



GLASGOW CITY HEALTH AND SOCIAL CARE
PARTNERSHIP

**Safer Drug Consumption Facility / Heroin
Assisted Treatment Service**

**Project Initiation Document and Business
Case**

PROJECT INITIATION DOCUMENT AND BUSINESS CASE

VERSION CONTROL

Version	Date	Author/ Amended By	Summary of changes made
0.1	Nov 2016	Stuart Donald	First draft
	24 Nov 16	Janette Cowan	Various questions inserted and amendments to narrative.
0.2	Dec 2016	Stuart Donald	Various updates following comments and input from executive steering group
0.3	Jan 2017	Stuart Donald	Further revisions following discussions with Project Sponsor, Project Manager and others
1.0	Jan 2017	Stuart Donald	Final updates ahead of submission to IJB.

SECTION 1 – EXECUTIVE SUMMARY

2015 saw a large and rapid rise in new HIV cases amongst people who inject drugs in Glasgow city. Investigation of the new cases revealed that the majority had a history of injecting drugs in public places in Glasgow city centre. A health needs assessment of people who inject drugs in public places in Glasgow city centre was undertaken and led by NHS GG&C public health. The resulting report, “Taking away the chaos” (available at <http://www.nhsggc.org.uk/your-health/public-health/reports/health-needs-of-drug-injectors>), concluded that there is a population of city centre public injectors, estimated to be 400-500 individuals, with complex health and social care needs which are not being met by current service provision. The report recommended development of existing services and for piloting of novel evidence based services including Safer Injecting Facilities and Heroin Assisted Treatment, targeted at this population.

Although the proposed services in this business case have been recommended in the context of an HIV outbreak with addiction services central to the response, various stakeholders in Glasgow city have experienced the adverse impact of public injecting for a number of years. This includes the public visiting or working in the city centre who are exposed to public drug use and drug related litter; and, residents and businesses close to sites of concentrated drug use. In addition to costs of the HIV outbreak, there are other wider societal costs related to the population involved in public injecting. This population has a high utilisation of public services such as health, social care, criminal justice and police, with the potential for investment in the recommended services to reduce this and free scarce resource; and reducing public injecting has the potential also to make the city centre a more attractive place for tourism, public amenity and business investment, and thereby potentially contributing to the city's economy. Therefore the business case for the proposed services is presented under the heading of the public health case, the case for recovery, the case for Glasgow city communities, public and businesses, and the economic case.

- **The public health case**

The public health case for piloting the recommended services remains highly relevant as 2016 has seen further new cases of HIV in this population, significantly higher than when compared to pre-2015 levels. By the end of 2016, there were 78 cases linked to the HIV outbreak, and there is risk of further new cases and spread from the injecting population to others. Glasgow city drug users have also experienced other injecting-related outbreaks in recent years such as Anthrax and Botulism and they remain at risk of future outbreaks. In addition, drug related deaths in Glasgow city have risen sharply in 2015 and 2016 and hospital admission rates for drug users have been rising in recent years. The profile of the public injecting population fits closely with those at most risk of drug related death and hospital admissions.

The proposed services will address public health needs by

- Reducing the risk of blood-borne virus transmission and improving care outcomes for those already affected
- Reducing the number of injecting-related infections and injuries
- Reducing the risk of overdose and opioid-related death
- Addictions care and treatment for people who inject drugs in public places in Glasgow city centre

The key drivers for these outcomes are

- safer injecting practices

- transition from injecting to safer forms of drug use
- engagement in effective located/integrated addictions treatment services

- **The case for Recovery**

Although Glasgow city has a well-developed and high quality system of care for drug users, data suggests that the city centre public injecting population do not seem to benefit from current service provision. The population is characterised by severe and multiple disadvantage and present with complex needs, including homelessness, welfare issues, mental health problems, wider medical problems and frequent contact with the criminal justice/police services.

The proposed services have the potential to improve the recovery opportunities of this population by providing routes into early recovery for city centre drug users.

- The key drivers will be
 - Engagement of complex needs population in effective addictions treatment and care including a pilot heroin assisted treatment service for those who have not benefitted from conventional treatment in the past
 - Opportunity to promote recovery orientated support such as peer support and mutual aid
 - Opportunities to address and improve adverse life circumstances such as housing, welfare rights and wider medical needs

- **The case for Glasgow city centre**

Visible public injecting, drug related litter and associated public nuisance has a detrimental effect on the public visiting and working in the city centre and residents whose closes, bin areas and lanes and public spaces are used for this purpose. Businesses have also experienced an adverse impact through use of their toilets and back lane sites for public injecting.

The proposed services have the potential to have a positive impact on the city centre by

- Improving the public amenity of the city centre
- Reducing the impact of public injecting on local residents and businesses

The key drivers for these outcomes will be

- Less discarded drug related litter
- Less visible public injecting drug use
- Reduction in criminal activity, public disorder, and other anti-social behaviour in the city centre and adjoining areas

- **The economic case**

Local data tells us that the costs to the health service associated with public injecting and its effects are significant.

In Glasgow, an exercise is underway to estimate service utilisation and costs among clients of the Assertive Outreach team, set up to meet the needs of people injecting in public places. The methods for this exercise are detailed in Appendix 1.

In the two and a half years between the launch of the service in June 2014 and December 2016, the Assertive Outreach team engaged with 652 people. Using data recorded in the care record, Community Health Index (CHI) numbers could be assigned for 350 of these individuals.

Preliminary data for activity and resource use in acute hospitals and emergency departments for this subset of the cohort are presented below. Data on activity in outpatients, mental health, maternity services, continuing care, primary care, custody suites and prison health services, prescribing, and social care are still awaited.

During the two year period 2014-2016, this subset of 350 people who inject drugs in the city centre and for whom data is available accounted for:

- 1587 Emergency Department attendances with a total resource use of slightly over £200k
- 3743 acute inpatient bed days with a total resource use of slightly over £1.5m
- 19 day case admissions with a total resource use of approximately £9600
- Total resource use for all activity in acute hospitals during this 2 year time period totalled slightly over £1.7m
- Total acute hospital costs associated with the full 652 individuals identified by Assertive Outreach will produce a significantly higher figure as will counting costs to other parts of health service (e.g. admissions not requiring overnight stay, acute outpatient clinics, health services in prisons and custody suites, primary care, mental health, addictions care).

One recent study estimated the average lifetime cost of HIV infection to be £360,000 per person. If this cost was applicable to the 78 new HIV cases in people who inject drugs in Glasgow for 2015 and 2016, this would translate to a lifetime cost of £28,080,000 to the health system. (See Section 4 and Appendix 1 for more detail).

In NHSGGC, the average 'medication only' cost per patient receiving HIV treatment is currently £6,403 per year (this figure does not include the costs of clinic appointments, laboratory monitoring, or treatment for any complications arising). If this medication only costs was realised for the 78 cases, this would translate to an annual cost of £500k.

There are also considerable costs associated with public injecting for social care and the criminal justice system, and work is ongoing to quantify these. Examination of recording systems show that over 99% of the 350 public injectors for whom CHI numbers could be assigned have a current or previous social work record.

