Chemsex – Understanding sexualised drug use
Descriptive literature review

Aku Korhonen
Abstract:
Chemsex, the sexualised use of psychoactive substances is a form of recreational drug use that is characterised by prolonged, often unprotected sexual sessions with multiple sexual partners while being under the influence of drugs like crystal methamphetamine, GHB/GBL and mephedrone. Though first observed among the MSM (men who have sex with men) population around the world, there are signs of the practice among other populations. This study was conducted as a descriptive literature review with the aim of better understanding the sexualised use of psychoactive substances, the harms associated with it and the available harm reduction and treatment options. Three databases (PubMed, Academic Search Premier (EBSCO), Google Scholar) were used for the literature search resulting in a final sample of 11 scientific articles, along with 5 non-scientific sources. The study concludes that chemsex happens mostly in private spaces with social media platforms used to attract like-minded people and to procure drugs. People engaging chemsex are driven by two key motivations: to enhance sexual experiences or to escape/manage negative emotions. Participating in chemsex is revealed to subject people to a range of physical, mental and socio-economic harms and it is connected to an increase in intravenous drug use and the spread of HIV and other sexually transmitted infections. While many chemsex participants have unmet harm reduction needs, they face difficulties accessing harm reduction and drug treatment. There appears to be a need for specialised chemsex or party drug clinics, as conventional drug treatment is found to ill-fitted to deal with chemsex related issues and sexual health services lack the expertise to manage substance abuse. In Finland, chemsex is slowly gaining ground, prompting a proactive approach to an escalating issue.

Keywords: Chemsex, sexualised drug use, club drugs, MSM, methamphetamine, GHB/GBL, mephedrone, harm reduction

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FOREWORD

This thesis is conducted for the Master’s Degree Program in Global Health, a joint degree programme with Arcada University of Applied Sciences (Finland), Diaconia University of Applied Sciences (Finland) and the University of Eastern Africa Baraton (Kenya). The thesis explores the complex phenomena of chemsex. The topic was born out of the authors wish to better understand the use of psychoactive drugs in a sexual setting in the hopes of educating healthcare professionals over an increasingly prevalent health issue that challenges the way we see substance abuse and sexual health. I hope this will in turn translate to an increased quality of patient care.

I would like to express my gratitude to my thesis supervisor Heikkinen Paakkonen, who along with teachers Gun-Britt Lejonqvist and Ikali Karvinen provided his support and guidance through the Master's Thesis process.

I would also like to extend my gratitude towards David Stuart of 56 Dean Street, Dr. Adam Bourne of London School of Hygiene & Tropical Medicine and Hannah McCall of Central and Northwest London NHS Foundation Trust for their inspiration and tireless work on sexual health and wellbeing.

Aku Korhonen
1 INTRODUCTION

The term chemsex refers to the use of psychoactive drugs in a sexual setting (ie. used immediately prior or during a sexual session). It was first used in the United Kingdom to describe an alarming trend in substance abuse among the gay male population in London and other big cities. (Bourne, 2014) Drug use among gay men, especially in a clubbing setting is common and stimulants like amphetamine, MDMA and cocaine have been used for decades. (Ma, 2016; Schmidt, 2016) However, during the last decade there has been an increasing shift in the scene towards new, highly harmful and addictive drugs. Drugs like crystal methamphetamine, GHB/GBL, ketamine and mephedrone are used to facilitate and enhance prolonged, often unprotected sexual sessions with multiple sexual partners and intravenous drug use has seen a sharp increase. (Daly, 2013). The practice is further enabled by online sites and mobile apps that make finding drugs and sexual partners easier than ever before. (Bourne, 2014) Chemsex has garnered significant media attention and while some of it has been deemed as “scaremongering”, healthcare experts are warning of an issue that needs to be addressed as a “public health priority”. (McCall, 2015; Speed, 2016)

Chemsex is reported to mostly happen among “a small but significant subsection of MSM” (Ma, 2016), though there are signs of the practice among other populations (Glamour, 2016; Lloyd, 2015). A survey conducted at the STI outpatient clinic in Amsterdam (2017) revealed that in the past 6 months, 17,6% of MSM clients and 1,5% of non-MSM clients participated in chemsex (Drückler, 2017).

Lack of research has left the extent of the practice still largely undocumented, but a recent study (Schmidt, 2016) found that in 44 European cities, less than 20% of the interviewed MSM had used chemsex related drugs in the last four weeks and less than 5% had used crystal methamphetamine. The use was highest in the UK cities of Brighton (16.3%), Manchester (15.5%) and London
along with other European cities Amsterdam (11.2%), Barcelona (7.9%), Zurich (7.0%) and Berlin (5.3%). The use of chemsex drugs was the lowest in Sofia (0.4%). The use in Helsinki (1.7%) was comparable to Stockholm (1.6%) but was significantly higher than Tallinn (0.6%) and St. Petersburg 0.5%. The study concluded that participation in chemsex varies greatly across Europe and that prevalence is culturally and socially determined. (Schmidt, 2016) Global statistics over chemsex prevalence are lacking, but according to Stuart (2017), concern about the issue has also been raised in Australia, Canada, Mexico, South Africa and parts of Asia. In the United States, a report in 2015 (Centers for Disease Control and Prevention, 2015) noted that the use of methamphetamine had more than doubled from 4.3% (2011) to 9.2% (2014) among LGBT people living in New York City. As a whole, the prevalence of sexualized drug use seems to be steadily increasing (Bourne, 2014; Centers for Disease Control and Prevention, 2015).

In Finland, chemsex has yet to receive much attention up until now. A recent report by Saarinen (Saarinen, 2017) covered the topic, stating that the phenomena has established a foothold in Finland, with Finnish MSM showing signs of adopting the chemsex behaviour they have experienced abroad.

2 THEORETICAL FRAME

2.1 Harm reduction

According to Harm Reduction International (2017) harm reduction refers to policies, programmes and practices aimed at reducing the various health, social and economic harms among people who are unable or unwilling to stop the use of psychoactive drugs. Rather than preventing drug use itself, harm reduction focuses on the prevention of harms associated with drug use. This is based on the recognition that despite even the strongest of efforts, people throughout the
world continue to use drugs and harm reduction can benefit the lives of not only the users, but also their families and surrounding communities. (Harm Reduction International, 2017)

Harm reduction approaches state that the majority of drug users may not be in need of treatment, but access to good treatment is important for those with drug problems. Many users however, are unable or unwilling to get treatment and would instead benefit from solutions that help to minimise the risks and harms of continued drug use to themselves and others. Harm reduction information, services and interventions exist alongside informal and non-clinical methods adopted by drug users to reduce drug consumption and its risks. (HRI, 2017)

Harm reduction is a targeted approach and its principles are based on a strong commitment to public health and human rights. According to Harm Reduction International (2017) those involved with harm reduction approaches should ascertain three key factors:

- What are the specific risks and harms associated with the use of specific psychoactive drugs?
- What causes those risks and harms?
- What can be done to reduce these risks and harms?

Other factors should also be taken into account, such as some drug users being rendered particularly vulnerable to harm due to their age, gender, incarceration status etc. (HRI, 2017)

Harm reduction can be seen as a practical, feasible, effective, safe and cost-effective approach that is committed to policies and practices based on the strongest evidence available. Most harm reduction approaches are inexpensive and easy to implement while delivering a high impact on individual and community health. This low-cost/high-impact form of intervention can be seen as maximising benefits in a world of insufficient resources. Rather than using coercive interventions, facilitating positive change in individuals benefits
communities through smaller gains that people are more likely to achieve. Preventing death, suffering and irreparable damage can be seen as the most urgent priority, while acknowledging that there are other important priorities, such as abstinence, which may be more desirable but difficult to achieve. (HRI, 2017)

Harm reduction approaches are based on strong ethics and people who use drugs do not forfeit their human rights, including the right to the highest attainable standard of health, social services, work, benefit from scientific progress, freedom from arbitrary detention and freedom from cruel, inhuman and degrading treatment. As such, harm reduction approaches oppose deliberate hurts and harms (discrimination, abusive and corrupt policing practices, denial of life-saving medical care and harm reduction services etc.) inflicted on people in the name of drug control or prevention and promote responses to drug use that respect and protect fundamental human rights. (HRI, 2017)
### 2.2 Definition of terms

