

7.0 Blood-Borne Virus Testing, Care and Treatment

7.1 Blood-borne virus prevalence

The Needle Exchange Surveillance Initiative (NESI) 2015-16 reported the hepatitis C antibody (HCV Ab) prevalence of people attending injecting equipment provision (IEP) services in Edinburgh as 48%. This is a rise of 7% from 41% in 2013-14 (Table 7.1), although lower than the national average of 58%. People in Lothian who had been in prison in the last six months were found to have a higher hepatitis C antibody prevalence of 63% and the proportion of people with recently acquired hepatitis C (HCV) infection has risen from 1.2% in 2010 to 3% in 2015. HIV prevalence reported by NESI 2015-16, was low at 0.6%.

Table 7.1: Prevalence rates of positive hepatitis C antibody in people who inject drugs attending IEP services in Lothian based on NESI survey 2015-16

Year	2009-10	2013-14	2015-16
Lothian prevalence of Hepatitis C antibodies in people who inject drugs	33%	41%	48%

7.2 Blood-borne virus testing in current injectors attending injecting equipment provision sites

Of Lothian respondents to NESI 2015-16, 59% reported being tested for hepatitis C in the previous 12 months (vs 48% nationally) with the majority tested by GPs or in drug treatment services (Table 7.2). In Lothian, GPs are paid to test high risk individuals through a Local Enhanced Service.

Table 7.2: Location of last HCV test based on NESI 2015-16

Location of last test	Number tested (percentage)
Drug Treatment	138 (32%)
GP	112 (26%)
Hospital	82 (19%)
Prison	75 (18%)
Other	19 (4%)
Total	426 (100%)

A higher proportion of people who had been in prison in the last six months and people who were homeless were tested for HCV in the last 12 months, 78% and 76% respectively. This may be partially attributed to additional resources for testing invested into the prison and homeless sectors since 2012 by the Hepatitis C Managed Care Network. Overall, 8% reported never having been tested.

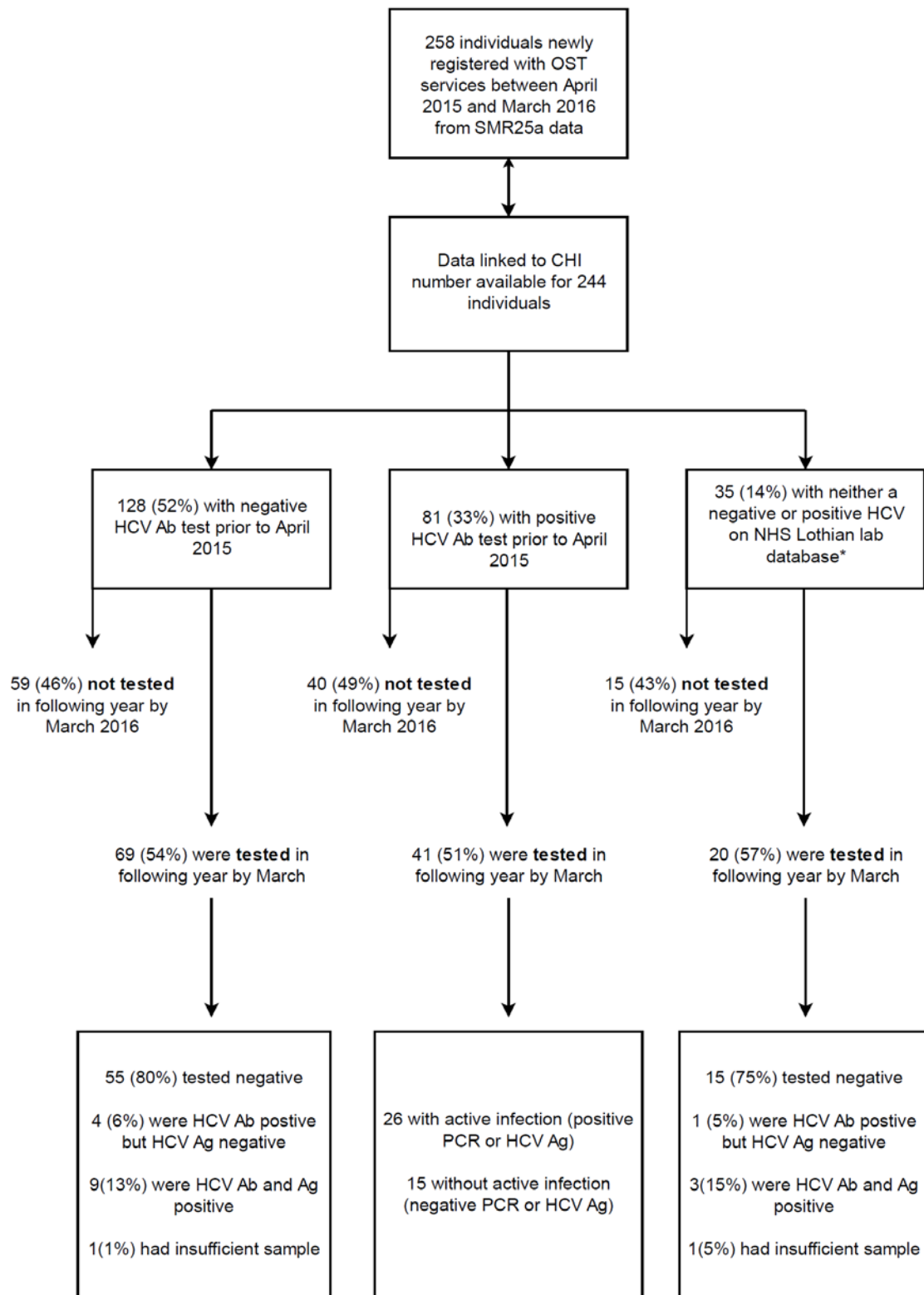
7.3 Blood-borne virus testing for people receiving opioid substitution therapy