Multiple and complex needs are common among people who inject drugs in public places in Glasgow city centre. Data from elsewhere suggest that such needs may have a significant impact on public service usage and costs.

The balance of evidence from other cities suggests that safer drug consumption facilities, even by conservative estimates, are highly cost-effective and contribute to savings in their local health systems. Similarly, heroin assisted treatment has been shown to be more cost effective than oral methadone in the treatment of the proposed target population. By reducing the use of unscheduled care and crisis services, by contributing to reductions in blood borne virus spread, by reduced drug related offending and by improved effective engagement meeting complex needs, investment in the proposed safer drug consumption facility and heroin assisted treatment service has the potential to contribute to savings in other services in Glasgow.

Options appraisal

A Short Life Working Group (SLWG) of experts and stakeholders were tasked with developing an options appraisal for potential service models. The group consulted with the target population, health and social care staff working with this population, people with lived experience of drug use and recovery, and with family members. Following a formal options appraisal, scoring service models (including a “no change” option) on defined criteria for benefits and risks, the SLWG concluded that a co-located safer drug consumption facility (which allowed inhalation of drugs as well as injecting) and a drug treatment service for this population which included heroin assisted treatment should be piloted in Glasgow city.

The work was presented to the Glasgow City IJB in October 2016 and approval was sought to progress to development of a full business case. This was agreed by the IJB. The full Business Case is presented in this document.

The proposed solution is the following pilot services:

- Safer drug consumption facility
 - For the supervised injecting and inhalation of drugs, brought by service users having been purchased elsewhere (**not** provided on site), in a hygienic, controlled environment under the supervision of trained staff
 - Located at a vicinity affected by public drug use and likely to be utilised by the target population
 - Open to adult drug users (including non-Glasgow city) following registration with the service
- Heroin assisted treatment
 - As part of a drug treatment service co-located with the Safer drug consumption Facility
 - Piloted to an anticipated capacity of 40-50 individuals (at any time) of the target population referred by the safer drug consumption facility and other drug treatment services
 - To be considered following receipt of referral for individuals who have “not benefitted from” conventional drug treatment in the past
- Additional Supports:
 - Supports to promote recovery from drug use
 - Support to improve life circumstances such as housing and welfare
 - Support for wider medical services

Opening hours, capacity, co-location of services and offering a drug inhalation facility are dependent on constraints such as finance, staffing, availability of appropriate premises and community consultation. The aspiration to offer wider supports is also dependent on resource and partnership arrangements. If affected by constraints, the prioritised core pilot services to address the project objectives are a safer injecting facility with a co-located (or closely integrated) treatment service piloting heroin assisted treatment, and support for recovery and improving life circumstances.

Finance

A detailed financial framework for the safer drug consumption facility and heroin assisted treatment service is being developed. Finalising the detail of the financial framework has a

number of dependencies, particularly in relation to the location of the service, and decisions such as service model and opening hours.

The financial framework will be developed based on a number of principles:

- Clarity on the projected operating costs of the preferred service model
- Utilisation where possible of existing resources
- Investment through relevant funding streams including re-investment of savings achieved in the Health and Social Care Partnership

Legal

The establishment of a safer drug consumption facility is dependent on guidance from the Lord Advocate to allow an exemption from the 1971 Misuse of Drugs Act, or an amendment to that Act being passed by Government. This would have the effect of legally approving the operation of a safer drug consumption facility. Discussions are ongoing on the best approach to the legal authorities on this matter.

A framework which allows a heroin assisted treatment programme to operate is already established in law.

Project Governance

Appropriate project governance structures have been put in place in line with standard practice. The project manager, under direction of the project sponsor manages a small project team, who come together as an executive group to review progress, identify areas of concern or which require escalation, and to agree actions to be taken forward.

A Short Life Working Group of key stakeholders meets regularly to review progress and act as a key point of consultation and engagement for the project sponsor, project manager and project team.

The project manager and project sponsor are ultimately accountable to the Glasgow City Integration Joint Board, and to the corporate structures of the Council and Health Board as required.

A detailed approach to evaluation of the service during and at the end of the trial period is in development, in partnership with independent academic experts in a range of relevant fields, and will be presented to the Integration Joint Board in due course.

SECTION 2 – THE CASE FOR CHANGE

2.1 Strategic Need

During 2015, there was a substantial increase in new cases of HIV among people who inject drugs in Glasgow. In total, 47 people were diagnosed in 2015; more than four times the number seen in previous years. The outbreak is still ongoing, with provisional figures indicating a further 31 people diagnosed in 2016 with evidence of ongoing active transmission.

During interviews with those affected by the outbreak, 83% reported injecting drugs in public places, especially in and around Glasgow city centre. This outbreak has shown that, despite efforts to reduce drug-related harm, people who inject drugs in Glasgow continue to be at very high risk of ill-health and death. Those involved in public injecting appear to be particularly vulnerable. In addition, some local communities and businesses are finding large numbers of discarded needles in public areas, which are unsightly and potentially hazardous.

People inject drugs in public places such as alleyways, car parks, parkland, public toilets, and closes. These places may be chosen to provide shelter from the elements or access to water needed for injection. Privacy is also a big concern, with several of those interviewed saying they didn't want the general public – particularly children – to witness them injecting. As a result, some people have set up makeshift huts so that they can share drugs and injecting equipment in a sheltered place.

Although public injecting is reported across the city centre, discarded needles and police data indicate the south-east of the city centre and neighbouring areas of the east end are most affected.

Data also suggests that between 400 and 500 people may be injecting drugs in public places in the city centre on a regular basis. The majority of these people are men, aged between 30 and 50, and of Scottish or other British origin. Most are in difficult life circumstances, experiencing high rates of homelessness, poverty and offending.

Research has identified four main health needs for people who inject drugs in public places:

Addictions care and treatment

A significant number of people are continuing to inject drugs despite being in addictions treatment. This suggests there is a group of people for whom existing treatment options aren't working.

Reducing the risk of blood-borne viruses, such as HIV and hepatitis

Studies show that people who inject drugs in public places are at higher risk of infections as they're more likely to share needles and inject in groups. Public injecting is a key common factor among people affected by the ongoing HIV outbreak in Glasgow.

Reducing the risk of other injecting-related infections and injuries such as abscesses, wounds, and blood clots

Poor lighting, cold weather, and the fear of being caught means people injecting drugs in public places are less able to keep the process hygienic and are more likely to miss the vein.

Reducing the risk of overdose and drug-related death

Fear of being caught means that public injecting is usually a rushed process, which increases the risk of overdose.

Public injecting has been an issue in Glasgow for a number of years and, despite ongoing efforts to address it, continues to cause significant health problems for those involved, as well as having a detrimental impact on the surrounding environment, communities and businesses. It is therefore evident that a new approach to public injecting is required, to improve the health and wellbeing of some of the most vulnerable members of society, to make the centre of Glasgow a better place to live and work and do business, to reduce costs to the health service and local authorities, and to deliver a range of wider societal benefits.