**Table 1. Definition of chemsex related terms (Bourne, 2014)**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amyl/alkyl nitrite</td>
<td>Chemicals that are inhaled to increase sexual pleasure</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-retroviral treatment that suppresses or stops a retrovirus, like HIV</td>
</tr>
<tr>
<td>Bareback</td>
<td>Colloquial term for unprotected intercourse</td>
</tr>
<tr>
<td>BDSM</td>
<td>Erotic practices or roleplaying involving bondage, discipline, dominance, submission and sadomasochism</td>
</tr>
<tr>
<td>Chemsex</td>
<td>The use of psychoactive drugs in a sexual setting (ie. used immediately prior or during a sexual session)</td>
</tr>
<tr>
<td>Club drugs</td>
<td>Drugs commonly used in a nightclub, bar, festival, concert, or other kind of party setting, a.k.a “party drugs”</td>
</tr>
<tr>
<td>Comedown</td>
<td>Physical/psychological withdrawal symptoms following drug use</td>
</tr>
<tr>
<td>Geosocial networking apps</td>
<td>Social media applications used to connect with other users in the same geographical area</td>
</tr>
<tr>
<td>Harm reduction</td>
<td>Policies, programmes and practices aimed at reducing drug use associated harms, rather than preventing drug use itself</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>LGBT</td>
<td>Lesbian, Gay, Bisexual, Transgender. Initialism representing the spectrum of gender and sexuality outside heterosexuality and cis-gender</td>
</tr>
<tr>
<td>MSM</td>
<td>Men who have Sex with Men</td>
</tr>
<tr>
<td>PEP</td>
<td>Post-Exposure Prophylaxis. ART given immediately after potential HIV infection in order to prevent the transmission</td>
</tr>
<tr>
<td>PNP</td>
<td>“Party and Play” Synonym for chemsex</td>
</tr>
<tr>
<td>PrEP</td>
<td>Pre-Exposure Prophylaxis. ART treatment taken regularly to prevent HIV infection</td>
</tr>
<tr>
<td>Sex on premise venue</td>
<td>Event venues like nightclubs, clubs, saunas, steamhouses etc. where sex is allowed on the premise</td>
</tr>
<tr>
<td>Slamming</td>
<td>Slang term for intravenous drug use</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
</tbody>
</table>
2.3 Chemsex associated drugs

The most common drugs associated with sexualized drug use are the CNS (central nervous system) stimulants crystal methamphetamine, mephedrone, MDMA, cocaine and the CNS depressant and dissociative anesthetic ketamine (Bourne, 2014). Other substances like cannabis, amyl nitrite and alcohol are connected to chemsex, but are regarded as secondary due to their largely unproblematic use (Bourne, 2014; Deimel, 2016). All chemsex associated drugs are primarily used to facilitate and enhance sex by triggering euphoria, sexual arousal, disinhibition and the feeling of intimacy and rapport with others (Bourne, 2014).

The drugs can be taken in various ways, i.e. snorting, swallowing or mixed with liquid and taken rectally or injected intravenously. Crystal methamphetamine is often smoked from a pipe. Ketamine and GHB/GBL may come in powder form but are often mixed with a liquid and swallowed or injected intravenously. The drugs are most often street drugs that are manufactured in illegal laboratories (stimulants, GHB/GBL) or stolen from legitimate sources like small clinics (ketamine). The drugs may vary in composition and unless tested in laboratory, users have no exact way of knowing what substances of which potency they are using. (Drug Enforcement Administration of the United States, 2015; European Monitoring Centre for Drugs and Drug Addiction, 2015) Poly drug use is common, as users will often consume a variety of different drugs along with alcohol and other substances (NEPTUNE, 2015).
Table 2. Chemsex associated drugs (DEA, 2015; EMCDDA, 2015).

<table>
<thead>
<tr>
<th>NAME OF DRUG</th>
<th>DELIVERY</th>
<th>EFFECTS</th>
<th>SIDE-EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal methamphetamine</td>
<td>swallowed, snorted, adm. rectally, smoked, injected</td>
<td>increased confidence, disinhibition, sociability, libido and energy</td>
<td>loss of appetite, insomnia, agitation, confusion, paranoia, impulsivity, aggression, psychosis, dehydration, hypertension, tachycardia, rapid breathing, elevated body temperature, teeth clenching, dilated pupils, high doses can lead to overheating, convulsions, stroke, cardiovascular collapse and organ problems</td>
</tr>
<tr>
<td>Mephedrone</td>
<td>swallowed, snorted, adm. rectally, injected</td>
<td>increased confidence, disinhibition, sociability, libido and energy</td>
<td>CNS symptoms like above</td>
</tr>
<tr>
<td>MDMA Molly, E, X, XTC, esso</td>
<td>swallowed, snorted, adm. rectally, injected</td>
<td>increased confidence, disinhibition, sociability, libido and energy</td>
<td>CNS symptoms like above</td>
</tr>
<tr>
<td>Cocaine coke, blow, snow, Charlie</td>
<td>swallowed, smoked, snorted, adm. rectally, injected</td>
<td>increased confidence, disinhibition, sociability, libido and energy</td>
<td>CNS symptoms like above</td>
</tr>
<tr>
<td>GHB/GBL G, Liquid G, X or E, gamma, lakka, Juice</td>
<td>swallowed, adm. rectally, injected</td>
<td>increased confidence, disinhibition, sociability, libido, relaxation</td>
<td>drowsyness, seizures, nausea, vomiting, incontinence, amnesia, high doses can lead to withdrawal syndrome, unconsciousness, bradycardia, respiratory depression and even death</td>
</tr>
<tr>
<td>Ketamine Special K, Vitamin K, cat/horse tranquilizer, Super K, Kit Kat, Purple K</td>
<td>swallowed, snorted, adm. rectally, injected</td>
<td>relaxation, disinhibition, feeling of dissociation and detachment, amnesia, pain relief</td>
<td>drowsyness, seizures, nausea, vomiting, incontinence, amnesia, hallucinations, high doses can lead to amnesia, muscle stiffness, unconsciousness, bradycardia, respiratory depression and even death</td>
</tr>
</tbody>
</table>
2.4 Effects of drugs on sexual behaviour

People participating in chemsex found that drugs facilitated lengthier sexual sessions that felt more intense and adventurous and fostered an ability to connect with other people instantly. Participants also reported experiencing problems with self-esteem and confidence and felt that drugs helped to deal with these issues. Some MSM participants felt that drugs helped to overcome issues regarding homophobia or HIV related stigma (Bourne, 2014). Over time some users became reliant on the drugs and found it difficult or impossible to have sex without them. Many were also concerned with pushing their personal and sexual boundaries too far, regretting their own behaviour afterwards. (Bourne 2014; Lloyd, 2015; McCall, 2015)

A study by Bourne (2014) revealed that the majority of their respondents were unhappy with their sex life and felt that engaging in chemsex made finding lasting intimacy or a long-term partner unlikely. Many respondents also reported difficulty controlling their behaviour while under the influence of drugs, resulting in risky sexual behaviour. HIV awareness and the knowledge over preventing it along with other STI's was high, but around a third of the interviewed HIV negative men had either accidentally or intentionally unprotected sex while under the influence of drugs. Only one in four respondents felt that they enjoyed and had control of their actions and engaged in sex with a very limited chance of HIV/STI transmission. (Bourne, 2014)

2.5 Harms related to chemsex

Participating in chemsex subjects people to a range of physical, mental and social harms. Many participants don't eat or sleep while under influence, sometimes staying awake for several days which is detrimental to general health. Chemsex is connected with risky sexual behaviour and poor adherence to HIV medication which facilitates the spread of HIV and other STI's. Some users have to be hospitalized, as the prolonged use of drugs can lead to not
only overdosing, but mental health problems (disorientation, paranoia, anxiety, psychosis, depression) and neurological symptoms (convulsions, stroke, coma). (Bourne, 2014; NEPTUNE, 2015)

Overdosing on GHB/GBL or ketamine can be lethal and smaller amounts can render the user unconscious and vulnerable to sexual assault and other injuries. Taking drugs, especially intravenously may cause severe injuries and facilitate the spread of bloodborne diseases. Many users also suffer socially as chemsex takes up a large amount of their time, either while participating or while recovering from the effects of drug use. This leads to a loss of meaningful social connections, money and employment. (Bourne 2014)

2.6 Chemsex participants

People that participate in chemsex are not a uniform set of drug users. Users vary greatly in their choice of drugs, the setting and method in which they use them and the activities that they engage in while under influence the influence of drugs. In most studies, participants range from 21 to 60 years of age and while coming from various backgrounds, appear to be mostly highly educated and employed people. (Bourne, 2014; Daly, 2013; Deimel, 2016; Glamour, 2016; Lloyd, 2015; Noga Bjerno, 2016).

Drug use is more prevalent among sexual minorities, with LGBT persons being twice as likely (39.1 percent) as heterosexual people (17.1 percent) to use illicit drugs in the past year. (NSDUH, 2015). The higher prevalence of substance abuse and mental health problems among sexual minorities is widely contributed to the social stigma, discrimination, harassment, violence and other challenges faced by non-heterosexual people (NIDA, 2017). According to Meyer (2003) substance abuse can be seen as a dysfunctional coping mechanism to this “minority stress”. (Meyer, 2003)
2.7 Chemsex and social media

Smartphone technology has brought along various geosocial networking applications (Tinder, Instagram, Grindr, Hornet, Planet Romeo, Scruff) that together with online websites (Craigslist) can be used to meet people for dates and casual sex. These apps and websites are very popular and have become a daily part of life for many. (Parker Karris, 2016; Kirby, 2014; Lloyd, 2015)

In a chemsex setting the apps and websites are used to find other chemsex users but also to procure drugs. Being illegal, drug trafficking is forbidden on these platforms, but users circumvent the rules by using coded language to communicate with others. Terms like “PNP” or “party and play” are used to notify of a chemsex session and “get to the point” and “blowing clouds” of intravenous and smoked use of crystal methamphetamine. Capital letters (T, E, G etc.) and symbols or emojis (pill, needle, snowflake, diamond etc.) point to different drugs. (Noga Bjerno, 2016; Parker Karris, 2016)

A study in New Zealand by the Massey University's Illicit Drug Monitoring System (2016) found that 73 percent of participants had purchased drugs over social media apps, with 37 percent of respondents using encrypted sites like Silk Road to procure drugs. (Wilkins, 2014).