Local and national recommendations are that all people who currently inject drugs are tested at least annually or more frequently if at very high risk [26]. In Edinburgh, 258 individuals were newly registered, via SMR25a registration, with specialist addictions services between April 2015 and March 2016. Community Health Index (CHI) numbers were available for 244 individuals and SMR25a records were linked to the NHS Lothian laboratory testing data (Figure 7.1). If testing was performed out with the board area the local laboratory may not have had this data so some records may have been missed.

For the cohort of 244 CHI linked records:

- One hundred and twenty eight (52%) people had a negative HCV Ab test prior to April 2015 and were eligible for retesting in the following year by March 2016. Fifty nine (46%) of those individuals were not tested in the following year.
- Thirty five (14%) people did not have a negative or positive result recorded on the local NHS Lothian laboratory database prior to April 2015. Some may have had a test out with NHS Lothian or had a test unlinked to CHI number in this time however the majority would have been eligible. Fifteen (43%) were not tested in the following year.
- Eighty one (33%) people had a positive HCV Ab test recorded on the laboratory database prior to April 2015 and it is unclear what proportion would have required testing in the following year. Forty one (51%) people received tests in the following year with many likely due to follow up or confirmatory testing.
- A total of 137 tests were performed with some of these being repeat testing on the same individuals. Most (51%) tests were done by the community BBV team, Royal Infirmary of Edinburgh (RIE) and Western General Hospital, 15% of tests were done by GPs, 15% by the Edinburgh Access Practice and 5% by third sector agencies. This suggests some ongoing engagement of patients with GPs while in specialist care for addictions but it is disappointing that more tests are not being done by specialist services themselves.

Figure 7.1: Data linkage between SMR25a CHI numbers and NHS Lothian laboratory testing data



*may be due to no prior test, test outwith board area or a test performed unlinked to CHI number

**it is likely that many were follow-up or confirmatory tests

7.4 Blood-borne virus testing in those registered with GPs via drug misuse National Enhanced Service (NES)

Data provided from general practice looked at 3808 individuals (472 currently injecting and 2024 having previously injected) who had at least one appointment with one of 92 GP practices currently contracted via the drug misuse National Enhanced Service (NES) throughout Lothian in 2016. Of these individuals, 707 (18.6%) had been tested, 705 (18.5%) declined testing for HCV and 2396 (62.9%) had not been tested in 2016. Of 472 who reported current injecting, 133 (28%) were tested, 48 (10%) declined testing and 291 (62%) were not tested. Those in older age categories over 40 years were more likely to decline testing. Of the total 707 that received a test, 73 (10%) were positive for HCV antibody and 22 (3%) were PCR positive.