2.2 Strategic and Policy Context for the Project

The vision of the Glasgow City Integration Joint Board, as stated in the Strategic Plan includes, among other things, commitments to:

- focusing on responding to the needs of the people of Glasgow and taking action where health is poorest;
- supporting vulnerable people and promoting social well-being;
- working with others to improve health;
- designing and delivering services to meet the needs of individuals, carers and communities; and,
- looking for innovation.

Among the five key priorities outlined in the Strategic Plan, the Integration Joint Board aims to:

- take early action, prevent problems and reduce harm;
- provide greater self-determination and choice; and,
- protect the public.

In addition, the Strategy Map produced by the Glasgow City Alcohol and Drug Partnership and embedded within the Integration Joint Board's Strategic Plan includes long term aspirations that "fewer people suffer avoidable harm" and "more people will have good physical health". The Strategy Map also outlines as a key action that the number of blood-borne viruses acquired as a result of injecting drug use will be reduced and similarly, seeks a reduction in drug related deaths in the city.

The Scottish Government's 'Road to Recovery', the National Drugs Strategy for Scotland, which has cross-party backing, also includes a number of actions for local partnerships, such as:

- An appropriate range of drug treatment and rehabilitation services to promote recovery, from all types of drug use, not just opiate dependency, which is based on local needs and circumstances, must be available in each part of Scotland.
- Better integration of medical treatment with wider range of services such as social care, housing, mental health, education and training, to enable people to recover.

2.3 Existing Arrangements

At present, addiction services in Glasgow are conceptualised as a four tier framework ranging from the specialist to the generic.

Tier 3 & 4 services: Specialist addictions care

The majority of addictions care in Glasgow is provided by nine Community Addiction Teams (CATs), run by Glasgow Addictions Services (GAS) as a partnership between NHSGGC and

Glasgow City Council. They aim to provide a single point of access to individual needs assessments, harm reduction advice, opioid substitution treatment, psychological therapies, and case management (including referral to social services such as housing, welfare advice and employability). Services are provided on a direct access basis, with self-referrals encouraged.

With regard to tier 4 services, GAS also has access to 30 inpatient beds across the city and commission a number of residential and community rehabilitation centres.

In addition to CATs, several other specialist addictions teams offer services to subgroups with more complex needs:

- the Homeless Addictions Team (based at Hunter Street Homeless Services),
- the Drug Court Team (for offenders with substance use disorders), and
- the 218 Project (for female offenders).

Tier 2: Assertive Outreach team

Since June 2014, Glasgow City ADP has commissioned Turning Point Scotland and the Simon Community Glasgow to provide an Assertive Outreach service specifically aimed at meeting the needs of people who inject drugs in public places.

The team consists of four support workers who maintain a street presence in the city centre and neighbouring areas of the East End during afternoons and evenings, seven days a week. Activities include distributing injecting equipment; providing harm reduction advice and training; and supporting clients to engage with other services such as housing, social work, addictions, and specialist healthcare.

Tier 2: Injecting Equipment Provision

Injecting equipment provision (IEP) aims to reduce the risk of injecting-related infections, including blood-borne viruses, by providing people who inject drugs with sterile injecting equipment such as needles, syringes, spoons, filters and sterile water as well as foil to promote route transition away from injecting drug use to inhalation/smoking.

Within Glasgow city centre, there are four fixed-site injecting equipment providers, all based in community pharmacies. There are also several sites in neighbouring areas, which are known to be frequented by people who inject in the city centre. Of these, only the Glasgow Drug Crisis Centre – located fifteen minutes' walk from the city centre – is open twenty-four hours a day, seven days a week. As a response to the outbreak of HIV in people who use drugs in public places, there is now an increased availability of out of hours injecting equipment provision at 2 city centre locations.

These services form part of a wider network of 68 IEP outlets across NHS GGC, predominantly based within community pharmacies.

Tier 1: Primary health care

In addition to the existing network of general practices in Glasgow city centre and surrounding areas, Hunter Street Homeless Services provide a dedicated GP service for people who are homeless. Hunter Street also hosts a number of other primary care and allied health professional services, all of which have close links to social services such as housing, social work, and financial inclusion, through joint working arrangements.

Tier 1: Secondary health care, including blood-borne virus treatment and care

Acute inpatient health care services in Glasgow are based at Glasgow Royal Infirmary (for the north sector, including the city centre itself) and the Queen Elizabeth University Hospital (for the south sector); outpatient services are additionally provided at Stobhill Hospital, the New Victoria Hospital and Gartnavel General Hospital. In particular, specialist infectious disease

services – including blood-borne virus care – are split between the Queen Elizabeth University Hospital (inpatients) and Gartnavel General Hospital (outpatients).

Acute Addiction Liaison nursing teams are available in all acute hospitals in Glasgow, and aim to provide a bridge between acute inpatient health care services and community addiction teams for people with drug and/or alcohol issues.

Quality of existing services

As well as having a well-developed system of care, local data suggests that the quality of service provision for people who inject drugs in Glasgow compares well to other areas of the UK and to international standards. By European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) standards, there is a high coverage of opiate replacement therapy delivered at low threshold services which easily meet national standards for waiting times. There is also a network of recovery services such as Recovery Hubs, Recovery Communities and Residential Rehabilitation centres connected to the CATs.

However, the city centre public injecting population, as identified by the health needs assessment, is characterised by having complex needs as a result of their severe and multiple deprivation. The current service provision, which supports other city drug users into early and sustained recovery, is often not successful in engaging and retaining this population in effective treatment and care. The lack of stability (“chaos” as reported in the health needs assessment), can be associated with a lack of sustained engagement in housing, welfare and wider medical care (including HIV services).

There is some evidence to suggest that both injecting drug use and its associated health harms are in decline across NHSGGC. However, these aggregate data may not be representative of specific sub-populations at particularly high risk, such as people who inject drugs in public places. Indeed, the HIV outbreak indicates that this is a group who continue to experience significant drug-related harm despite existing provision.

Furthermore, existing provision in Glasgow does not include all the harm reduction interventions identified as best practice by the European Monitoring Centre, including the provision of safer drug consumption facilities to reduce the harms associated with public injecting and heroin assisted treatment programs to facilitate the transition towards recovery.

