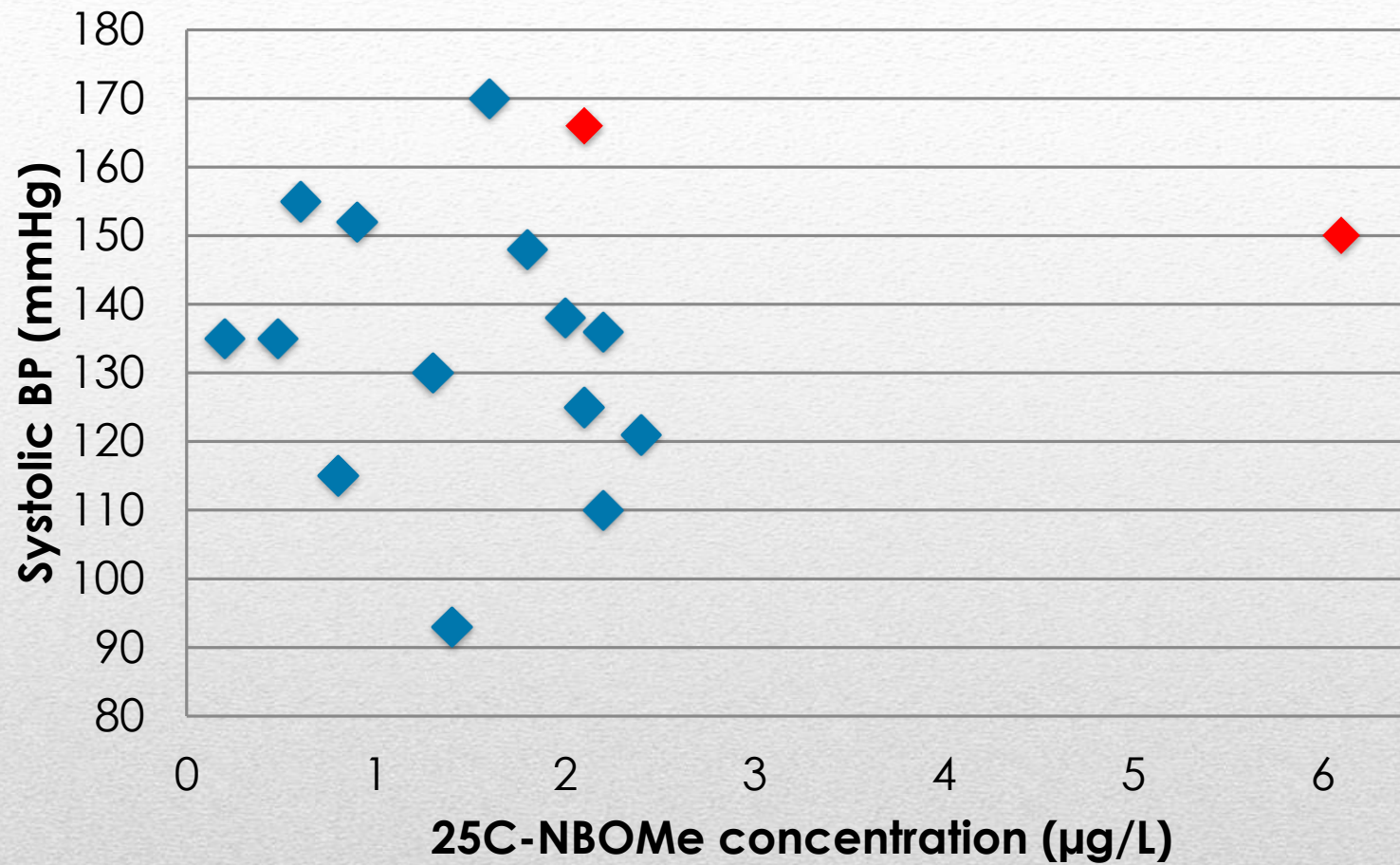
25I- NBOMe



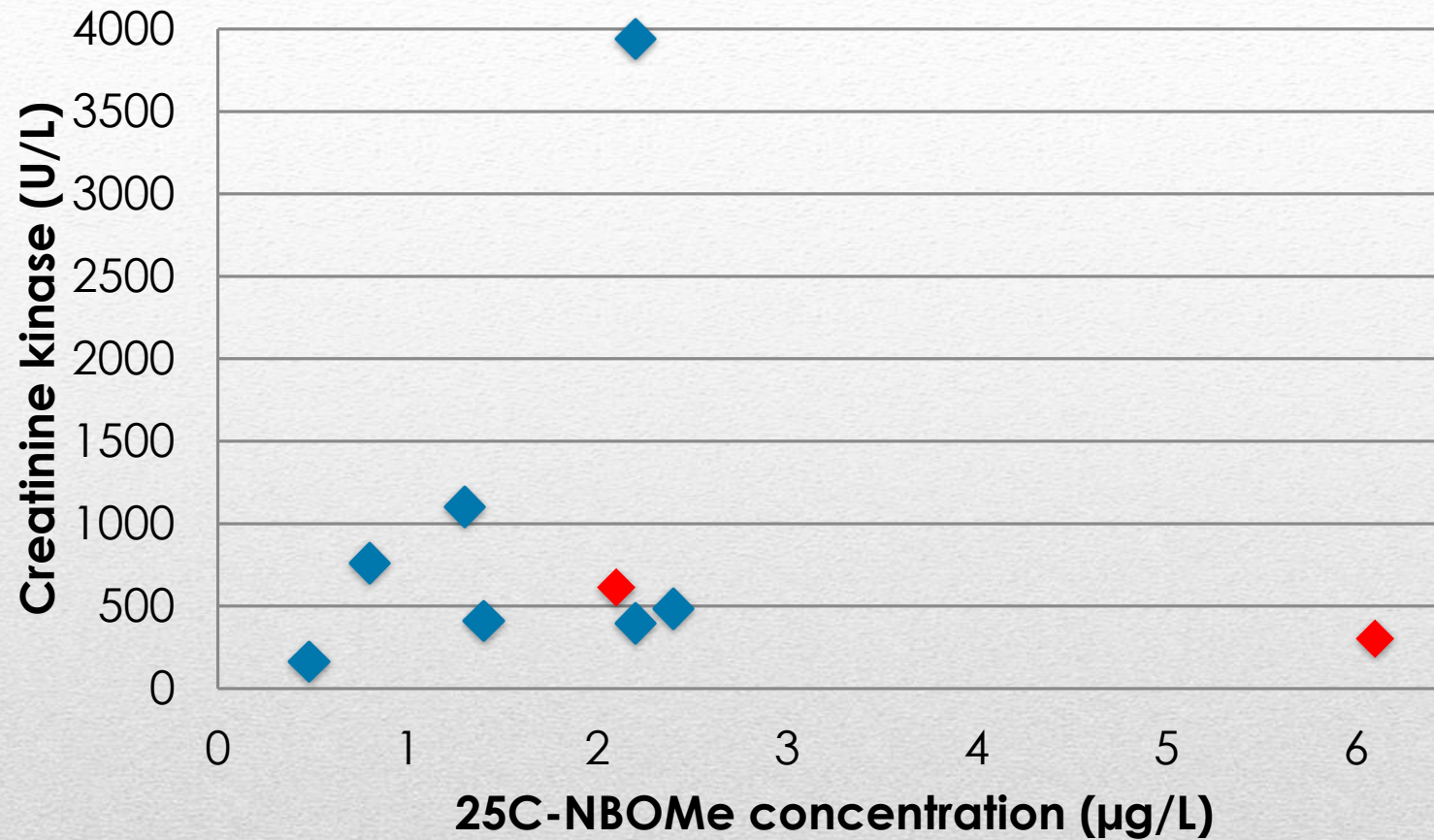
Heart rate vs concentration



Temperature vs concentration

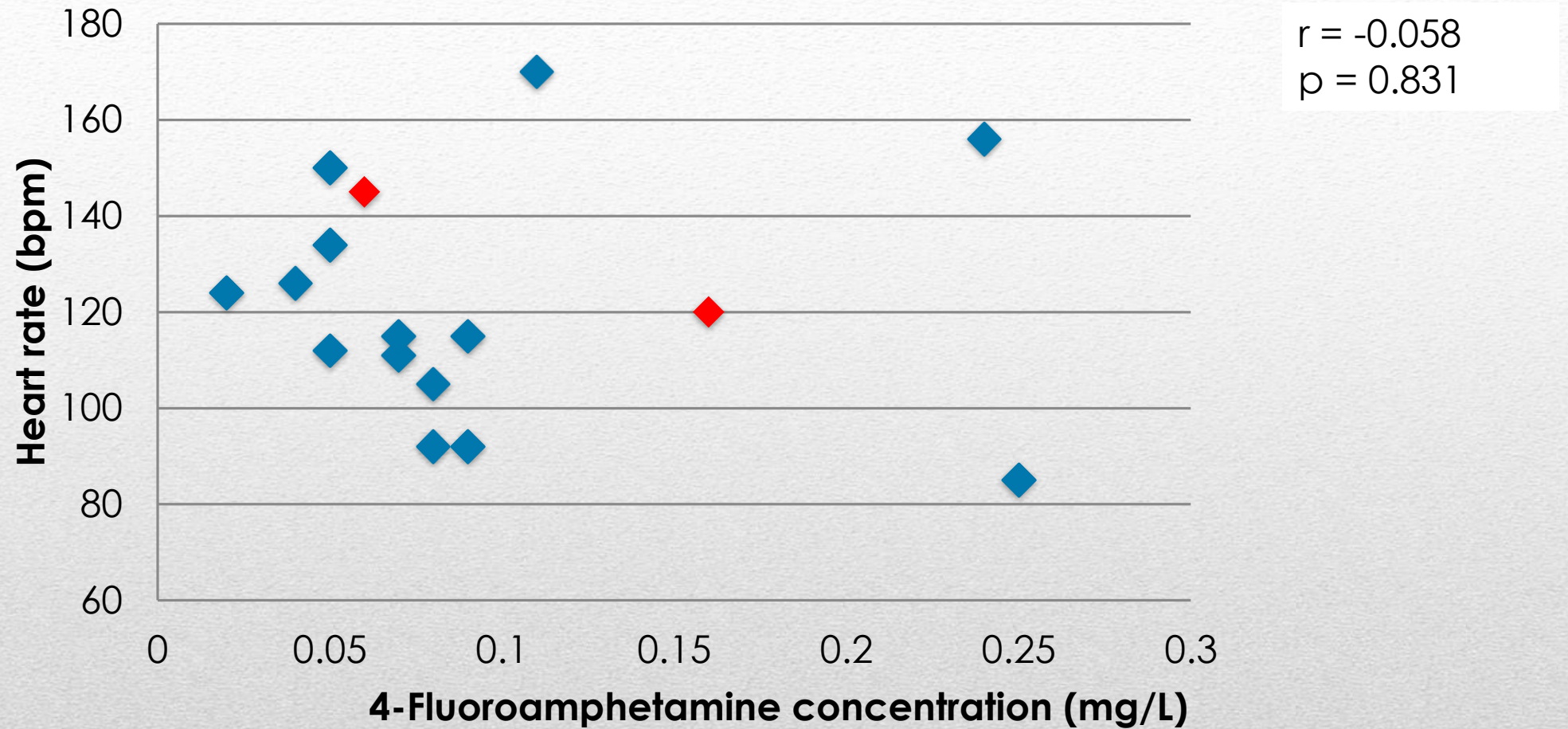


Systolic BP vs concentration

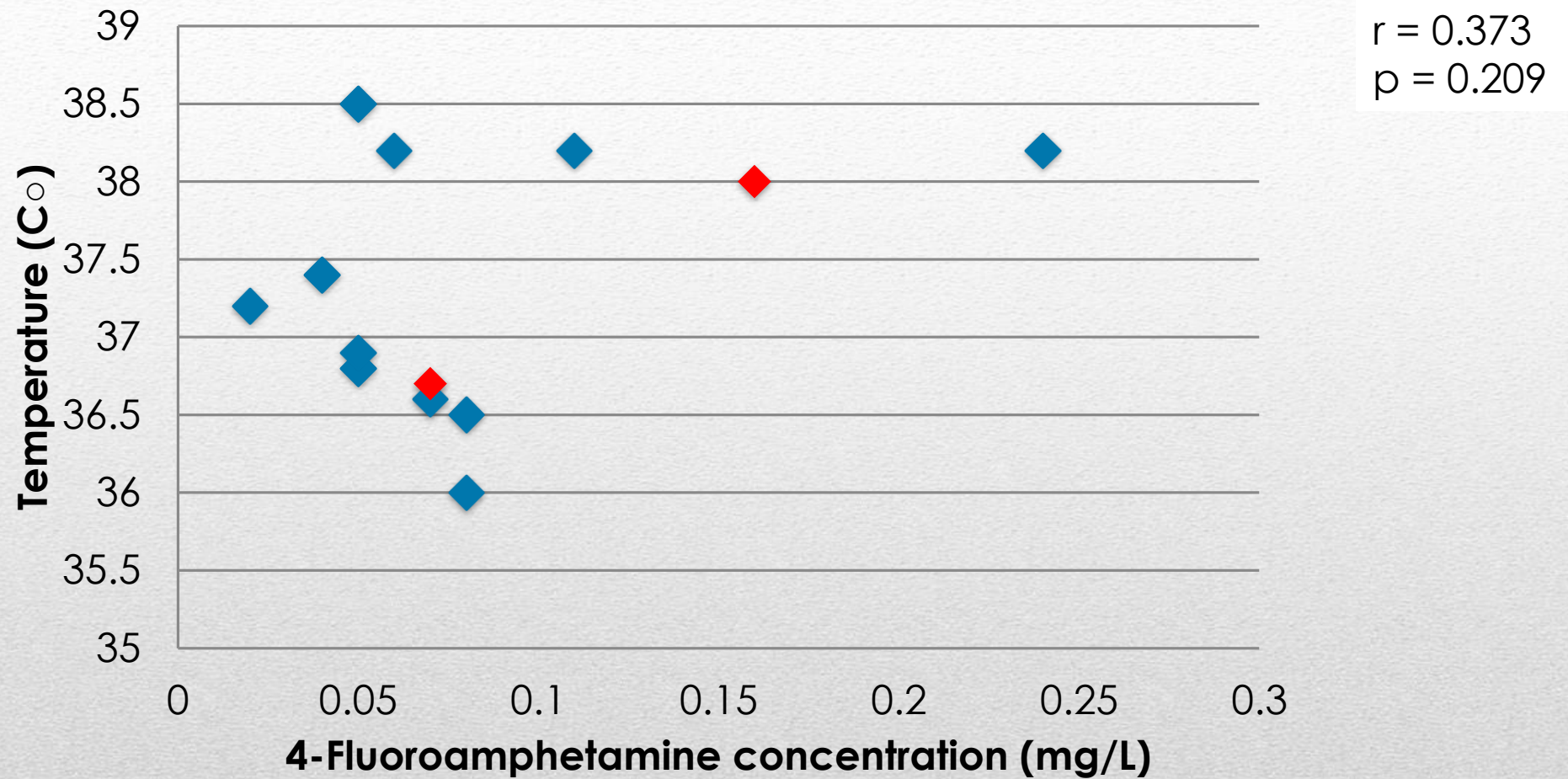


$r = -0.046$
 $p = 0.906$