Between January and December 2016, 212 new patients who newly registered with the drug misuse NES scheme were linked to laboratory testing data (Figure 7.2).

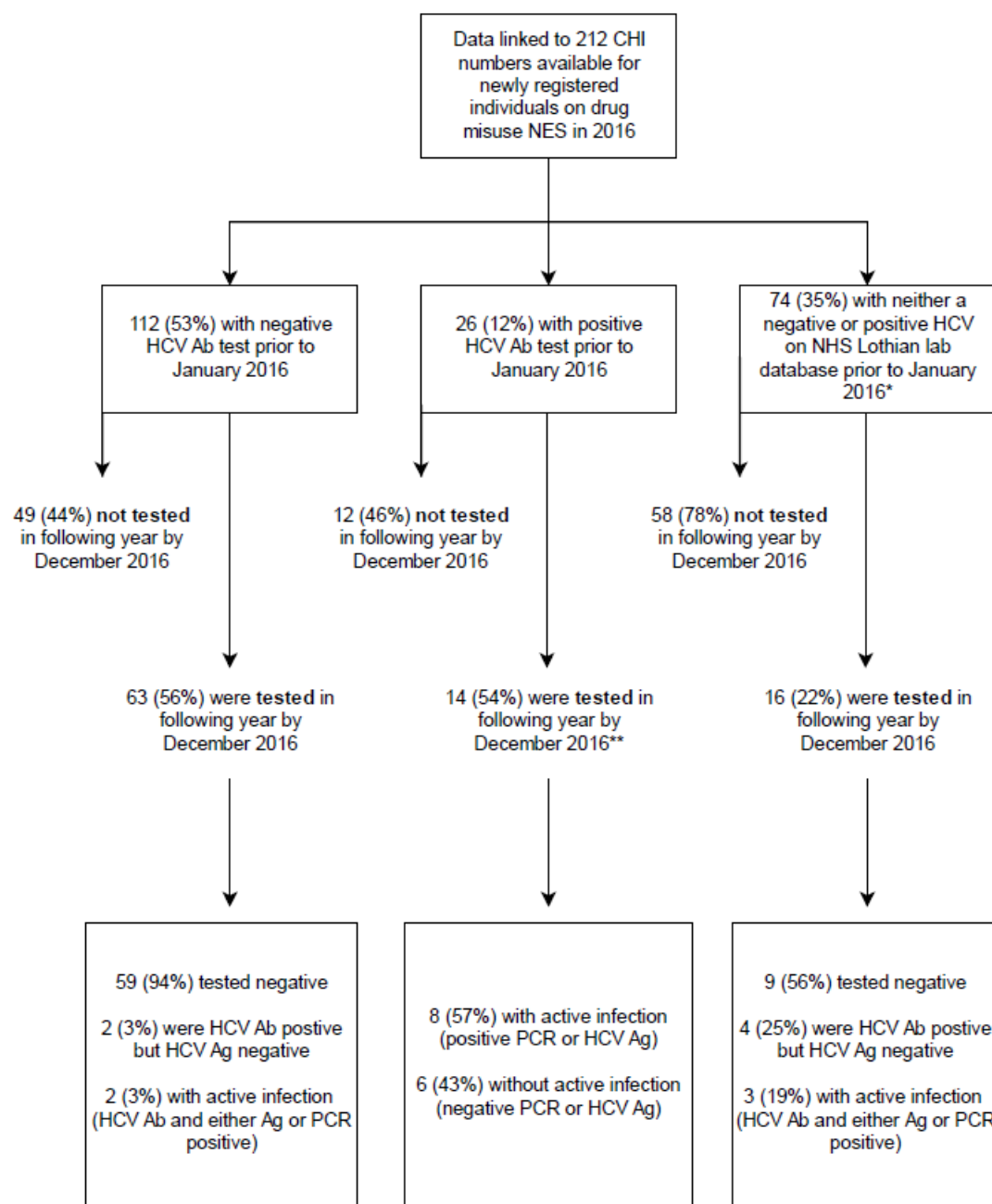
For the cohort of 212 CHI linked records:

- One hundred and twelve (53%) people had a negative HCV Ab test prior to January 2016 and were eligible for retesting in the following year by December 2016. Forty nine (44%) of those individuals were not tested in the following year.
- Seventy four (35%) people did not have a negative or positive result recorded on the local NHS Lothian laboratory database prior to January 2016. Some may have had a test out with NHS Lothian or had a test unlinked to CHI number in this time however the majority would have been eligible. Fifty eight (78%) were not tested in the following year.
- Twenty six (12%) people had a positive HCV Ab test recorded on the laboratory database prior to January 2016 and it is unclear what proportion would have required testing in the following year. Forty one (51%) people received tests in the following year with many likely due to follow up or confirmatory testing.
- Ninety three (44%) people were tested for HCV in 2016. The majority of testing was carried out by GPs (Table 7.3)

Table 7.3: Location of testing for new patients registered with drug misuse NES in Lothian based on laboratory data

Location of test	Number tested (Percentage)
GP	58 (62%)
Hospital	13 (14%)
Community BBV or RIDU	9 (10%)
Dry Blood Spot Testing	8 (9%)
Prison	4 (4%)
Other Health Board	1 (1%)
Total	93 (100%)

Figure 7.2: Data linkage between new drug misuse NES registrant CHI numbers and NHS Lothian laboratory testing data



*may be due to no prior test, test outwith board area or a test performed unlinked to CHI number

**it is likely that many were follow-up or confirmatory tests

7.5 Hepatitis C treatment

The total number of people in Lothian (including those who do not inject drugs) being treated for HCV has increased from 172 in 2013/14 to 215 in 2016/17. This reflects the availability of more effective treatments with fewer side effects and shorter duration.

Table 7.4: Number of patients commencing HCV treatment in Lothian compared to Scottish Government target

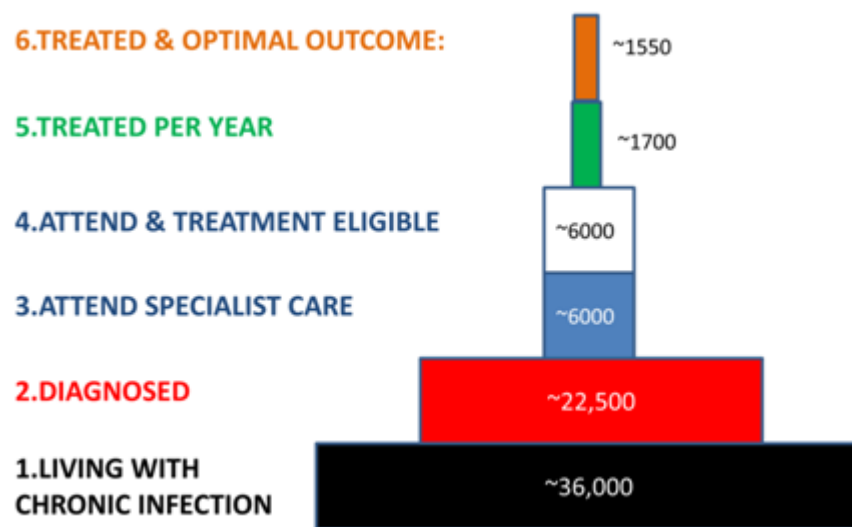
Year	Number of patients commencing hepatitis C treatment in Lothian	Government target
2013/14	145 (including 34 in prison)	172
2014/15	178 (including 38 in prison)	179
2015/16	235 (including 35 in prison)	215
2016/17	228 (including 29 in prison)	215

Of the NESI 2015-16 cohort in Lothian, 33 of 100 individuals (33%) with self reported positive HCV status received treatment. Sub analysis of this data for homeless people and people who report being in prison in the last six months showed lower rates of treatment in these groups (3/20 (15%) and 7/38 (18%) respectively) although the numbers surveyed were small.

Attrition rates from testing, referral and treatment for HCV

Nationally across Scotland, the population infected with HCV see large drop offs from diagnosis, attendance at clinic through to successful treatment (Figure 7.3) [45,46].