It appears that social media is connected to a wider change in the way people view sex and substance abuse. Drugs are being referenced in television shows, movies and popular music and the use of drugs is widely promoted in social media platforms like Instagram or Reddit. (Glamour, 2016; Lloyd, 2015) In some cases drug use is idolized or even fetishized, so that users experience sexual arousal just by observing drug use. (Fairman, 2015; Lloyd, 2015) According to the article by Lloyd (2015) this normalization of substance abuse can create a spillover effect, where those unfamiliar with chemsex behaviour may adopt it because of it's prevalence.
2.8 Chemsex treatment

Research states that the majority of men who engage in chemsex do not seek out conventional harm reduction services. Users report to either finding the services unnecessary (thinking they have their drug use under control) or ill-equipped to deal with their situation. (Bourne, 2014; Stuart 2014)

Mainstream harm reduction services are traditionally aimed at treating opiate addictions and alcohol dependancy and struggle to comprehend the chemsex phenomena. Sexual health clinics on the other hand are found to be the best place to discuss issues regarding sexual health, but lack the knowledge to address substance abuse. As a solution, some services have developed specialized chemsex and party drug clinics to better meet with the needs of chemsex participants. (Bourne, 2014; McCall, 2015; Stuart, 2014)

Social media has been found to be an effective tool to promote HIV/STI awareness and sexual health services along with harm reduction strategies and services. Some apps, like Grindr and Hornet have been actively raising sexual health awareness in cooperation with public health organisations, health clinics, and advocacy organisations. (Kirby, 2014)

3 AIM OF THE RESEARCH

The effective preventing and reducing of chemsex related harms requires an understanding of the various factors that influence how, where and why people participate in sexualised substance abuse. The purpose of this literature review is to summarize the results of existing studies and determine the current knowledge on the subject in the hopes of helping healthcare professionals to better understand and support patients that have chemsex related problems.
The research questions of the study are as follows:

- **Setting**: What is the setting in which chemsex happens?
- **Choice of drugs**: Which drugs are associated with chemsex and why?
- **Motivations behind use**: What are the motivations for participating in chemsex?
- **Associated harms**: What are the various physical, mental and socio-economic harms that are connected with chemsex?
- **Harm reduction and treatment**: What are the harm reduction strategies applied by chemsex users and what are the available treatment options in healthcare?

The research questions are formed through referencing what Harm Reduction International (HRI, 2017) considers to be the three key factors to be ascertained when involved with harm reduction (What are the specific risks and harms associated with the use of specific psychoactive drugs? What causes those risks and harms? What can be done to reduce these risks and harms?). Additionally, I believe that understanding the setting at which chemsex happens and the motivations people have for participating are crucial for any chemsex related harm reduction approaches.

### 4 RESEARCH METHOD

The research method I have chosen for my Masters thesis is a descriptive literature review. Literature reviews are research articles published in professional peer-reviewed journals with the aim of objectively reporting on the current knowledge of a topic by summarising previously published research. They differ from other research designs by collecting the data from published
literature, rather than patients or other study subjects. This way large quantities of information can be condensed into one article saving the valuable time of anyone reading about the topic at hand. Depending on the scope of the literature review, others can use the information to further their own research or even use it as evidence for making clinical practice decisions. Unfortunately due to their design, literature reviews are often vulnerable to bias and authors should strive for objectivity as much as possible through appropriate writing and research techniques. (Green, 2006)

There are two types of literature reviews. Descriptive (a.k.a. narrative) reviews provide an easily readable overview of a broad spectrum of material whereas systematic reviews employ a more detailed and extensive method to evaluating the selected literature. The exhaustive way in which systematic reviews are carried out reduces author bias, but some topics are better covered in a descriptive review format due to the nature of the information. However, authors of descriptive reviews can use systematic review methods (search method disclosure, use of several databases etc.) to strengthen the objectivity of their review. (Murphy, 2012)

Writing a literature review begins with defining your topic. The topic should be of interest to both the author and the audience and cover an issue that is significant in the chosen field. A well-defined topic will provide the author with enough material to write a review, but also keep the study interesting and helpful to the target audience. (Pautasso, 2013)

Based on the chosen topic and research question, a detailed literature search is carried out. There are many electronic databases available and these are the most efficient way to begin a literature search. Several databases should be used to ensure adequate breadth and depth of the study and to strengthen the objectivity of the research. The author should also keep track of the search process (used databases, citations, search hits etc.) in order to report it to the reader. Setting specific parameters to the literature search is necessary: comprehensive enough to ensure the author may retrieve all relevant studies, but narrow enough to focus the effort and make it feasible. The selection criteria
should be briefly described to keep the review focused and objective. (Green 2006; Pautasso, 2013)

The most demanding part of conducting a narrative overview in a literature review is synthesizing all the retrieved information into comprehensive paragraphs. This synthesis is where the reader should find the information that they are looking for in one location. As this is the primary objective of a review, the synthesis should be written as clearly and objectively as possible. How the information is summarized depends on what is being reviewed. There is no one single way to do this, therefore requiring the author to have a clear sense of what is being conveyed. Major areas of agreement and disagreement in the literature should be discussed, along with logical interpretations from the reviewed literature. By providing the relevance of the review to other work in the field, the author clearly integrates the study into the current body of literature. (Green 2006, Pautasso 2013)

No research is perfect and authors should address weak points and mention areas for improvement in their own studies. Without any mention of limitations, the author may have lost their focus and the study may be more biased than is acceptable. All conclusions should be supported by the reviewed literature, otherwise the validity of the study is questionable. Peer-review is a well-established method to acquire feedback over not only the topic at hand but also the structuring and wording of the review. (Green 2006, Pautasso 2013)

The conclusion of the review should provide the reader with the major conclusions drawn from the overview and directions for future research. The major findings of the overview should describe to the reader what new information is gained through the review and if there are specific implications to the prevailing practice. After familiarizing with the topic at hand, the author of literature review gains important expertise and can provide valuable guidance for future research and studies. (Green 2006)
4.1 Literature search

The literature search was conducted in two parts. The first literature search was carried out using scientific databases to gather scientific articles. The second literature search was carried out on Google with the aim of finding non-scientific articles that interviewed people connected to the chemsex phenomena. This two-part approach was chosen, because preliminary findings suggested that scientific articles written on chemsex concentrate mostly on its clinical aspects and non-scientific articles might reveal more about the experiences and motivations for participating in chemsex.

Three scientific databases were used to carry out the initial literature search for scientific articles. The search term used was “chemsex”. The search was limited to articles that were published in the last five years (between the years 2012 to 2017), written in English and available online in full text format. PubMed, Academic Search Premier (EBSCO) and Google Scholar together provided 702 articles. Through screening the titles and abstracts, duplicates were removed and articles with irrelevant data were further excluded from the review. 102 articles were retrieved for full text review and the final sample included 11 scientific articles.

The second literature search was carried out on Google, which initially yielded over 869 000 results. Going through such a massive amount of results would be impractical and I decided to limit the second literature search to the first 100
articles listed on Google. After limiting the articles in a similar fashion to the scientific literature search (written in English, available in full text format, published in the last five years) I further excluded articles that weren't from respectable sources, didn't interview healthcare professionals or that didn't reference existing research on the subject. The final sample included only three articles.

Through the second literature search I came across two documentaries in video format that I decided to use as references in my study. The second documentary was published more than five years ago (Ahlberg, 2006), but was included in the review due to it's accurate portrayal of the subject matter.

<table>
<thead>
<tr>
<th>Initial criteria:</th>
<th>Credibility criteria:</th>
<th>Relevance criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-written in English</td>
<td>-credible author</td>
<td>-healthcare professionals interviewed</td>
</tr>
<tr>
<td>-full text format</td>
<td>-responsible publisher</td>
<td></td>
</tr>
<tr>
<td>-published in the last 5 years</td>
<td>-lack of bias &amp; advertising</td>
<td>-existing research referenced</td>
</tr>
<tr>
<td></td>
<td>-data verifiable &amp; current</td>
<td></td>
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<tr>
<td></td>
<td>-professional appearance</td>
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</table>

*Figure 2. Second literature search inclusion criteria.*

### 4.2 Analysis

The final sample of the literature search consisted of 11 scientific articles, three lifestyle articles and two documentaries. These were processed individually and laid out in a data analysis chart (see Appendix 3) which lists the publication information (title, year and author), keywords and relevance to the research questions. The keywords were used to highlight what area of information each article was covering. This way the articles could be compared by themes and the data collected could be organised in relevance to the corresponding research questions.
4.3 Research ethics

4.3.1 Literature review related ethics

According to the The Research Ethics Guidebook (2017) it is ethical practice to consider how your research can best build upon existing work by previous authors. Based on the research literature, arguments can be made over what needs to be studied and for what reason. Existing studies might show that a research question has already been answered, prompting you to change the course of your study as it is considered unethical to research an issue that has already been covered. (ESRC, 2017)

In systematic reviews, findings of existing studies become raw data for analysis and interpretation. Research procedures can be hard to attain and methods used to ensure ethical practice can be difficult to identify. Authors of existing studies can be used as sources of information on how the study was conducted. (ESRC, 2017)

There are two key ethical factors that need to be considered when writing a literature review (ESRC, 2017):

- How will you ensure you treat the work of existing researchers accurately and fairly?
- Does the research you are reviewing raise ethics questions that you need to address?