2.4 Project Objectives

The aims and objectives of this project are outlined in the following table:

Aims	Objectives
1 To address the health needs of people who inject drugs in public places in Glasgow city centre and adjoining areas	1.1 To improve engagement and retention in addictions care
	1.2 To reduce the risk of blood-borne virus transmission and improve care outcomes for those already affected
	1.3 To reduce the number of injecting-related infections and injuries
	1.4 To reduce the risk of overdose and opioid-related death

2 To minimise the impact of public injecting on wider community and local environment in Glasgow city centre and adjoining areas	2.1 To reduce the impact of public injecting and related issues (particularly drug-related litter) on local communities
	2.2 To contribute to a reduction in criminal activity, public disorder, and other anti-social behaviour in the city centre and adjoining areas

2.5 Scope of Transformation

A summary of what is and is not in scope for this project is below:

In Scope	Not in Scope
Public drug injecting within the city centre, and its impacts on individuals, the city centre itself and affected environs	Public drug injecting in other areas of the city outwith the centre, and outside the city boundary
Treatment and recovery services for users of injected and some inhaled drugs	Supports relating to non-injected drugs only, or other health and care needs where individual is not a user of injected drugs
Social supports to users of injected drugs	Supports for individuals with primary alcohol addiction

It is considered that the establishment of a new approach to public injecting in Glasgow, which responds to an immediate identified public health need in the city; which aims to improve the health of some of the most vulnerable members of society; and which will have public protection benefits through for example a reduction of drug related litter, will support the Health and Social Care Partnership to address the range of issues outlined in section 2.1. Furthermore, this new approach will help to achieve the Integration Joint Board's vision, delivery on some of the key health and social care priorities for the city, and will support the Alcohol and Drugs Partnership's local strategy along with the national strategy as defined by the Scottish Government.

A number of cities in other countries, particularly in continental Europe and Australia have developed facilities for the safer consumption of injected drugs. These are clean, hygienic environments where people can inject drugs – obtained elsewhere, **not** provided or purchased on site – under clinical supervision. The facilities provide sterile needles to reduce the risk of infections like HIV, and assistance in the event of an overdose. They also link people in to other health and social care services, hosting drop-in GP clinics, addictions counsellors, and housing and benefit advisors.

Safer injecting facilities have been running since the mid-1980s, and there are now more than 90 worldwide. More than 100 scientific papers evaluating their impacts have been published. This body of evidence shows that safer injecting facilities:

- Reduce public injecting and discarded needles
- Reduce the sharing of needles and other injecting equipment
- Improve uptake of addictions care and treatment
- Do not increase rates of crime and anti-social behaviour in the local area
- Result in cost savings overall, due to reduced ill-health and health care usage among users

Another approach that will be contained within this project involves doctors prescribing medical heroin to people with long-term addictions unable to stop using street drugs despite treatment with current alternatives. This is known as “heroin-assisted treatment”, and is already provided in a number of European countries and in a small number of specialist services in the UK.

A number of high-quality research studies in the UK and elsewhere have found that this approach:

- Improves people’s ability to engage with – and stay engaged with – addictions treatment
- Reduces criminal activity
- Improves integration into society – i.e. the ability to hold down a job or stable housing
- Represents better value for money than existing treatments, because of the reduced demands on social care services and the criminal justice system

2.6 Dependencies and Constraints

There are a number of dependencies and constraints with regards to this project, as outlined in the table below:

Dependencies	Constraints
Securing suitable accommodation	Availability of accommodation
Building / renovation work to make accommodation fit for purpose	Planning and building control laws
Service is legally compliant	Existing criminal law and smoking legislation
Access to controlled drug supply for Heroin Assisted Treatment facility	Governance requirements around controlled drugs
Funding identified for the development and establishment of service	Reducing / limited budget within health and social care
Staffing (numbers and skill mix)	Restrictions on recruitment

Dependencies and constraints will be reviewed and managed throughout the lifecycle of this project, with any risks arising escalated to the Project Manager and Project Sponsor as required.

2.7 Expected Outcomes

Expected outcomes, linked to the objectives of this project are:

Health benefits:

- Reduction in the risk of blood-borne virus transmission and improvement in care outcomes for those already affected
- Reduction in the number of injecting-related infections and injuries
- Reduction in the risk of overdose and opioid-related death
- The key drivers for these outcomes are safer injecting, transition from injecting to safer forms of drug use and engagement in effective addiction treatment and care

Recovery from drug use:

- Providing routes into early Recovery for city centre drug users
- The key drivers will be
 - Engagement of complex needs population in effective addictions treatment and care including heroin assisted treatment for those who have not benefitted from conventional treatment in the past
 - Opportunity to promote recovery orientated support such as peer support and mutual aid
 - Opportunities to address and improve adverse life circumstances such as housing, welfare rights and wider medical needs

Glasgow city centre by:

- Improved social amenity of the city centre for the general public
- Reduction in the impact of public injecting on local residents and businesses

The key drivers for these outcomes will be

- Less discarded drug related litter
- Less visible public injecting drug use
- Reduction in criminal activity, public disorder, and other anti-social behaviour in the city centre and surrounding areas

Economic Benefits

There is likelihood of a positive economic impact within health, social care, criminal justice and police domains, through effective engagement with a population which currently has a high utilisation of these services. There is also potential for wider economic benefit through improved public spaces in Glasgow city centre resulting in improved public amenity and less adverse impact of public injecting and acquisitive crime on businesses.

SECTION 3 – OPTIONS APPRAISAL AND EVIDENCE BASE

3.1 List of Options

A Short Life Working Group (SWLG) of experts and stakeholders were tasked with developing an options appraisal for potential service models. The group membership included health and social care staff, key local partners from Police Scotland and Community Safety Glasgow, representatives from academia, third sector and advocacy organisations, and experts through lived experience. The group consulted with the target population, health and social care staff working with this population, people with lived experience of drug use and recovery, and with family members.

A long-list of options was drawn up, based on the review of existing service models from Europe, Canada, and Australia, undertaken as part of the health needs assessment. This was then refined to a shortlist of options to form the basis for an options appraisal process.

Following this work, a shortlist of options for service models was drawn up, as the basis for the options appraisal. These options are outlined below.

- Option 1. No change to existing service provision
- Option 2. Safer drug consumption facility only.
- Option 3. Heroin-assisted treatment only.
- Option 4. Both safer drug consumption facility and heroin assisted treatment, provided on a co-located basis.
- Option 5. Safer drug consumption facility and heroin assisted treatment, provided on separate sites.

3.2 Options Appraisal

Appraisal Process

Each of the five identified options were assessed by the Short Life Working Group, made up of a range of stakeholders including Police Scotland, Public Health, the academic sector, recovery communities, Community Safety Glasgow, commissioning, and the Alcohol and Drug Partnership.

The appraisal criteria consisted of assessment of both the benefits and risks of each option. Each criteria was given a weighting by the members of the SLWG relevant to its impact, significance and relevance to the success of the project.

