

HMECARE

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Nottingham University Hospitals **NHS**
NHS Trust

HOMECARE PROCESS

All patients with HCV infection who attend Nottingham University Hospitals and are eligible for anti-viral therapy, are assessed for entry into the Homecare service using agreed criteria. These include: competence to adhere to therapy and blood testing without direct supervision; no current or documented evidence of decompensated liver disease; contactable by telephone.

Information on eligible patients is passed to the Homecare Technician who discusses the service with the patient. If Homecare is preferred, the GP is informed and consent forms for home delivery with return envelope are posted to the patient for signature and return. The patient also receives blood forms and a schedule of testing to be performed at a convenient location. The homecare service can also be discussed as a treatment option and consent forms signed in the outpatient clinic.

The prescription and consent forms are processed by Pharmacy, who prepare the medication and deliver by courier. Medication is delivered on a monthly basis at times agreed with the patient. The Homecare technician works with pharmacy, the courier and the hepatology service to ensure that blood forms are sent with the medication and that results are retrieved for medical review.

BACKGROUND

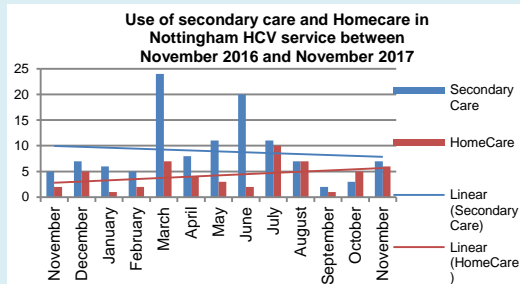
The advent of directly acting anti-viral agents (DAAs) for HCV infection has transformed the therapeutic landscape. Unlike historical treatment for HCV, DAAs have an excellent safety record, and can therefore be stratified for use in community environments which better meet patient needs. We present a pilot study of a novel home based care pathway, delivered by partnership between specialist hepatitis services and Hospital Pharmacy.

METHODS

HCV infected individuals managed by hospital based services in Nottingham and assessed as eligible for DAAs were screened for entry to the service using the following criteria: competence to adhere to therapy and blood testing without direct supervision; no current or documented evidence of decompensated liver disease; contactable by telephone. Following recruitment, patients received a pack containing: blood forms; a schedule of blood testing (performed in the community); information leaflets; details of hospital contacts. DAAs were delivered to the patient home each month by Hospital Pharmacy. A dedicated Homecare technician (0.6 WTE) is the initial contact for patient queries, with support from the lead nurse. Patients were invited to report outcome measures and feedback using structured questionnaires.

The service is run by Outpatient Pharmacy at Nottingham University Hospitals. The Homecare Technician attends weekly MDTs and works closely with the nursing team, the MDT coordinator and ODN lead to coordinate the service. Lab results are reviewed by the lead nurse and clinical problems are referred to the clinical team. This integration facilitates good communication and the delivery of effective patient care.

The Homecare service and strategy of pharmacy based delivery relieves pressure on the hepatitis services, and allows specialist teams to focus on patients with severe co-morbidities, and to develop and promote models of community care for hard to reach groups with HCV infection. As an example, we produced a stand for World Hepatitis Day, allowing us to spread awareness of easy access to phlebotomy for same day testing.



Of 87 patients offered a choice of care setting by November 2017, 64 (74%) elected to receive Homecare. This group did not differ significantly in age, gender or HCV genotype from the hospital based population, and there were no restrictions on choice of DAA. 8 Homecare patients met Fibroscan criteria for cirrhosis. 70 patients have so far started treatment, of whom 47 have completed, 23 have achieved SVR and 2 have failed treatment. One patient withdrew from the study for reasons unrelated to Homecare and one transferred back to hospital care. While the numbers of patients treated remains a function of NHSE 'run rate', Homecare has supported a shift within the HCV service from secondary care settings to treatment in the community. Travel difficulties was the most frequently cited reason for homecare, but individual preference and work commitments were also common reasons.