The studies I selected for my review were chosen to represent several different viewpoints to ensure a neutral and multi-faceted approach to the subject. I made sure that I referenced existing studies appropriately and presented their findings in an un-biased and accurate fashion. Findings of previous studies were reported in their entirety where applicable and several sources were used to ensure correct information was given.

While selecting studies for my review, I selected research that has been peer reviewed and I operated under the assumption that ethical questions, such as
consent and anonymity had been followed in the existing studies. This is to be expected of scientific articles, but I was doubting whether ethical issues were taken into consideration in non-scientific articles. Striving for proper ethical practice, I subjected my choice of non-scientific articles to exclude articles that weren't from respectable journalistic sources, did not interview healthcare professionals or that did not reference existing research on the subject.

One important ethical question according to The Research Ethics Guidebook (2017) was how to weigh up any risk that participants’ data will be used or presented in a way they did not agree to, against any likely potential benefits from further use of their data. This was not an issue with the existing scientific research, but I did need to address this when using interviewee quotes from the two documentaries (Ahlberg, 2006; Fairman, 2015) I used as references. To make sure the interviewees were represented the same way they appeared in the documentaries, I literated their quotes in entirety and used them accurately. It was also important to consider the placement of the quotes in the thesis, as placing them in the wrong context would skew the statement they were making.

### 4.3.2 LGBT and substance abuse related ethics

Along with ethical practice related to handling existing studies, the way issues regarding LGBT and substance abuse are studied needed to also be considered. Both LGBT and drug users can be classified as “vulnerable populations” that have ethical and methodological requirements when it comes to research (LGBT Foundation, 2017; Russell, 1999). To ensure that their rights and welfare are adequately protected, safeguards have been set up for vulnerable people participating in research (Moore, 1999). This well-intended practice has unfortunately also led to ambiguous regulations and guidelines, which may lead to researchers making generalisations of populations. Regarding substance abuse, there are huge differences how factors such as gender, class and ethnicity influence vulnerability. Blanket statements and stereotyping whole populations may divert attention away from the actual factors that influence participants negatively or positively. (Bell, 2012)
The terminology and language of how people are represented, should always be non-judgemental and convey respect and tolerance. The deliberate stigmatisation of people who use drugs, such as calling them “junkies”, “drug abusers”, “social evil” etc. perpetuates stereotypes, marginalises and creates barriers to helping people with drug problems. (HRI, 2017)

Vulnerable social communities like LGBT people are not always strongly represented in existing research and any new knowledge can benefit the community. When conducting studies it is important to amplify the voices of the population and not try to speak for them. To ensure a respectful, sensitive, appropriate and accurate portrayal of communities, researchers should have a good understanding of the community they are studying from the outset. If uncertain, relevant resource and information about the community should be sought out before beginning work. It is also important to realize, that however well-informed a person might be, if they are not a part of the community they are researching, they lack the personal knowledge and experience that members of the community have. (LGBT Foundation, 2017) Whether its research or policy making, the people and communities should be involved in decisions that affect them (HRI, 2017)

The way I proceeded to handle the ethical considerations regarding LGBT and substance abuse issues was to strive for a well-rounded and non-judgemental approach. The existing studies I used for my literature review had a neutral and harm reduction oriented point of view and I followed their direction when presenting my own work.

5 RESULTS

5.1 Setting

The chemsex setting was described in 8 sources. Chemsex sessions among MSM were reported to take place in private homes, bars, clubs, hotel rooms
and sex on premise venues (saunas, bathhouses, event venues). According to Noga Bjerno (2017) most chemsex sessions happened in private homes and users felt comfortable and safe visiting the homes of strangers for this purpose. In the study by Bourne (2014) users favoured all settings, but the use of methamphetamine was most common in private settings.

In the study by Noga Bjerno (2017) chemsex sessions were described as a social gathering, with users socializing, eating, drinking and relaxing between taking drugs and having sex. Some sessions had regular attendants, but other users were often invited to join. When a session ended, users would sometimes continue partying elsewhere (Bourne, 2014; Noga Bjerno, 2017). Women that participated in chemsex mostly did it with their partners in a private home setting (Glamour, 2016; Lloyd, 2015).

Methods of acquiring drugs were mentioned in six sources. Users reported various sources, ranging from dealers to sharing drugs with others. According to Noga Bjerno (2017) some users ordered drugs online or smuggled them across borders. Some users resorted to exchanging sex for drugs (Ahlberg, 2006; Bourne, 2014; Noga Bjerno, 2017).

The use of geosocial networking mobile apps to facilitate chemsex sessions was covered in four sources (Bourne, 2014; Fairman, 2015; Noga Bjerno, 2017; Stuart 2014). These apps were widely used to advertise and organise chemsex sessions and they also played a key factor in procuring drugs. Noga Bjerno (2017) described users advertising their chemsex participance with symbols (snowflake for crystal methamphetamine) or headlines with words like “PnP” or “chem friendly” to attract other likeminded people.

“Within the first four conversations you’re going to be introduced to chems. Within eight conversations on Grindr you will be introduced to injecting or "slamming" as it’s called.” -David Stuart, Chemsex (Fairman, 2015)
The age of MSM chemsex users was covered in three sources (Bourne, 2014; Deimel, 2016; Noga Bjerno, 2017). The users studied by Noga Bjerno (2017) ranged from 22 to 56 years of age, with a median age of 42 years. In the study by Bourne (2014), users ranged between 21-53 years of age, with a median age of 36. The users in Deimel's study ranged between 26-60 years, with most of the participants being 36-45 years of age. According to Bourne (2014) age affected the preference of drugs with cocaine, MDMA, GHB/GBL and mephedrone most popular among men 30-39 years of age and legal substances tobacco and alcohol used most commonly used by men under 30. The use of intravenous drugs became more common with increasing age, being the most popular among men of 40-49 years of age.

Education and employment was covered in two studies (Deimel, 2016; Noga Bjerno, 2017). The participants in Noga Bjerno's study were all highly educated and employed. In Deimel's study the participants were all highly educated, but only a third were employed with the majority being reliant on state benefits (unemployment or sick benefit, pension).

The age and socioeconomic background of women who participated in chemsex was mentioned in two sources (Glamour, 2016; Lloyd, 2015), where they ranged from 21 to 33 years of age and were all employed and highly educated.

### 5.2 Choice of drugs

The choice of drugs used by MSM were described in nine scientific articles (Bourne, 2014; Deimel, 2016; Evans, 2016; Ma, 2016; McCall, 2015; Noga Bjerno, 2017; Phillips, 2015; Schmidt, 2016; Stuart, 2015, 2014), two non-scientific articles (Lloyd, 2015; Strudwick, 2016) and both of the documentaries (Ahlberg, 2006; Fairman, 2015). The most commonly mentioned drugs were methamphetamine, GHB/GBL and mephedrone, all three of which were mentioned everytime chemsex associated drugs were listed. Other chemsex associated drugs were mentioned far less frequently, with ketamine, MDMA,
cocaine and marijuana mentioned in nine sources (Ahlberg, 2006; Bourne, 2014; Deimel, 2016; Fairman, 2015; Glamour, 2016; Lloyd, 2015; McCall, 2015; Noga Bjerno, 2017; Schmidt, 2016; Stuart 2015), and ecstasy and marijuana in seven articles (Bourne, 2014; Deimel, 2016; Glamour, 2016; Lloyd, 2015; Noga Bjerno, 2017; Schmidt, 2016; Stuart, 2015). According to Bourne (2014) polydrug use is the norm, with only a few users using only one drug.

Other commonly known drugs such as heroin or LSD were not mentioned in conjunction with a chemsex setting. Alcohol was mentioned in three articles, but it's role was regarded as secondary to other substances, due to it's legal status and universal, largely unproblematic use (Bourne, 2014; Deimel, 2016). Other substances like tobacco, amyl nitrite and erectile dysfunction medicines were mentioned in four articles (Bourne, 2014; Deimel, 2016; Noga Bjerno, 2017; Schmidt, 2016), but like alchohol they were considered secondary to other substances. The role of erectile dysfunction medicine is noteworthy however, as they are often needed to facilitate an erection which can be difficult under the influence of other substances (Deimel, 2016).

Chemsex associated drugs used by women were described in 2 articles (Glamour, 2016; Lloyd, 2015). Both articles mentioned MDMA, marijuana and cocaine, but according to McCall (2016), drugs that are usually found in a MSM related chemsex setting (methamphetamine, GHB/GBL, mephedrone) were being used by women as well (Glamour, 2016).

5.3 Motivations behind use

Motivations behind participating in chemsex were discussed in 11 sources. The most sought out effects of drug use among MSM and women were the increase in sexual confidence, the increase of sexual desire and libido, the enhancement of intimacy and sexual connection, the prolongment of sexual sessions and the enablement of more adventurous or extreme kind of sex (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Deimel, 2016; Evans, 2016; Glamour, 2016;
Several sources mentioned a desire for escapism as a key motivation behind use, whether it was to manage personal insecurities, HIV related stigma or guilt related to having sex that was deemed inappropriate by the users themselves or the surrounding society (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Deimel, 2016; McCall, 2015; Noga Bjerno, 2017; Strudwick, 2016). Some articles also described participating in chemsex as a coping mechanism among MSM to deal with internalised homophobia (Fairman, 2015; Bourne, 2014; Evans, 2016; McCall, 2015) or sexual abuse (Evans, 2016).