The benefits criteria against which each option was assessed, along with the relevant weightings applied to each criteria, are outlined below:

	Benefits Criteria	Weighting
1	<p>Maximising potential for health benefits of people who use drugs in public places in Glasgow city centre and environs</p> <ul style="list-style-type: none"> • Engagement and retention in addictions care • Impact on risk of BBV transmission • Impact on BBV care outcomes - receipt of specialist care, treatment initiation & concordance, virological outcomes • Impact on injecting-related infections and injuries • Impact on risk of overdose and drug death • Accessibility and uptake of other health and social care services 	44%

2	Maximising potential for meeting the broader complex needs of this population <ul style="list-style-type: none"> • Ability to reach those most vulnerable to drug-related harms and with the most complex needs • Impact on life circumstances and recovery capital of service users e.g. housing status, employability 	22%
3	Maximising potential community benefits, for communities and businesses currently adversely affected by public injecting <ul style="list-style-type: none"> • Impact on public injecting and drug-related litter in local communities • Impact on criminal activity, public disorder, and other anti-social behaviour in the city centre 	14%
4	Maximising potential for efficiencies to health, social care and wider public services <ul style="list-style-type: none"> • Utilisation of available capacity and resource, including buildings and staffing • Potential for economies of scale and scope, e.g. through integration and co-location with other services • Effect on demand for mainstream services such as unscheduled care • Potential to respond flexibly to future needs 	11%
5	Maximising opportunity for research and innovation <ul style="list-style-type: none"> • Opportunities to develop innovative service models in a Glasgow context from international evidence and best practice • Research interest and opportunities 	9%

The risk criteria against which each option was assessed, along with the relevant weightings applied to each criteria, are outlined below:

	Risk Criteria	Weighting
1	Lack of effectiveness <ul style="list-style-type: none"> • Poor uptake among target population • Lack of integration with other services • Does not build on successful precedent for similar services from other areas 	30%
2	Consequences <ul style="list-style-type: none"> • Adverse impact on users of the service, e.g. increased stigmatisation or change in consumption patterns and risk behaviour due to 'mixing' of different service user populations • Adverse impact on staff e.g. health and safety/ stress/ recruitment and retention • Adverse impact on general public e.g. health and safety • Adverse impact on other services and their users e.g. disruption to co-located service 	26%
3	Constraints on ability to deliver or sustain service <ul style="list-style-type: none"> • Lack of acceptability to wider public – local residents, businesses, elected members • Legal challenge • Vulnerability of service to supply chain issues, e.g. Controlled drug availability/cost • Inability to meet governance requirements or guidance, e.g. Controlled drug governance 	44%

Assessment of benefits and risks included wherever possible reference to existing academic research and the experiences of existing Safer drug consumption Facilities and Heroin Assisted Treatment services in other countries.

Costs

Given the novel nature of the proposed service models, a detailed costing of each option could not be undertaken for the purpose of the options appraisal exercise, although likely relative costs of each option were modelled and weighted against expected benefits. The results from the options appraisal coincide with the findings of formal economic evaluations, which have suggested that both heroin-assisted treatment and safer drug consumption facilities can be highly cost-effective. Previous studies may also have under-estimated the cost savings associated with the introduction of safer drug consumption facilities, by restricting their analyses to only a limited number of health outcomes.

3.3 Preferred Option

A full summary of the options appraisal is appended to this Business Case document. The results of the options appraisal are that Option 4 (Both Safer Drug Consumption Facility and Heroin Assisted Treatment, provided on a co-located basis) is the preferred service model in the Glasgow city context most likely to deliver the desired outcomes.

After consideration of stakeholder feedback, it is evident that there is also a need for additional 'wrap-around' services to be available on the same premises (such as primary health care, addictions counselling, and housing and welfare advice) regardless of the service model selected. It was also identified that any safer injecting facility should ideally provide the means for the supervised inhalation of drugs, in order to optimise engagement with the target population and facilitate harm reduction interventions.

During the development of the full business case, the Short Life Working Group has been re-convened to refine the proposed criteria for the proposed services and prioritise elements of the service should there be significant constraints. The outcome has been to agree the following pilot services:

- Safer drug consumption facility
 - For the supervised injecting and, ideally, inhalation of drugs brought by service users to be consumed in a hygienic, controlled environment under the supervision of trained staff
 - Located at a vicinity affected by public drug use and likely to be utilised by the target population
 - Open to adult drug users (including non-Glasgow city) following registration with the service
- Heroin assisted treatment
 - As part of a drug treatment service co-located with the safer drug consumption facility
 - Piloting HAT to a maximum capacity of 40-50 individuals (at any time) of the target population referred by the safer drug consumption facility and other drug treatment services
 - To be considered following receipt of referral for individuals who have not benefitted from conventional drug treatment in the past
- Additional Supports:
 - Supports to promote recovery from drug use
 - Support to improve life circumstances such as housing and welfare

- Support for wider medical services

This is the *ideal* service configuration most likely to meet project aims. However, the opening hours, capacity, co-location of services and being able to site a drug inhalation facility are dependent on constraints such as financial, availability of appropriate premises and community consultation. The aspiration to offer wider supports is also dependent on resource and partnership arrangements. However, the prioritised core pilot services are safe injecting facility, heroin assisted treatment and support for recovery and improving life circumstances. Initial feedback from potential service users and frontline staff strongly suggests that such a service would be most effective if located in the south-east of the city centre, in keeping with the distribution of existing drug markets and public injecting areas. However, further consultation with local communities and businesses will be required before a specific location or premises can be identified.

It is proposed that this model is adopted on a trial basis, with evaluation carried out throughout. At conclusion of the trial, the Integration Joint Board will be asked to make a decision, based on the evaluation findings, on whether to continue, amend or cease delivering the services.

SECTION 4 – VALUE FOR MONEY

4.1 Current costs associated with target population

Acute Hospitals and Emergency Departments

In Glasgow, an exercise is underway to estimate service utilisation and costs among clients of the Assertive Outreach team, set up to meet the needs of people injecting in public places. The methods for this exercise are detailed in Appendix 1.

In the two and a half years between June 2014 (when the service was launched) and December 2016, the Assertive Outreach team engaged with 652 people. Using data recorded in the care record, Community Health Index numbers could be assigned for 350 of these individuals.

Preliminary data for activity and resource use in acute hospitals and emergency departments for this subset of the cohort are presented below. Data on activity in outpatients, mental health, maternity services, continuing care, primary care, prescribing, and social care are still awaited.

Data over the two year period 2014-2016, shows that a cohort of 350 users of injected drugs for whom data is available (from a total of 652 people who have engaged with the Assertive Outreach Team) accounted for:

- 1587 Emergency Department attendances with a total resource use of slightly over £200k
- 3743 acute inpatient bed days with a total resource use of slightly over £1.5m
- 19 day case admissions with a total resource use of approximately £9600
- Total resource use for all acute hospital activity during this 2 year time period totalled slightly over £1.7m

350 individuals represents 54% of the total number of individuals engaged with to date by the Assertive Outreach Team, and therefore total A+E and acute costs associated with the full cohort of 652 individuals are likely to be significantly higher than those given above. Counting costs to other parts of health service that this population is likely to have contact with (e.g. acute out-patient clinics, healthcare in prisons and custody suites, primary care, mental health, addictions care), would raise costs even further.

Estimated costs of blood borne viruses in people who inject drugs

Costs of some injecting-related complications are particularly high. One recent study estimated the average lifetime cost of HIV infection to be £360,000 per person. If this estimate was applicable to the 78 new HIV cases in people who inject drugs in Glasgow for 2015 and 2016, this would translate to a lifetime cost of £28,080,000 to the health system. (Although no previous studies have attempted to estimate lifetime costs specifically among people who inject drugs, it is reasonable to expect that costs of treatment and care for HIV and its complications in this population are likely to be similarly high. See Appendix 1 for more information.)