FINDINGS

	Average Secondary care pathway cost	Homecare pathway cost (Average delivery distance 14 miles)
Initial Consultant Appointment	£200 (consultant appointment)	£200 (consultant appointment)
Starting treatment	£76 (Nurse appointment)	£28.47 (delivery fee)
TW4	£76 (Nurse appointment)	£28.47 (delivery fee)
TW8	£76 (Nurse appointment)	£28.47 (delivery fee)
TW12	£76 (Nurse appointment)	£0.60 (postage)
PTW4	£76 (Nurse appointment)	£0.60 (postage)
PTW12	£76 (Nurse appointment)	£0.60 (postage)
PTW24	£76 (Nurse appointment)	£0.60 (postage)
Total	£808	£287.40

FINANCIAL SAVINGS

AVERAGE SAVING PER PATIENT VS SECONDARY CARE: £521

Other costs per year:

Homecare coordinator - **£15940**

Number of patients needing to be treated via Homecare rather than secondary care to cover cost of coordinator: = 30 (£15940/Saving).

Homecare coordinator can treat at least 15 patients a month on average - 12 months' salary covered within 2 months.

FEEDBACK

Questionnaires have been sent out to all of our patients after completing treatment. We had a 38% response rate to our feedback forms.

All feedback forms received to date show positive feedback.:

	Definitely	Yes to some extent	Not really	Definitely not
Overall, did the service provide what you anticipated?	16	0	0	0
Overall, did you feel confident in the member of staff looking after you?	16	0	0	0
Would you recommend the service to another patient?	16	0	0	0
Was all relevant information explained clearly to you?	14	2	0	0

The service has also been received positively by the staff involved in delivering the service both within Pharmacy and the Hepatology department:

Feedback from Pharmacy

"Overall, the system we have works extremely well and the gratitude we have had from patients proves its effectiveness. It has been a great pleasure working with the Hepatology department and being involved with such a rewarding service" - **Samantha Bird Homecare and Pharmacy Technician.**

Feedback from Specialist Virology Nurse:

"It was time to change our strategy in how we deliver Hep C treatment and Nottingham was given this wonderful opportunity to offer homecare treatment to our patients. This model of care has given a chance to those patients that are the most difficult to reach to access treatment, where they otherwise wouldn't. It has been a huge success, I am immensely proud to be part of this service." - **Jasmina Khaldi, Specialist Virology Nurse, Nottingham University Hospitals NHS Trust**

Some free-text quotes from patient feedback forms:

"The service went very well and no need for improvement (very, very good)"

"Thank you every so much for making me good"

"All excellent, very happy!"

"I would like to add that the delivery home service was always great with a happy enthusiastic gentleman. Also the help from my virologist nurse Jasmina - she has gone over and above helping me. I couldn't be happier with the service and constant contact."

ACKNOWLEDGEMENTS

Thank you to Gilead Sciences for sponsoring this project.

Thank you to Trust Pharmacy for support throughout the project and ongoing service delivery.

The Effectiveness of Hepatitis C clinics in Addiction Services in Merseyside

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AIM: The primary aim was to measure the effectiveness of hepatitis C clinics in three addiction services in Liverpool.

DESIGN: Hepatitis C (HCV) is a virus that can infect the liver and the prevalence of HCV in Cheshire and Merseyside is estimated to be 4.5%. If left untreated, it can sometimes cause serious and potentially life-threatening damage to the liver. The goal of treatment is to cure HCV infection in order to prevent complications.

Treatment for HCV has evolved rapidly with the approval of direct acting anti-virals (DAA). These medicines result in SVR rates >90% with 8, 12 or 16 weeks of treatment with very few side effects. Many patients do not attend the hospital for treatment, with a DNA rate at the Royal in the HCV assessment clinic, at >60%. However, a majority of the 'at risk' patients attend addiction services for opioid substitution treatment such as methadone and buprenorphine as well as ongoing help and support. On the back of the success of the Brownlow Project and HepCatt we identified three addiction services; Brook Place in Tuebrook, Liverpool, Ambitions in Bootle, Sefton and Ambitions in Southport, Merseyside. Two of the three centres were regularly testing their clients by using dry blood spot (DBS) testing and where known to have a high incidence of hepatitis C.