"I think there is a meaning in chemsex. I think it does have a function. It allows you to stop worrying about all the shit that the gay world tells you you should always be worrying about." -interviewee, Chemsex (Fairman, 2015)

Some users also reported having practical, social motivations to participate in chemsex. Chemsex sessions were described by some users as an alternative and easier way to socialize and pursue sexual encounters compared to a nightclub setting, especially among users who saw themselves as older than the rest of the community. Participating in chemsex was also seen to increase a users popularity in certain communities (BDSM, fetish etc.) that favour sex of more adventurous or extreme nature. (Deimel 2016; Noga Bjerno, 2017)
5.4 Associated harms

In studies by Bourne (2014) and Noga Bjerno (2017) all participants had negative experiences related to chemsex, either by themselves or experienced by others. The harms associated with chemsex could be either acute (e.g. overdose, psychosis) or chronic (addiction, HIV infection) in nature and could be divided into three categories: physical, mental and socio-economic (Bourne, 2014; Noga Bjerno, 2017;). The harms perceived by women that participate in chemsex were covered in two articles (Glamour, 2016; Lloyd 2015) that concentrate on socio-economic and mental health related harms, not physical ones.

5.4.1 Physical harms

The most commonly mentioned physical harm reported by MSM in regards to chemsex was the exposure to HIV, hepatitis C or other STI's, which was covered in 12 sources. This was usually brought on by risky sexual behaviour such as unprotected sex, having a multitude of sexual partners or participating in violent or extreme sexual practices. (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Deimel, 2016; Evans, 2016; Ma, 2016; McCall, 2015; Noga Bjerno, 2017; Phillips, 2015, Strudwick, 2016; Stuart, 2015; Stuart, 2014). HIV and hepatitis C was also transmitted through unsafe injecting practices when drugs were used intravenously (Fairman, 2015; Bourne, 2014; Ma, 2016; Phillips, 2015). Participating in chemsex was also linked to drug interactions and poor ART (antiretroviral therapy) adherence both as chronic medication and as PEP (post-exposure prophylaxis) (Ma, 2016; Stuart, 2014)

“When I got diagnosed it wasn’t much of a shock. I’d accepted that if I bareback and if I did chemsex both together... it comes with the territory unfortunately. I know it sounds bad, but I think you kind of expect people down here to just be HIV positive.” -interviewee, Chemsex (Fairman, 2015)
Overdoses were covered in six sources (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Ma, 2016; Phillips, 2015; Strudwick, 2016) and they were found to be common in the chemsex scene. Symptoms included dehydration, confusion, convulsions, fitting, vomiting, coma and even death. Though the most common, overdosing on GHB/GBL was described as particularly dangerous due to its anesthetic nature and need for careful measuring and timing of the doses. Erratic, agitated and confused behaviour while overdosed was reported to be common place, along with bouts of unconsciousness that left the users vulnerable to bodily harm, losing track of time, robbery and sexual abuse. (Strudwick, 2016) Some users experienced overdoses requiring hospitalisation while others had witnessed or heard about lethal overdoses (Bourne, 2014; Fairman, 2015; Strudwick, 2016)

Other physical adverse effects were listed by two sources. Weight loss/muscle wasting was reported due to lack of appetite and poor nutrition (Bourne, 2014; Noga Bjerno, 2017). Insomnia, withdrawal symptoms, exhaustion and disrupted sleep patterns was found to be commonplace, along with dental and skin problems (Bourne, 2014). In some cases, the process of taking drugs also caused physical injuries. According to Bourne (2014), many reported damage to their noses (from snorting drugs) and stomach (from swallowing drugs) along with injection site injuries (damaged veins, abscesses, muscle damage).

"The need for the crystal outweighed the need for the muscles, for the food, for the sleep." - interviewee, Meth (Ahlberg, 2006)

5.4.2 Mental health harms

Mental harms related to chemsex were covered in 12 sources. Drug use, especially the use of methamphetamine, was held responsible for both acute and long-term psychological problems. Acute problems like anxiety, panic attacks, aggression and extreme paranoia could be followed by depression,
feelings of regret and psychosis, typically after an intense session of drug use. (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Evans, 2016; Glamour, 2016; Lloyd, 2015; Ma, 2016; McCall, 2015; Noga Bjerno, 2017; Strudwick, 2016; Stuart, 2015; Stuart, 2014)

The time period after drug use, often referred to as the “comedown” was reported by Ma (2016) to leave some users feeling suicidal. According to Bourne (2014) some users were also mentioned to suffer from long term memory problems and personality changes.

"Drug induced psychosis is a frightening thing. People feel like they are being followed by vans with darkened windows. They get home and they think their computers are bugged and they can't use their computer or their phone. They're convinced they are being watched through their webcam and entirely convinced of this. It's a very normal consequence of being awake for three days on this powerful drug." -David Stuart, Chemsex (Fairman, 2015)

Addiction was discussed in seven sources (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Lloyd, 2015; McCall, 2015; Ma, 2016; Noga Bjerno, 2017; Stuart, 2014). McCall (2015) and Ma (2016) mention both a psychological and a physiological dependence, which according to Ma, can happen “quite rapidly after a relatively short, intense period of use". Four sources (Ahlberg 2006; Fairman, 2015; Lloyd, 2015; Noga Bjerno, 2017) describe the connection between drugs and sex with users losing the ability to enjoy sex when sober. According to Noga Bjerno (2017), drug addiction took over the role of sex among some chemsex participants, so they would only be motivated by drugs to attend a chemsex session.

"Originally sex and drugs were two separate things. However, somewhere along the line they became the one and the same. You're no longer having sex without drugs or vice versa." -interviewee, Chemsex (2015)
Psychological problems among female chemsex participants were highlighted in two articles by Glamour (2016) and Lloyd (2015). Though not as extreme as the harms perceived by MSM, women reported similar issues with anxiety, sleep problems, feelings of shame and regret, drug dependence and the loss of the ability to enjoy sex sober (Glamour, 2016; Lloyd 2015).

5.4.3 Socio-economic harms

Harms related to the social and economic harms perceived by MSM chemsex participants were discussed in eight sources (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Deimel, 2016; Evans, 2016; Noga Bjerno, 2017; Strudwick, 2016; Stuart, 2014). The most common complaint by users was the loss of time due to participating and recovering from prolonged chemsex sessions (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Evans, 2016; Noga Bjerno, 2017; Strudwick, 2016). Losing days or weeks was directly connected to various socio-economic harms, such as diminished work performance, loss of career opportunities or employment in general and financial problems which were further aggravated by the cost of drugs and chemsex related expenses (Bourne, 2014; Strudwick, 2016). Severe socio-economic harms were reported by Noga Bjerno (2017) and Strudwick (2016) in the form of homelessness and prostitution to finance living or drug expenses.

“If you haven’t completely destroyed your body yet and you have some sort of you know, caché with your body, you can get all the crystal you want. Unfortunately it’s kind of diminishing returns. You know, I discovered after a while that I was sinking lower and lower to get these drugs.” -interviewee, Meth (Ahlberg, 2006)

Noga Bjerno (2017) also stated that some users turn to illegal activities like theft, drug trafficking and other criminal acts for the same reason. The article by
Strudwick (2016) even mentions homicide, where a man was convicted of drugging, raping and murdering four people he met for chemsex through a mobile app.

Along with the time lost, prioritising chemsex over other social engagements led to users neglecting their partners, friends, families and other meaningful relationships (Bourne 2014). According to Noga Bjerno (2017) and Bourne (2014) users noted that chemsex associated drugs (especially methamphetamine) facilitated egoistic and greedy behaviour with a lack of empathy for others. Indifference towards the vulnerable state of others was highlighted in several sources (Ahlberg, 2006; Bourne, 2014; Fairman, 2015; Strudwick) as well as intentionally subjecting others to overdoses or sexual violence in the most extreme cases (Strudwick, 2016). According to Bourne (2014) and Strudwick (2016) the victims of abuse very rarely report the crimes to authorities and appear to blame themselves for what has happened due to being under the influence of drugs.

Concern towards community wide harms related to chemsex were raised in four sources (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Strudwick, 2016). Users were worried that empathy and care towards the wellbeing of others was diminishing, while drug use was being normalised and aspired to in the MSM community (Bourne, 2014; Strudwick, 2016).

"For a lot of guys, a lot of them I don't see anymore. We used to do stuff, you know? Maybe not that amazing, but we used to go out for food, then go to the cinema. And now they don't. And everytime you talk to them, they're talking about the party they've been at, how much they're coming down or... and you just think, I don't care. I just want my mate back. And you don't know where they've gone. “ -interviewee, Chemsex (Fairman, 2015)
5.5 Managing and treating chemsex associated problems

Managing and treating chemsex related problems were covered in 12 sources (Ahlberg, 2006; Fairman, 2015; Bourne, 2014; Deimel, 2016; Evans, 2016; Kirby, 2014; Ma, 2016; McCall, 2015; Noga Bjerno, 2017; Phillips, 2015; Strudwick, 2016; Stuart 2015). According to Bourne (2014) chemsex users are a diverse group in varying stages of life and drug use history, with a broad range of concerns regarding their drug use and sex life. A majority of people in the study by Bourne (2014) found their drug use to be “relatively unproblematic”, but many were seeking a more controlled way of using drugs with some needing outside help to battle drug dependance.