In NHSGGC, the average 'medication only' cost per patient receiving HIV treatment is currently £6,403 per year (this figure does not include the costs of clinic appointments, laboratory monitoring, or treatment for any complications arising). If this medication only cost was realised for the 78 cases, this would translate to an annual cost of £500k. The actual current figure is likely to be lower as not all cases are receiving medication. It is difficult to estimate the true cost, which is dependant on a number of factors including clinical need for treatment and numbers engaged. An estimated 46 patients from the outbreak cohort were

currently receiving treatment as of December 2016: HIV services are working to further improve engagement and retention

Estimated costs of meeting complex needs

Another source of information are estimates of public service spending for people with multiple and complex needs (i.e., people experiencing a combination of substance use disorder, homelessness and/or offending). Multiple and complex needs are common among people who inject drugs in public places in Glasgow city centre. Data from elsewhere suggest that such needs may have a significant impact on public service usage and costs. Examination of recording systems show that over 99% of the 350 public injectors identified by the Outreach Team for whom a CHI could be assigned have a current or previous social work record.

Costs of meeting complex needs specific to Glasgow are not currently available. However in England, it has been estimated that public expenditure costs for homeless people with complex needs are 4-5 times those for people in the general population. Another study among a sample of 39 people with multiple and complex needs in three English areas found that the average monthly spend on health, addictions, housing, and criminal justice services was between £1,120 and £3,069 per individual.

4.2 Summary of Evidence base for cost effectiveness

Safer Drug Consumption Facility

Several economic evaluations of existing Safer Injecting Facilities have been identified; three from Vancouver and one from Sydney. These have focussed primarily on prevention of blood borne virus spread and deaths. They concluded that Safer Injecting Facilities resulted in substantial potential savings, although estimates varied greatly between countries. For instance, among those studies considering both HIV infections and overdose mortality, savings estimates varied from AU\$658,000 (approx. £323,000) per year to CA\$6,000,000 (approx. £3,000,000), with the latter study suggesting that the Vancouver Safer Injecting Facility achieved a benefit to cost ratio of 5:1. The models used in these studies to estimate the economic benefits of Safer Injecting Facilities are sensitive to a number of assumptions about service utilisation rates, injection frequency, and the background incidence of HIV among people who inject drugs; all of which are likely to vary greatly between potential Safer Injecting Facility settings. In particular, there has been debate about the estimates of impact on HIV transmission used in the Vancouver studies. However, the balance of evidence suggests that these facilities - even using conservative assumptions - are highly cost-effective and contribute to savings in their local health services.

No studies have attempted to quantify cost benefits from impacts on wider health outcomes (such as injecting-related bacterial infections or injuries etc.), social care utilisation or social consequences of public injecting, such as drug-related litter or public amenity. Since these costs are likely to be substantial in both Sydney and Vancouver, it would not be unreasonable to have expected savings in these areas as well.

There are no known studies available that consider the potential economic implications of a safer injecting facility in the UK, or of a safer drug consumption facility (i.e. permitting both the injecting and inhalation of drugs.)

Heroin Assisted Treatment

The evidence base for the cost-effectiveness of treatment for heroin addiction with opiate replacement therapy is well established.

Among people with long-term heroin addiction who have not experienced a benefit from oral opiate replacement therapies, robust evidence from England, consistent with findings from

Europe, suggests that heroin-assisted treatment is a more cost-effective treatment than optimised oral methadone treatment. Although injectable diamorphine (heroin assisted treatment) is more costly than methadone, it is associated with better clinical outcomes and reduced criminal activity. For this patient population, it therefore represents better value for money for society as a whole, due to savings from offending, criminal justice, social work, and healthcare.

4.3 Value for money

Development of a full financial framework for a safer drug consumption facility and heroin assisted treatment is underway, applying the principles of this framework outlined at section 6. Local and national evidence demonstrates that complications associated with injecting drug use are financially costly, and that people involved in public injecting in the city centre are frequent users of health and social care services. The international evidence for the cost-effectiveness of safe injecting facilities and heroin assisted treatment is well established in the literature. There are likely to have been greater savings from safer drug consumption facilities in other locations than has currently been identified, as wider health cost-benefits (beyond blood-borne viruses and deaths) have not been measured in evaluations to date.

Establishing and running these services is likely in time, to lead to significant savings in the health, social care, criminal justice and police domains and therefore prove to provide significant value for money. Financial benefits of the safer drug consumption facility and heroin assisted treatment service will be identified through the evaluation process. In addition, it is also considered that there may be other financial benefits through improved public amenity and fewer adverse impacts on businesses.

SECTION 5 – RELATIONSHIPS

5.1 Workforce

Establishment of the Safer drug consumption Facility and Heroin Assisted Treatment service will involve some element of service redesign. This will have an impact on staff, as operational models develop as a result of these services and wider whole-system redesign activity already underway. This may involve the up-skilling of current addictions staff, and potentially staff from other business areas, and / or recruitment or redeployment of a number of full and part time staff, in line with the specialist nature of the service.

Such changes would not only ensure that the proposed services would be delivered effectively in a sustainable manner, but would also enhance the ability of staff to deliver an improved, person centred service, by allowing them to apply their new skills in a wider addictions context.

In addition this project will be linked to existing transformation activity in related areas, particularly work in the city centre including homelessness, addictions, criminal justice and mental health, as well as the wider Out of Hours review.

Staffside / Trade Unions will be consulted on any proposals which have an impact on staff.

5.2 Stakeholders and Partners

Key stakeholders in this project include, but are not limited to:

- Staff and trade unions
- Service users
- Homelessness services
- Local communities and businesses
- Third sector organisations
- NHS Greater Glasgow and Clyde
- Glasgow City Council
- Police Scotland
- The Scottish Government
- Communities in the vicinity of the service
- Experts through lived experience / Recovery Communities
- Relevant family and carer organisations

Engagement with stakeholders will be ongoing through the life cycle of this project including with local communities and businesses.

5.3 Communications and Consultation

A communications and consultation strategy for this project has been developed and is appended to this document.

SECTION 6 – FINANCE

6.1 Financial Framework

A detailed financial framework for the safer drug consumption facility and heroin assisted treatment service is being developed. Finalising the detail of the financial framework has a number of dependencies, particularly in relation to the location of the service, and decisions such as service model and opening hours.

The financial framework will be developed based on a number of principles:

- Clarity on the projected operating costs of the preferred service model
- Utilisation where possible of existing resources
- Investment through relevant funding streams including re-investment of savings achieved in the Health and Social Care Partnership

Capital costs, such as for building modifications and initial fit out will be identified by the Property workstream and managed through the normal processes of either the Council or Health Board.

Operating costs will be managed within the usual financial governance arrangements of the Integration Joint Board.

6.2 Financial Management

Finances in relation to this project will be managed through the Finance workstream within the governance structure of the project. Any issues relating to finance will be escalated to the Project Sponsor and the Chief Officer: Finance and Resources as appropriate.