SETTING In August 2017 three clinics were set up across three sites in Liverpool; Brook Place, Ambitions Sefton and Ambitions Southport. These centres provide help and support to people who have a drug and alcohol problem who have a high incidence of hepatitis C.

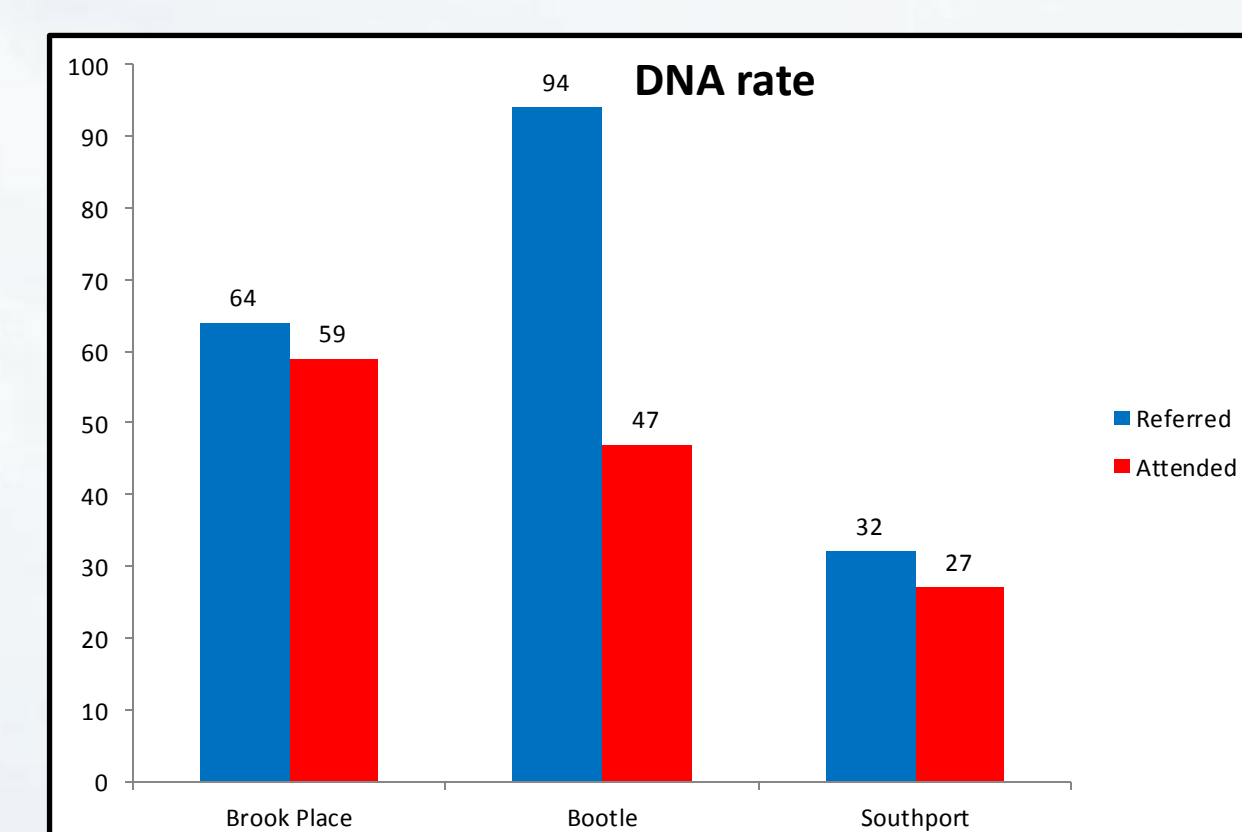
A nurse from secondary care attended each site one day per week. Patients known to have hepatitis C were seen by the specialist nurses where a history was taken which included details regarding alcohol & substance misuse and prescribed medication.

During investigation all patients had blood tests including an APRI (AST to Platelet Ratio Index) score. If the APRI score was >1.0 (indicating no cirrhosis) or <2.0 (indicating cirrhosis is likely) then a fibroscan was not required however between 1.0 – 2.0 is indeterminate and further investigation i.e. fibroscan was required. For the management of patients with hepatitis C, a fibroscan >11.5kpa was recorded as advanced fibrosis / cirrhosis.