5.5.1 Managing drug use

According to Bourne (2014) chemsex participants typically started re-evaluating their drug use and sex life after losing interest in sex and other aspects of life sober. Though concerned, many users reported being in control of their usage, usually through strategies and practices to manage the way they participated in chemsex. Setting limitations to the time and money spent or the amount or type of drugs consumed was common and many users made it a priority not to let their chemsex participation interfere with their ability to work. Some users felt the need to control their drug use as they were approaching a limit they were not willing to cross, while some had experience a drug-related event (overdose, hospitalisation, sexual abuse) that shocked them to the point of either limiting their drug use or quitting alltogether. (Bourne, 2014).

"I've been using every weekend. I don't seem to have an ability to stop and say no. I have an issue, a problem that needs to be dealt with." -interviewee,

Chemsex (Fairman, 2015)
By avoiding specific drugs (methamphetamine, heroin) or administration routes (intravenous), some users felt like they were in less danger than those who used riskier drugs or riskier routes of administration. This behaviour called “comparative control” was highlighted by Noga Bjerno (2017) along with “risk bracketing”, another coping strategy where users would purposefully focus on dealing with some risks, while ignoring others. According to Noga Bjerno (2017) this may lead to situations where users may appear to succeed in balancing their substance use and everyday life (by being able to work etc.), but may still find themselves developing a drug-focused lifestyle (compromising personal values, trafficking drugs etc.). Several sources noted, that while the fear and stigma of addiction was common (Bourne, 2014; Fairman, 2015; Noga Bjerno, 2017) the majority of users didn’t think of themselves as addicts (Deimel, 2016; Noga Bjerno, 2017), especially if they managed everyday commitments and felt that they had their drug use under control (Bourne, 2014; Noga Bjerno, 2017).

“There is a lot of things that are wrong with it. The drugs are illegal, the sex going on isn't morally correct, we are tarting it out with new names to make it sound acceptable. We are not injecting drugs like the heroin addicts, we are "slamming" and using "pins" not needles.” -interviewee, Chemsex (Fairman, 2015)

The act of taking drugs in a safer way, along with paying attention to dosage was covered by Bourne (2014). According to the study, users reported a great concern for the dangers of overdose and many would exercise extreme caution especially with GHB/GBL. Users would try to monitor the precision of the dose and the time passed since the last dose,, along with being cautious when accepting drugs from unknown sources. According to Bourne (2014) and Fairman (2015) users would also come up with practical solutions like stop-watches, phone alarms and wallcharts to keep up to date on their dosage. Many users expressed difficulties in stopping taking drugs and some felt “peer pressure” to keep up with the drug use of others. Many users felt like they
needed to distance themselves from their social surroundings to avoid the temptation of drugs. (Bourne, 2014)

The way users would react to others in a vulnerable state varied greatly. Some users would report looking after others, but equally common were situations where overdoses were dealt with ineffectively, either because the users were in a bad state themselves or were lacking in motivation or knowledge on how to act. (Bourne, 2014)

5.5.2 Treatment

In the study by Bourne (2014) half of the participants had received professional help to deal with their drug use. Some users sought out help themselves, while others were offered help when they were dealing with other health or social issues. Support came in various forms, ranging from websites and helplines to hospitalization and rehabilitation care. Several sources noted that there are barriers to chemsex users accessing services (Bourne, 2014; McCall, 2015; Stuart, 2014). Shame and stigma lead to users ignoring available services (McCall, 2015) and conventional drug treatment services (aimed at heroin, cocaine, alcohol dependency etc.) were seen both by users and healthcare professionals as ill-equipped to deal with chemsex issues, especially those relating to sexual behaviour (Bourne, 2014; Ma, 2016; McCall, 2015; Schmidt, 2016; Stuart 2014).

Several sources (Bourne, 2014; Fairman, 2015; Deimel, 2016; McCall, 2015; Stuart, 2014) state that most users saw sexual health clinics the best available place to discuss chemsex related issues without fear of judgment. According to Stuart (2014) many users had developed a longstanding and trusted attendance at sexual health clinics, but the staff lacked specialized knowledge to deal with substance abuse (acute dangers, interventions, harm reduction strategies etc.). As a solution, specialized clinics focused on chemsex issues were highlighted in several sources (Ahlberg, 2006; Fairman, 2015; McCall, 2015; Stuart, 2015). Along with treatment, these specialized clinics were reported to provide training
and material for healthcare professionals, gather and monitor data, offer professional and volunteer peer-support for users, distribute harm reduction material and establish programs to support community events related to sexual health and wellbeing (Stuart, 2015).

6 DISCUSSION

6.1 Discussion on theoretical framework

The theoretical framework for this thesis is harm reduction. Harm reduction is widely considered a practical, feasible, effective, safe and cost-effective approach (HRI, 2017) to managing various public health concerns, but its methods and goals have also been contended, especially when it comes to recreational drug use. Those more in favour of conventional approaches to tackling substance abuse, such as reducing demand and supply of narcotics, view that harm reduction strategies are promoting a false notion that there is a safe or responsible way to use drugs (International Task Force on Strategic Drug Policy, 2016) and that substance abuse is seen as a largely unpreventable and accepted lifestyle choice by society, as long as the users are considered “unproblematic” (Drug Prevention Network of Canada, 2010). Critics also feel that harm reduction strategies do not work to free people from substance abuse and therefore undermine the effort to limit the supply and demand of drugs. Many critics also feel that harm reduction is only a synonym for legalizing drug use. (World Federation Against Drugs, 2008)

However people feel about substance use and the legislation surrounding it, the world is changing and new approaches are challenging policies that have been in use for decades. Many consider the so called “War on drugs” to be failing (Chalabi, 2016) and countries like Portugal and Norway are paving the way for a more liberal drug legislation that focuses on managing drug users as a health
issue, rather than criminals that are sanctioned with fines and imprisonment (Flood, 2017).

Resourcewise, harm reduction approaches seem like the most cost-effective way to tackle substance abuse and sexual health issues, along with other public health concerns that struggle to receive proper funding and attention amidst matters that are considered more pressing. Unfortunately funding cuts turn manageable issues into pressing ones. In the United Kingdom, cuts to public health budgets have left sexual health services struggling to keep up with the demand, undermining decades of progress in sexual health and endangering their ability to deal with future challenges like outbreaks and drug resistant STI's (Campbell, 2017). With resources dwindling ever more in the future, low-cost solutions that bring high-impact results should be favoured, instead of ineffective and wasteful ones.

6.2 Discussion on study results

This study aimed to answer five research questions through which the chemsex setting, the choice of drugs, the motivations behind chemsex participation, the harms associated with chemsex and the treatment and harm reduction strategies applicable with chemsex users could be described.

The setting of the chemsex phenomena seems to exist between two worlds: public and private. The line however, seems blurry as chemsex participants decided the boundaries themselves and would cross between the two when it seemed fit. Though some chemsex sessions took place in bars, clubs or other semi-public venues, the majority of chemsex seems to take place in private homes. Crossing over to private spaces, the participants felt safe and comfortable even when visiting complete strangers, socializing fluidly with others and sometimes continuing elsewhere when a session ended. This “party and play” behaviour has long been a common part of the LGBT clubbing and socializing scene in metropolitan areas around the world, especially among
MSM (Ma, 2016; Schmidt, 2016). Women seem to favour sexualised drug use at home with their partners.

Because chemsex exists between the public and the private, helping people with chemsex related problems can be challenging. Collecting reliable data can be difficult, as participants are worried about social stigma and legal consequences. Business owners are often hesitant to promote harm reduction approaches (drug testing sites, leaflets, needle disposal bins etc.) out of fear that this might signal their approval with substance abuse (Fairman, 2015). Regulated venues however, are more safe than private homes where chemsex participants may be reliant on other users for assistance and even medical attention, compared to the staff of an establishment who are fit for work and can assist customers when necessary.

Social media and geosocial networking apps in particular, serve a dual purpose in enabling chemsex: procuring drugs and meeting other chemsex participants. Even though the marketing of illegal drugs is forbidden on these social media platforms, a study in New Zealand found that 73 percent of participants had purchased drugs over social media apps and nearly 37 percent of respondents said they regularly use encrypted websites to procure drugs (Wilkins, 2014). After being called out by users and media, developers have taken steps to inhibit drug trade on their apps. Grindr, which is said to be the most widely used geosocial networking app for gay men in the world, banned the use of several words (“meth”, “parTy”) and emojis (cloud emoji) linked to advertising illegal drug trade on the app (WEHOville, 2016). Considering how easy these restrictions are to subvert, it remains to be seen if these policy changes have any considerable or lasting results.

The second research question aimed to highlight the different drugs associated with chemsex. Methamphetamine (especially in it's crystal form) along with GHB/GBL and mephedrone are the three most commonly chemsex associated drugs, both among MSM and women who engage in sexualised drug use. In terms of potency, these three drugs seem to also be the most dangerous ones, compared to MDMA, cocaine, marijuana and even ketamine. Methamphetamine
seems to be exceptionally powerful compared to other stimulants, whether viewed from a pharmacological standpoint or the devastating effect it has on the physical, mental and socio-economic wellbeing of people using it. This is exhibited clearly in the documentary “Meth” (Ahlberg, 2006), where one of the interviewees states the following:

“This was a drug that I’ve never seen the likes of before. I was able to stop cocaine... ...I got bored with ecstasy, K came and went, G sent me to the hospital and then there was crystal... and I was not equipped to battle it.”