SECTION 7 – PROJECT GOVERNANCE AND MANAGEMENT

7.1 Project Roles

The project is sponsored by Susanne Millar, Chief Officer: Planning, Strategy and Commissioning and Chief Social Work Officer, Glasgow City Health and Social Care Partnership, and is managed by Dr Saket Priyadarshi, Associate Medical Director, Addiction Services.

A project team has been established to take forward key pieces of work. The project team consists of a number of individuals with appropriate expertise in key business areas:

Project Planning / Governance:	Janette Cowan, Business Development Manager Stuart Donald, Principal Officer (Planning and Governance), Business Development
Accommodation / Property:	Myleen MacKinnon, Principal Officer (Planning, Accommodation & Development)
Finance:	Jennifer McCourt, Finance Manager (Adult Services)
Communications:	Ione Campsie, Glasgow City Council Press Office Mark Dell, NHS GGC Press Office
Public Health	Dr Emilia Crighton, Deputy Director of Public Health Dr Emily Tweed, Specialty Registrar in Public Health Mark Rodgers, Graduate Management Trainee

7.2 Project Governance Structure

The project team come together as an executive group to review progress, identify areas of concern or which require escalation, and to agree actions to be taken forward.

A Short Life Working Group of key stakeholders meets regularly to review progress and act as a key point of consultation and engagement for the project sponsor, project manager and project team.

The project manager and project sponsor are ultimately accountable to the Glasgow City Integration Joint Board, and to the corporate structures of the Council and Health Board as required.

7.3 Risk Management

Key risks associated with the proposed model were identified in the options appraisal process outlined in section 3. Emerging risks that arise during the project's development and implementation will be managed in line with normal arrangements.

7.4 Legal / Administration Matters

The establishment of a Safer drug consumption Facility is dependent on guidance from the Lord Advocate to allow an exemption from the 1971 Misuse of Drugs Act, or an amendment to that Act being passed by Government. This would have the effect of legally approving the operation of a safer drug consumption facility. Discussions are ongoing on the best approach to the legal authorities on this matter.

A framework which allows a heroin assisted treatment programme to operate is already established in law.

Discussions will be undertaken with the Care Inspectorate and Healthcare Improvement Scotland as to which regulatory body the services should be registered with.

7.5 Project Monitoring and Evaluation

Arrangements for the day to day management of the service and ongoing monitoring of the project will be developed upon approval of the Business Case.

A detailed approach to evaluation of the service during and at the end of the trial period is in development, in partnership with independent academic experts in a range of relevant fields. The evaluation will assess the effectiveness of the service in delivering the outcomes outlined in section 2.7 of this document, and other benefits the service has realised for the target client group and for Glasgow as a whole. The evaluation will involve collecting “baseline” data and information prior to services commencing, and is then expected to last through the lifetime of the pilot, producing regular reports and publications on the anticipated outcomes. The evaluation framework and governance will be presented to the Integration Joint Board in due course.

Appendix 1 – Value for Money

A. Service Utilisation and costs amongst target population

Methods utilised to estimate acute health service utilisation and costs among clients of the Assertive Outreach team

Public injecting is not currently recorded in any routine dataset from health or social care. In order to estimate the costs associated with this population, we therefore sought data on people who have engaged with the Assertive Outreach team, set up to meet the needs of people who inject drugs in public places in the city centre. This is the closest proxy measure of public injecting currently available.

In the two and a half years between the launch of the service in June 2014 and December 2016, the Assertive Outreach team engaged with 652 people. Information on these clients were securely transferred to NHSGGC for matching to the Community Health Index register, in order to estimate health and social care activity and costs for the group as a whole.

Using the data available, Community Health Index numbers could be assigned for 350 of the 652 clients (54%). The remainder could not be matched to the Community Health Index register for NHSGGC: non-matches are likely due either to insufficient or inaccurate personal details (including false names and aliases) or residence in other health boards.

For this group of 350 people, data on acute hospital admissions and emergency department (ED) attendances were obtained from the Scottish Morbidity Record 01 (SMR01) and the AE2 datamart respectively. These data were then de-identified and analysed to estimate acute hospital and ED activity.

As per NHSGGC standard methods for bed-day modelling, acute hospital admissions not involving an overnight stay were coded as 0.5 bed days. Day case episodes were coded as 0 bed days.

Resource use for inpatient and day cases was calculated using patient level costing (PLICS) [1]. Costs are derived by attributing both fixed and variable costs by speciality and location (site) across NHS Scotland. PLICS moves away from average costing by deriving costs for admission and then per day for medical, nursing and allied health professionals, theatre time, radiology, pharmacy, labs. Overheads are applied as a percentage of overall costs. Resource use for accident and emergency is calculated using the NHS Costs Book, which provides cost per attendance for accident and emergency units in Scotland [2].

The data presented here do not include activity or costs in outpatients, maternity services, mental health, continuing care, primary care, prescribing, or social care. Work is underway to extend this exercise to these datasets.

Estimated costs of blood borne viruses in people who inject drugs

Costs of some injecting-related complications are particularly high. One recent study estimated the average lifetime healthcare costs associated with HIV infection to be £360,000 per person: this includes anti-retroviral medications, laboratory monitoring, outpatient follow-up, and treatment of HIV-related complications [3]. If this cost was applicable to the new 78 HIV cases linked to the outbreak of HIV in people who inject drugs in Glasgow for 2015 and 2016, this would translate to a lifetime cost of £28,080,000 incurred to our health system.

The following should be noted, however, when considering the applicability of this estimate to this target population and over time:

- The £360,000 figure is derived in relation to HIV infections among men who have sex with men. To date, there has not been similar study for people who inject drugs. Lifetime costs of HIV infection among people who inject drugs may not be the same, because of differences in their adherence to medication and engagement with services, rates of concurrent health conditions, and risk of death from other causes. Some of these differences are likely to be associated with greater costs, others with lower costs.
- The study was undertaken before treating all HIV-positive people with anti-retroviral medication (regardless of disease stage or severity) became standard practice – this change may mean that treatment costs are greater than the £360,000 figure. Conversely, reductions in the price of anti-retroviral medication – particularly the availability of generic, rather than branded, drugs – may reduce treatment costs in future.
- It did not include indirect costs of HIV infection – for instance, resulting from welfare benefits, informal care, and lost economic productivity – which previous research has found to be substantial [4].

Average medication-only costs for anti-retroviral treatment of patients with HIV in NHSGGC during 2015/16 were obtained from routine service monitoring data. The average anti-retroviral spend per patient during this period was £6,403. These costs incorporate savings achieved through national procurement and cost-sensitive prescribing and delivery (including use of generic drugs where available). As medication-only costs, they do not include the costs of clinic appointments, laboratory monitoring, or treatment for any complications arising

Estimates for the lifetime costs of hepatitis C – carried by 69% of people who inject drugs in NHSGGC – are not available [5]. However, recent advances in treatment strategy for hepatitis C have been accompanied by significant increases in drug costs. For instance, list prices for the new treatment regimens are in the region of £35,000-£40,000. Despite its established cost-effectiveness in the prevention of long-term complications, hepatitis C treatment therefore represents a significant cost burden to healthcare systems [6], reinforcing the importance of effective prevention.