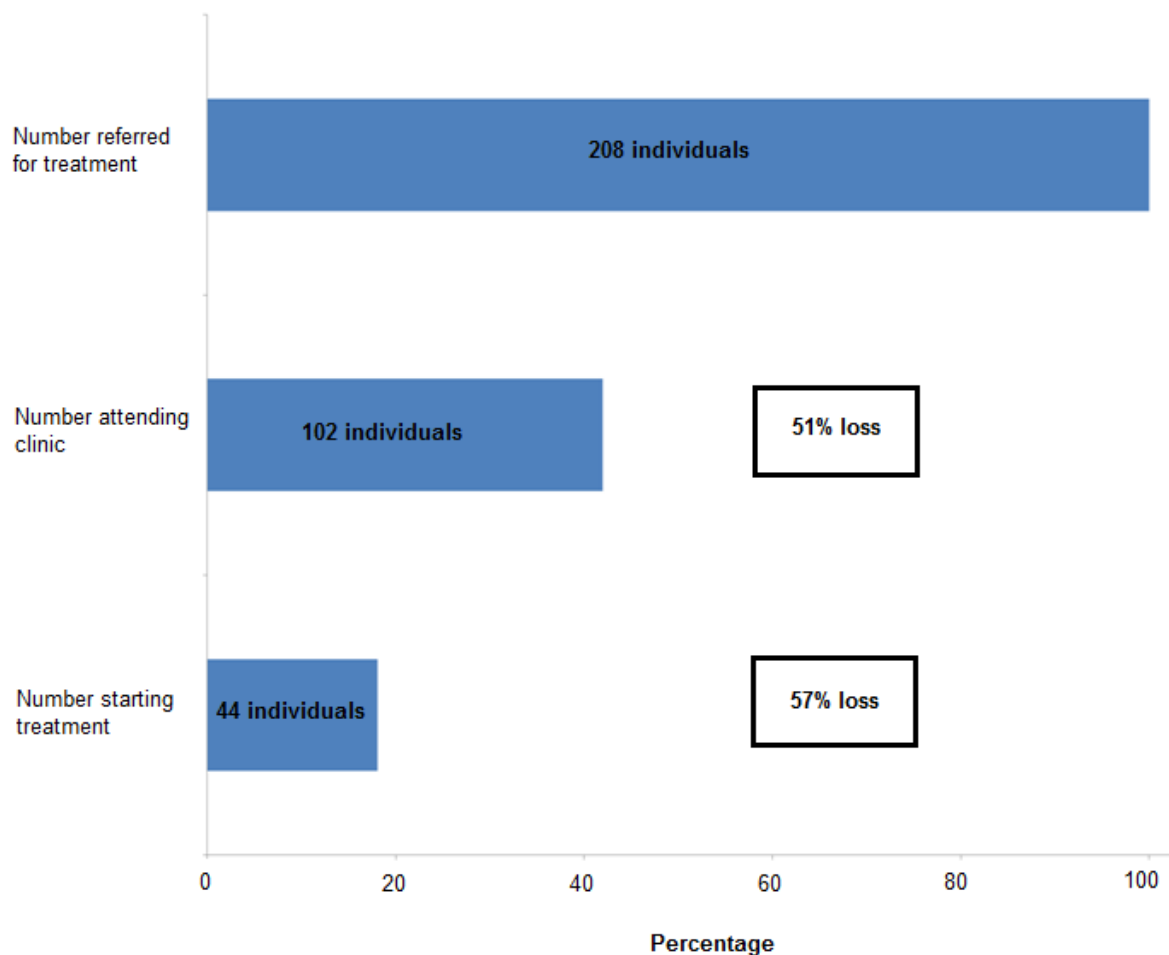
Figure 7.3: National Hepatitis C (HCV) Care Cascade



Of 279 in the Lothian NESI 2015-16 cohort receiving an HCV test, 142 (51%) were found to be HCV antibody positive. Of those 142 who tested positive, 59 (42%) were aware of previous infection with HCV.

Data from the HCV data base at the Royal Infirmary of Edinburgh (RIE) was used to estimate attrition rates from referral through to starting treatment (Figure 7.4). The data base includes patients treated at RIE and outreach clinics including the Edinburgh Access Practice. Data between 1st March 2014 and 31st December 2016 was extracted for 208 Edinburgh residents that had been coded as current (within the last 12 months) or ex- (more than 12 months ago) injecting drug users. It is likely that coding was inconsistent and many people who inject drugs were not recorded as such on the database. Of 208 individuals referred for treatment, 102 (49%) attended clinic. Of those that attended, 44 (43%) started treatment.