Studies show that methamphetamine releases up to five times the amount of dopamine in the brain compared to substances like alcohol, nicotine and cocaine (Allerton, 2008). On the other hand, GHB/GBL is notoriously connected to overdoses and the last few years have seen a steady increase in GHB/GBL related deaths (Bourne, 2014). Compared to the two others, mephedrone seems less potent, but due to it being a part of a new generation of designer drugs, the danger lies in its novelty. Other drugs have been around for a longer time and both drug users and healthcare professionals have learned how to deal with them. (Drug Enforcement Administration of the United States, 2015; European Monitoring Centre for Drugs and Drug Addiction, 2015)

One of the worrying developments around chemsex is the way drugs are introduced to new or inexperienced users. As David Stuart states in the documentary “Chemsex” (Fairman, 2015), chems and intravenous drug use are brought up “within the first four to eight” conversations on social media apps (Fairman, 2015). Considering the popularity of methamphetamine and mephedrone among chemsex users, there is a chance that an inexperienced user might start out with one of the most powerful stimulants available, possibly intravenously. This bypasses the traditional “gateway drug” hypothesis, where users progress from using milder substances into harder drugs (Gonzales, 2018). According to Bourne (2014) most chemsex users were experienced drug users that have progressed from party drugs to using chemsex drugs, but some had been newly introduced to drugs by sexual partners.
Motivations behind participating in chemsex were studied through the third research question. It would appear that people engaging chemsex are driven by two key motivations: either to enhance their existing sexual experiences or to escape/manage negative emotions. This is very similar to the reasoning behind substance abuse in general, as experts often state that people “use drugs to either potentiate pleasures or relieve unpleasure” (Oakford, 2016).

Chemsex associated drugs appear to have a powerful effect on how people experience sex and a lot of users are clearly motivated by the sheer enjoyment of it (Fairman, 2015). A lot of people however, seem to be using chemsex as a coping mechanism to manage debilitating negative emotions (personal insecurities, HIV related stigma, homophobia). Studies show that both men and women suffer from a variety of issues with their sexuality, including performance anxiety, body image issues and orgasm obstacles (Stuart 2016; Gregoire, 2013). Chemsex can be seen as a quick fix for these issues, with little lasting effect on the underlying problems. This sex related anxiety seems to be connected to a larger cultural shift, where sex is seen more as a performance, influenced by porn and popular culture rather than an intimate connection between people. With the very limited sexual education available (focused mostly on deterring STI’s and unwanted pregnancies) people appear to be struggling to navigate the modern landscape of sexual behaviour. Among MSM this struggle is even greater, as the lack of LGBT-inclusive sex and relationship education is coupled with feeling overwhelmed, fatigued and traumatised for decades by LGBT sex and romantic lives being considered “high-risk activity” (Stuart, 2016).

The fourth research question aimed to present the various harms that are associated with chemsex. Whether the harm was physical, mental or socio-economic in nature, a strong correlation could be observed between the severity of the perceived harms and the intensity or duration of participating in chemsex. Some of the perceived harms were similar to ones experienced by other drug users (spread of bloodborne diseases, deterioration of both physical and mental health, socio-economic problems, addiction, overdoses), but it
would appear that issues regarding mental health and sexuality are more pronounced among chemsex participants. (Bourne, 2014; Fairman, 2015).

For those seeking to enhance their sex life, drugs would overtime create a dependance, where enjoying sex sober might become difficult. This dependance would at times lead to full-blown addiction, as the drugs took over the role of sex as the primary source of pleasure and users would only be motivated to attend a session by drugs. Those who were participating in chemsex for escapism from negative emotions would be facing the devastating after effects of drug use along with the emotional turmoil they were running away from in the first place. (Bourne, 2014; Fairman, 2015; Noga Bjerno, 2017).

Broader, community wide issues were revealed as well. As chemsex is a social phenomena, it typically involves more people than one and the perceived issues would appear to multiply among populations. In MSM populations, serious concerns have already been raised about the widespread availability and normalisation of drugs, along with a lack of empathy and care towards the wellbeing of others (Bourne, 2014; Fairman, 2015). These problems seem to be further exacerbated by the lack of coordination and communication with authorities, as abuse and crime goes unreported due to fear of stigmatisation and legal consequences (Strudwick, 2016).

In regards to sexualised drug use among women, one important harm was overlooked in the articles. The risk of an unwanted pregnancy is an obvious consequence of having a prolonged, unprotected sexual encounter with possibly several partners.

The final research question aimed to highlight available harm reduction and treatment options for people suffering from chemsex related issues. It would appear that chemsex participants are knowledgeable in harm reduction and employ a wide array of official and unofficial harm reduction strategies to manage the harms related to chemsex. Despite this, the way chemsex users assess the risks and harms related to chemsex seemed very subjective. By comparing themselves (“comparative control”, Noga Bjerno, 2017) with other users and focusing on some risks while ignoring others (“risk bracketing”, Noga
Bjerno, 2017), the risk perception of users appeared skewed, with a strong emphasis on avoiding the label of a “problematic user” or an “addict”. This would create instances where a person might appear to be in control of their life, but was in fact living a life focused on substance abuse. Though connected with sexuality, this gradual progression seems very similar to other addictions, with users prioritising the need for drugs over general health and accepting the various harms as an inevitable part of a drug use lifestyle.

From a healthcare point of view, it was revealed that chemsex participants are a varied group of people with a broad range of concerns regarding both sexual health and substance abuse. While the majority of chemsex participants found their drug use to be “unproblematic”, it would appear that many have unmet harm reduction needs (Bourne, 2014). The widespread effort to limit personal drug use and the use of various coping strategies suggests that many struggle to keep their substance abuse under control.

Despite the need, many users find that conventional harm reduction and drug treatment services are ill-fitted to deal with their issues. According to Stuart (2013), chemsex participants may encounter judgment and ignorance when accessing non-LGBT drug services and are more comfortable contacting sexual health clinics with chemsex related issues. While sexual health clinics are known for their non-judgmental approach and longstanding trust and rapport built with their patients (especially among the LGBT community), they lack the expertise to manage substance abuse specific issues (Stuart, 2015). Specialized chemsex and party drug were presented as a viable solution for not only treating patients with chemsex issues, but for providing training, support and even community wide responses to sexual health and wellbeing. In the United Kingdom, these services are highly sought after, to the point of overcrowding. For example in 2016, the Dean Street Express Service attracted over 500 patients daily (Stuart, 2016).

Chemsex clinics are also a natural place to discuss PrEP (pre-exposure prophylaxis), the pre-emptive use of HIV medication by a HIV negative person before potential HIV exposure to reduce the risk of infection. Various studies
demonstrate that PrEP reduces transmission of HIV by up to 86-99% and is argued to be a cost effective way of reducing transmission among high-risk patients, by being cheaper than post-exposure prophylaxis (PEP) or the long-life use of antiretroviral medication (Gibney, 2015). Though PrEp is recommended for people with a high-risk of contracting HIV (HIV negative, sexually active, multiple sexual partners, anal intercourse without protection, chemsex participation etc.) it is still not widely available in Finland, Europe or the rest of the world (HIV-säätiö, 2018). Currently, PrEP is available in around 30 countries (Australia, Belgium, Botswana, Brazil, Canada, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, France, Germany, India, Kenya, Italy, Lesotho, Malawi, Mozambique, Namibia, Netherlands, Nigeria, Norway, Peru, South Africa, Swaziland, Tanzania, Thailand, Uganda, United Kingdom, United States, Zambia, Zimbabwe) (PrEPwatch.org, 2018). Research is still lacking on how PrEP influences the HIV infection rate among chemsex participants, though a recent study by Drückler (2017) suggested that PrEP use is a significant factor in lowering the rate of newly diagnosed HIV cases.

According to Saarinen (2017) the chemsex phenomena has already arrived in Finland and action should be taken proactively. Though much can be learned from how chemsex issues are handled abroad, population density and other local challenges force healthcare professionals to think more creatively to reach their target audience (online services etc.), especially outside major cities. At the moment, knowledge over chemsex is still very limited in Finland and scattered around different experts and organisations. Addressing the situation effectively will require increasing chemsex awareness in healthcare and other respective services and a neutral, non-judgmental approach to helping people with chemsex related issues. (Saarinen, 2017)

7 CONCLUSION

Chemsex can be seen as a form of recreational drug use and sexual behaviour that is mostly happening among a small but significant subsection of MSM, with
sexualised drug use gaining ground among other populations as well. Prevalance of chemsex varies greatly around the world and appears to be culturally and socially determined appearing mostly around larger metropolitan areas with a sizeable LGBT population. As a whole, the prevalence of sexualised drug use is steadily increasing.

This study concludes that the chemsex phenomena exists between two social settings: public and private. Chemsex happens physically in private homes or semi-private spaces like clubs or bars, but is displayed on social media platforms to attract like-minded people and to procure drugs. While under the disinhibiting effects of chemsex drugs, participants seem to easily meet, build a rapport and socialize with others – even if they are complete strangers. Regulated venues would be a safer place to socialize, but most establishments don't approve chemsex or promote harm reduction strategies or services. Due to this "veiled" existence, reaching and helping people with chemsex related problems can be challenging.