Estimated costs associated with multiple and complex needs

Multiple and complex needs – such as homelessness and offending – are common among people who inject drugs in public places in Glasgow city centre [7].

Costs of meeting complex needs specific to Glasgow are not currently available. In their absence, an exercise was undertaken to estimate the extent of social work contact among the 350 individuals known to the Assertive Outreach team for whom CHI numbers could be assigned. Review of social work records suggested that more than 99% of these individuals had current or previous involvement with social work.

Studies from elsewhere suggest that public service costs associated with multiple and complex needs can be substantial. In England, it has been estimated that public expenditure costs for homeless people with complex needs are 4-5 times those for people in the general population [8]. Another study among a sample of 39 people with multiple and complex needs in three English areas found that the average monthly spend on health, addictions, housing, and criminal justice services was between £1,120 and £3,069 per individual [9].

B. Cost effectiveness of Proposed Services

This section outlines the evidence base for the potential cost-effectiveness of safer injecting facilities and heroin-assisted treatment services, as reviewed in the 'Taking Away the Chaos' report [7].

Economic evaluations of safer injecting facilities (SIFs)

Several economic evaluations of existing SIFs were identified; three from Vancouver and one from Sydney [10-14]. No economic evaluations of safer consumption facilities – i.e. those providing for the inhalation as well as injecting of drugs – were identified.

In the absence of direct evidence of effectiveness in reducing HIV infections or overdose deaths, all attempted to estimate the societal cost savings of predicted reductions in these outcomes using mathematical modelling techniques. They concluded that SIFs resulted in substantial potential savings, although estimates varied greatly between countries. For instance, among those studies considering both HIV infections and overdose mortality, savings estimates varied from AU\$658,000 (~£323,000) per year to CA\$6,000,000 (~£3,000,000), with the latter study suggesting that the Vancouver SIF achieved a benefit to cost ratio of 5:1. However, the reduction in HIV transmission risk attributed to SIF attendance used in some Canadian studies has been criticised as an unfounded over-estimate. No studies attempted to quantify the costs of social impacts such as drug-related crime or public amenity, though these are likely to be substantial.

More generally, these and other economic models of the benefits of SIF are sensitive to a number of assumptions about service utilisation rates, injection frequency, and the background incidence of HIV among people who inject drugs; all of which are likely to vary greatly between potential SIF settings. To our knowledge, no study has yet considered the potential economic implications of a SIF in the UK.

Economic evaluations of heroin-assisted treatment (HAT)

A number of analyses of the cost-effectiveness of heroin-assisted treatment have been reported.

An economic evaluation of the UK RIOTT trial investigated the cost-effectiveness of heroin-assisted treatment compared to methadone maintenance among people with chronic, refractory opiate addiction, over six months of follow-up [15]. While heroin-assisted treatment was more expensive to provide than methadone maintenance (predominantly due to staffing costs), it was associated with lower costs of criminal activity and greater gains in quality-adjusted life years (QALYs; a measure of both length and quality of life). For instance, the total cost – including medication, health service use, and social impacts - of injectable heroin over the six-month study period was £13,410, in comparison to £15,805 for methadone. From a societal perspective, heroin-assisted treatment was therefore found to be more cost-effective in this population than oral methadone. However, if a narrower health sector perspective was adopted, discounting the cost savings from changes in criminal activity, oral methadone was favoured.

Other studies – from Germany, the Netherlands and Switzerland – have produced similar results, with heroin-assisted treatment found to be cost-saving overall from a societal perspective as a result of reductions in crime and offending and, to a lesser extent, in the adverse health consequences of drug use [16].

References

1. NHS ISD, Methods and Sources, PLICS, Available at: <http://www.isdscotland.org/Health-Topics/Health-and-Social-Community-Care/Health-and-Social-Care-Integration/Analytical-Outputs/Method-Sources.asp>
2. NHS ISD, NHS Costs Book (report R020), Available at <http://www.isdscotland.org/Health-Topics/Finance/Costs/File-Listings-2015.asp>
3. Nakagawa F, Miners A, Smith CJ et al. Projected Lifetime Healthcare Costs Associated with HIV Infection. *PLOS ONE* 2015; 10(4): e0125018.
4. Mullins CD1, Whitelaw G, Cooke JL, Beck EJ. Indirect cost of HIV infection in England. *Clinical Therapeutics*. 2000 Nov;22(11):1333-45.
5. Munro A, Taylor A, Knox T et al. Needle Exchange Surveillance Initiative (NESI): Prevalence of HCV and injecting risk behaviours among people who inject drugs (PWID) attending injecting equipment provision services (IEPs) in Scotland, 2008/2009 -2013/2014. UWS, 2015.
6. Iyengar S, Tay-Teo K, Vogler S, Beyer P, Wiktor S, et al. (2016) Prices, Costs, and Affordability of New Medicines for Hepatitis C in 30 Countries: An Economic Analysis. *PLOS Medicine* 13(5): e1002032. doi: 10.1371/journal.pmed.1002032
7. Tweed E, Rodgers M. 'Taking Away the Chaos: the health needs of people who inject drugs in public places in Glasgow city centre'. NHSGGC, 2016.
8. Bramley G, Fitzpatrick S. *Hard Edges: mapping severe and multiple disadvantage*. Lankelly Chase Foundation, 2015.
9. Battrick T, Crook L, Edwards K, Boaz M. Evaluation of the MEAM pilots – Update on our findings. *Making Every Adult Matter (MEAM)*, 2014.
10. Andresen MA, Boyd N. A cost-benefit and cost-effectiveness analysis of Vancouver's supervised injection facility. *International Journal of Drug Policy* 2010 Jan;21(1):70-6.
11. Bayoumi AM, Zaric GS. The cost-effectiveness of Vancouver's supervised injection facility. *CMAJ Canadian Medical Association Journal* 2008 Nov 18;179(11):1143-51.
12. Pinkerton SD. Is Vancouver Canada's supervised injection facility cost-saving?. *Addiction* 2010 Aug;105(8):1429-36.
13. SAHA Ltd. Economic evaluation of the medically supervised injection centre at Kings Cross (MSIC). Sydney; 2008.
14. Pinkerton SD. How many HIV infections are prevented by Vancouver Canada's supervised injection facility?. *International Journal of Drug Policy* 2011 May;22(3):179-83.
15. Byford S, Barrett B, Metrebian N, Groshkova T, Cary M, Charles V, Lintzeris N, Strang J. Cost-effectiveness of injectable opioid treatment v. oral methadone for chronic heroin addiction. *The British Journal of Psychiatry* 2013;203(5):341-9.
16. Strang J, Groshkova T, Metrebian N. *New heroin-assisted treatment. recent evidence and current practices of supervised injectable heroin treatment in Europe and beyond*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction; 2012.