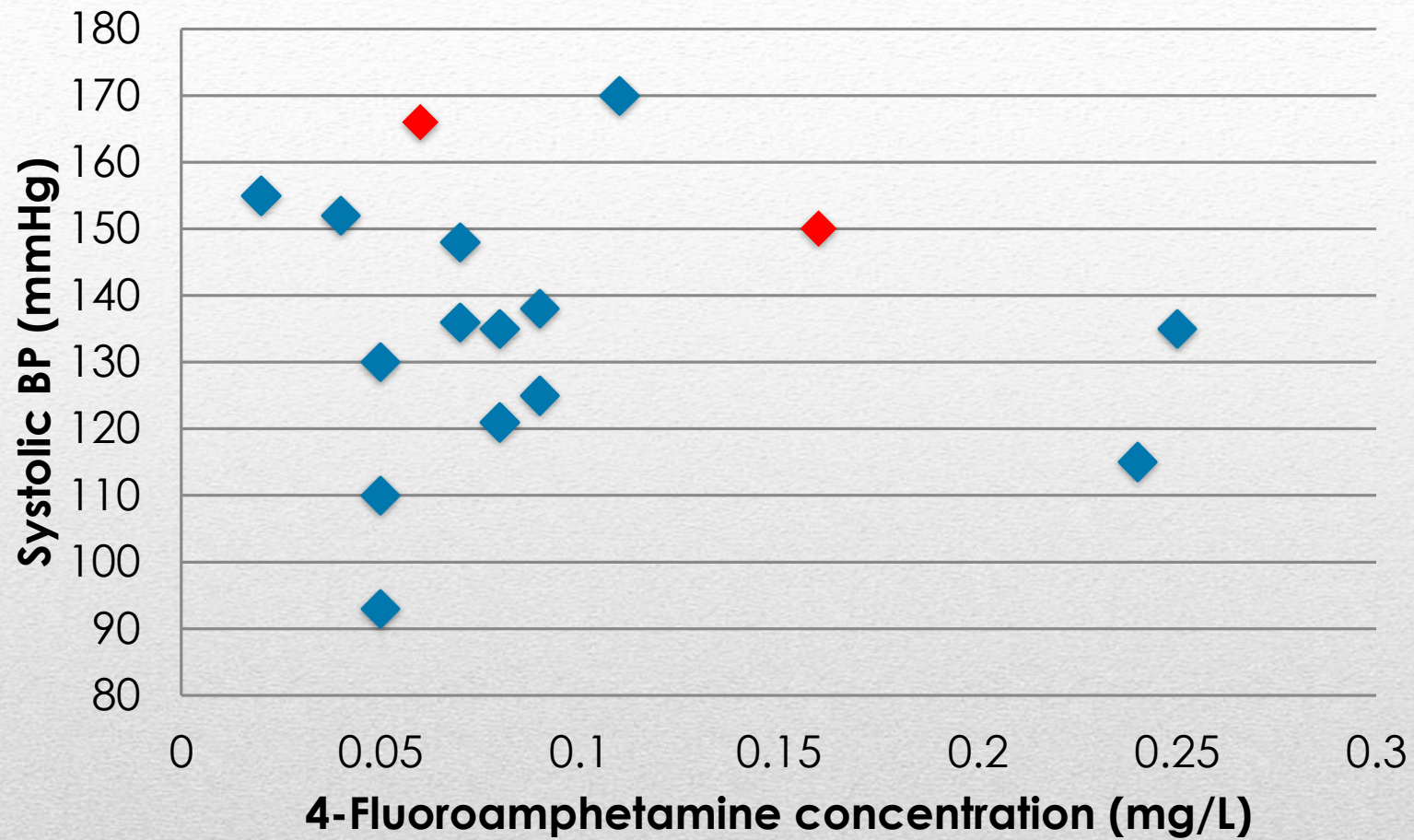
CK vs Concentration



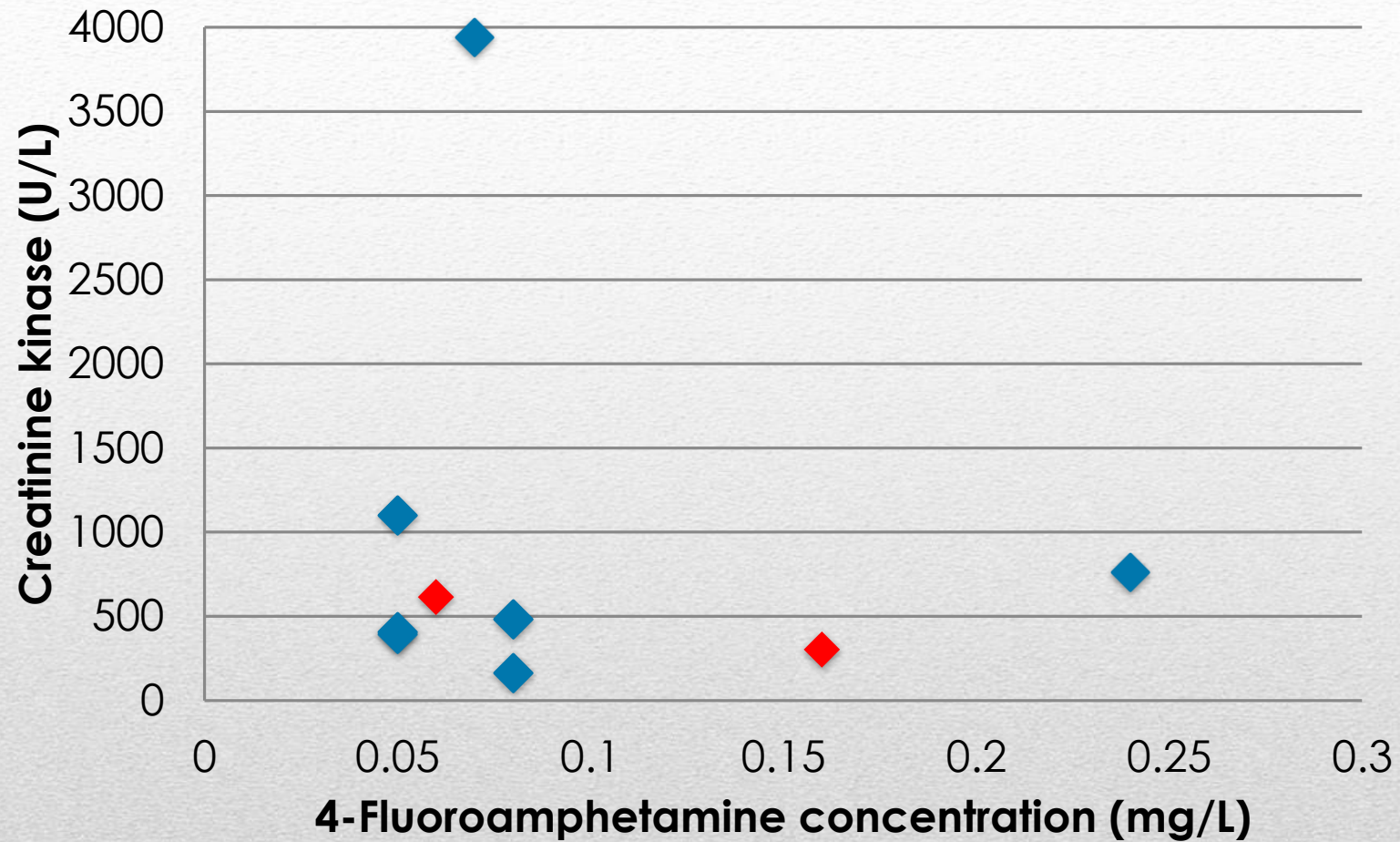
Heart rate vs concentration



Temperature vs concentration



Systolic BP vs concentration



CK vs Concentration

- Effect of other drugs
- When was time zero?
- Dose
- Pharmacokinetics
- Genetic polymorphisms

Limitations



Picture: PerthNow

WA News

WA Police issue N-Bomb warning ahead of New Year's Eve

Simon White | PerthNow
December 29, 2016 4:56PM

WA POLICE have issued a pre-New Year's Eve drug warning after two men

Police defend decision not to warn public of new drug after Melbourne club deaths

By Tom Cowie, Nino Bucchi, Cameron Houston
Updated 7 February 2017 — 2:04pm, first published at 9:47am

f t e A A A

A toxic batch of drugs being sold as MDMA in Melbourne's nightclubs which resulted in three deaths was tainted with the powerful hallucinogen NBOMe, tests have revealed.

Victoria Police has defended its decision not to warn the public about what was in the deadly drug despite circulating an internal memo detailing its knowledge of the dangerous cocktail of powerful substances.

Melbourne

Three dead after overdosing on 'bad batch' of ecstasy in Melbourne, court told

Police fear the MDMA tablets are still being sold after 20 who bought the drug in Chapel Street nightclubs taken to hospital



MDMA tablets, commonly known as ecstasy. Three people, including a 30-year-old Elwood man, died after overdosing on the drug in Melbourne, a court has been told. Photograph: Sean Garnsworthy/Getty Images

Conclusions