Methamphetamine, GHB/GBL and mephedrone appear to be the three most commonly associated drugs regarding chemsex. The first two of these are highly potent and other drugs like MDMA, cocaine, marijuana and even ketamine seem far less dangerous than the highly addictive methamphetamine and the easily overdoseable GHB/GBL. Mephedrone is part of a new generation of designer drugs and can be dangerous as much of it's effects are still unknown.

The study found that people engaging sexualised drug use are driven by two key motivations: enhancing sexual experiences or escaping/managing negative emotions. In both cases, participating in sexualised drug use seems like a temporary solution, with little lasting effect on the underlying issues.

Participating in chemsex is revealed to subject people to a range of physical, mental and socio-economic harms, with strong correlation observed between the severity of the perceived harms and the intensity or duration of participating in chemsex. When compared to other drug users, issues regarding mental health and sexuality are more pronounced among chemsex participants.
Broader, community wide issues were also revealed, as chemsex related problems appear to multiply among populations.

Finally, it was revealed, that while many chemsex participants have unmet harm reduction needs, they face challenges with accessing harm reduction and treatment options. People engaging in chemsex are a diverse group of people with a broad range of sexual health and substance abuse issues. Conventional drug treatment is found to ill-fitted to deal with chemsex related problems, where as sexual health services lack the expertise to manage substance abuse issues. Specialized chemsex or party drug clinics seem to be a viable solution for not only treating patients with chemsex issues, but providing training, support and even community wide responses to sexual health and wellbeing. PrEP is shown to be a valuable tool in decreasing HIV transmission among high-risk patients such as chemsex participants.

Chemsex has already arrived in Finland and a proactive approach is recommended before chemsex related issues escalate like they have done abroad.

8 CRITICAL REVIEW

This study was conducted as a descriptive literature review with the aim of better understanding the sexualised use of psychoactive substances, the harms associated with it and the available harm reduction and treatment options. This is done by going through the available research articles and forming answers to the research questions by conducting a narrative overview of the reviewed articles.

Considering the broad approach to the subject and the number of research questions, a descriptive literature review is a viable study method, as it provides an insight into findings of other studies and brings the reader up to date with the current knowledge on the subject (Green, 2006). When making clinical decisions in patient care, literature reviews are often the weakest form of
evidence due to their general approach (Green, 2006). As the aim of the study was not to address specific clinical issues, a general approach was applicable and provided the necessary information to answer the research questions. The selection of information is subjective however, as it lacks explicit criteria (Green, 2006). In the end, the author is responsible for what he decides to include in his study. Another interpretation of the gathered information is possible, but the findings and conclusions of this study are supported by existing research.

The study can be considered limited to addressing chemsex from a MSM point of view as the articles chosen for the literature review focus on this population. This is mostly due to most chemsex research being about MSM, with only a few sources referencing other populations. It is also worth noting, that the articles covering sexualised drug use in women (Glamour, 2016; Lloyd, 2015) are non-scientific and provide very little data in terms of prevalence or other statistics. The lack of research and statistics, is a problem highlighted by Hannah McCall in the article by Glamour (2016). None the less, the reason for including these articles in this study is to present anecdotal evidence of sexualised drug use existing outside the MSM population.
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Sexually Transmitted Infection Outpatient Clinic and Users of a Gay Dating App in Amsterdam, the Netherlands. Sexually Transmitted Diseases: November 15, 2017 - Volume Publish Ahead of Print - Issue – p doi: 10.1097/OLQ.0000000000000753 Available at: https://journals.lww.com/stdjournal/Abstract/publishahead/Chemsex_Among_Men_Who_Have_Sex_With_Men___a.98347.aspx


Glamour (2016). Meet the couples that get high to have sex. Glamour magazine UK. June 2016. Available at: http://www.glamourmagazine.co.uk/article/couples-who-get-high-to-have-sex


Wilkins, C., Prasad, J., Wong, K., Rychert, M. RECENT TRENDS IN ILLEGAL DRUG USE IN NEW ZEALAND, 2006-2013. School of Public Health, Massey University. Available at: https://www.massey.ac.nz/

APPENDIX

Appendix 1: Scientific articles used in literature review


Appendix 2: Non-scientific sources used in literature review


Glamour (2016). Meet the couples that get high to have sex. Glamour magazine UK. June 2016. Available at: http://www.glamourmagazine.co.uk/article/couples-who-get-high-to-have-sex


### Appendix 3: Data analysis chart

<table>
<thead>
<tr>
<th>Title of study</th>
<th>Author</th>
<th>Year</th>
<th>Keywords</th>
<th>Related to</th>
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<tbody>
<tr>
<td>Drug use and health behaviour among German men who have sex with men: Results of a qualitative, multi-centre study</td>
<td>Deimel D., et al</td>
<td>2016</td>
<td>general background, setting, choice of drugs, harms, drug use motivation, treatment, drug use among MSM, Germany</td>
<td>theoretical frame, research questions 1-5</td>
</tr>
<tr>
<td>When the party's over</td>
<td>Evans K.</td>
<td>2016</td>
<td>setting, harms, drug use motivation, treatment, drug use among MSM, United Kingdom</td>
<td>research questions 1, 3-5</td>
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<tr>
<td>Phone apps could help promote sexual health in MSM</td>
<td>Kirby T., et al</td>
<td>2014</td>
<td>treatment, drug use among MSM, United Kingdom</td>
<td>research question 5</td>
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<tr>
<td>Safer 'chemsex': GPs' role in harm reduction for emerging forms of recreational drug use</td>
<td>Ma R., et al</td>
<td>2016</td>
<td>general background, choice of drugs, treatment, drug use among MSM, United Kingdom</td>
<td>theoretical frame, research questions 2,4-5</td>
</tr>
<tr>
<td>What is chemsex and why does it matter?</td>
<td>McCall H., et al</td>
<td>2015</td>
<td>general background, setting, choice of drugs, harms, drug use motivation, treatment, drug use among MSM, United Kingdom</td>
<td>theoretical frame, research questions 1-5</td>
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Scientific Articles (11 articles)
<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
<th>General Background, Setting, Choice of Drugs, Harms, Drug Use Motivation, Treatment, Drug Use among MSM, Location</th>
<th>Theoretical Frame, Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting for Chemsex: Danish Chemsex Users' Accounts of their Chemsex Engagement</td>
<td>Noga Bjerno T.</td>
<td>2017</td>
<td>general background, setting, choice of drugs, harms, drug use motivation, treatment, drug use among MSM, Denmark</td>
<td>theoretical frame, research questions 1-5</td>
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<tr>
<td>Examining the impact on HIV and hepatitis C co-infection in the era of 'ChemSex'</td>
<td>Phillips Joe., et al</td>
<td>2015</td>
<td>general background, setting, harms, treatment, drug use among MSM, United Kingdom</td>
<td>theoretical frame, research questions 1, 4-5</td>
</tr>
<tr>
<td>Chemsex and care-planning: One year in practice</td>
<td>Stuart D.</td>
<td>2015</td>
<td>treatment, drug use among MSM, United Kingdom</td>
<td>research question 5</td>
</tr>
<tr>
<td>Sexualised drug use by MSM (ChemSex): a toolkit for GUM / HIV staff</td>
<td>Stuart D.</td>
<td>2014</td>
<td>general background, choice of drugs, harms, treatment, drug use among MSM, United Kingdom</td>
<td>theoretical frame, research questions 2, 4-5</td>
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**Non-scientific articles (3 articles)**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
<th>General Background, Setting, Choice of Drugs, Drug Use Motivation, Treatment, Drug Use among Women, Location</th>
<th>Theoretical Frame, Research Questions</th>
</tr>
</thead>
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<tr>
<td>Meet the couples that get high to have sex</td>
<td>Glamour</td>
<td>2016</td>
<td>general background, setting, choice of drugs, drug use motivation, harms, treatment, drug use among women, United Kingdom</td>
<td>theoretical frame, research questions 1-5</td>
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<td>Why More Women Are Having Sex on Drugs</td>
<td>Lloyd K.</td>
<td>2015</td>
<td>general background, setting, choice of drugs, drug use motivation, harms, treatment, drug use among women, United Kingdom</td>
<td>theoretical frame, research questions 1-5</td>
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<tr>
<td>Inside The Dark, Dangerous World of Chemsex</td>
<td>Strudwick, P.</td>
<td>2016</td>
<td>general background, setting, choice of drugs, drug use motivation, harms, treatment, drug use among MSM, United Kingdom</td>
<td>theoretical frame, research questions 1-5</td>
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**Documentaries (2 documentaries)**

<table>
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<tr>
<th>Chemsex</th>
<th>Fairman W., et al</th>
<th>2015</th>
<th>general background, setting, choice of drugs, drug use motivation, harms, treatment, drug use among MSM, United Kingdom</th>
<th>theoretical frame, research questions 1-5</th>
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</thead>
<tbody>
<tr>
<td>Meth</td>
<td>Ahlberg T.</td>
<td>2006</td>
<td>general background, setting, choice of drugs, drug use motivation, harms, treatment, drug use among MSM, USA</td>
<td>theoretical frame, research questions 1-5</td>
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