Figure 7.4: *Piot-Fransen Model of attrition rates for HCV referral and treatment in a cohort of 208 current and ex- injecting drug users in Edinburgh as coded on Royal Infirmary of Edinburgh database*



A comparison of attrition rates between the Royal Infirmary of Edinburgh and Edinburgh Access Practice shows lower attrition at the Edinburgh Access Practice (Table 7.5). Patients attending the Edinburgh Access Practice are mostly homeless and lower attrition probably reflects on-site case finding, testing, assessment, treatment and support, plus, flexible arrangements for access.

Table 7.5: Numbers of people who inject drugs referred to clinic for HCV, attending clinic and treated for HCV at Royal Infirmary of Edinburgh (RIE) and Edinburgh Access Practice (EAP) 1st March 2014 until 31st December 2016.

	EAP		RIE		Total	
Referred	80	Percentage Loss	128	Percentage Loss	208	Percentage Loss
Attended First Appointment	59	26%	43	66%	102	51%
Started Treatment	26*	56%	18**	58%	44	57%

*14 Sustained Virological Response, 2 relapsed, 1 incomplete treatment, 3 waiting on 3/12 post-treatment response, 6 currently on treatment

**6 Sustained Virological Response, 1 relapsed, 2 incomplete treatment, 5 waiting on 3/12 post treatment response, 1 currently on treatment, 3 outcome not recorded

An audit was conducted in 2011, to retrospectively trace those who had ever tested positive for HCV but: (1) had never been referred to the hospital clinics; (2) had been referred but had never attended clinics; and (3) had attended once at hospital clinics but then been lost to follow up after initial assessment. Of the original 3,819 patients ever identified as hepatitis C positive, 2,469 had died, moved away or become PCR negative. Of the remaining 1,350, 270 were successfully matched for CHI (meaning that they were registered with a Lothian GP) and of these 201 had already been re-referred back into the hospital system. The remaining 69 received a letter inviting them for review at their GP practice with the hepatitis C specialist nurse, but only two people attended. This exercise indicated that retrospective follow up by letter of individuals previously HCV positive is very labour intensive and unlikely to yield high pick up rates. However, other options such as prospective follow up through direct contact with outreach workers and through existing service contacts is worth exploring.

7.6 Hepatitis B vaccination

Of 475 people responding to the NESI survey 2015-16 in Lothian, 282 (59%) reported receiving three or more doses of hepatitis B vaccine, 57 (12%) reported receiving two doses and 19 (4%) reported receiving one dose. Sixty six people (14%) reported receiving no doses of vaccine and 51 (11%) were unaware of how many doses they had received.

7.7 Key findings: Blood-borne virus testing, care and treatment

BBV testing and treatment

- HCV antibody prevalence in people who inject drugs in Lothian has increased in the past few years and is currently at 48% (NESI 2015-16). There is a significant rise among recent onset injectors.
- The majority of testing is done in specialist drug treatment services, by the BBV testing team, and by GPs (NESI 2015-16, local data)
- Eighty nine people (55%) of 163 who registered for OST and were eligible for testing received BBV testing in the year since last test (SMR25a/HCV database linkage).
- Seventy nine people (42%) of 186 who were newly registered with the primary care drug misuse National Enhanced Service received testing for HCV in the year since last test (Drug Misuse National Enhanced Service data/HCV database linkage).

Attrition rate of people who inject drugs from diagnosis to treatment of BBVs

- 59% of current injectors were tested for HCV in the last year (NESI 2015-16)
- Of 208 people who inject drugs (current and ex- injectors) referred for treatment at the Royal Infirmary of Edinburgh, 102 (49%) attended clinic and of those 44 (43%) started treatment (RIE Database).
- Losses between referral and successful treatment are less for patients at the Edinburgh Access Practice where patients may not have to travel for treatment and they are surrounded by both multi-disciplinary generalist and specialist workers who can support their treatment pathway. (RIE Database)