DEMOGRAPHIC

190 patients were referred to the service across the three sites over a 4 month period.

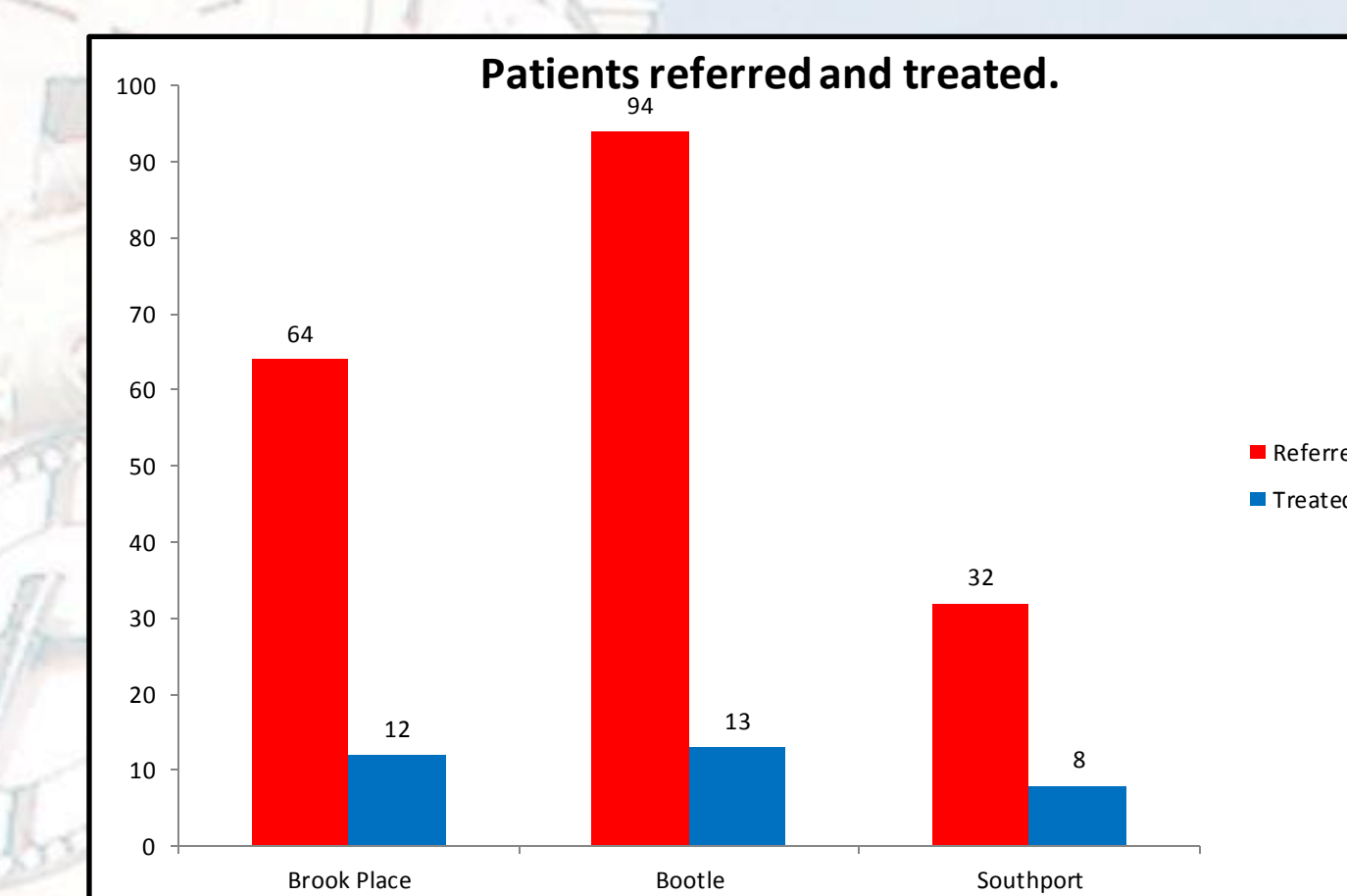
In Brook Place 64 patients were referred to the service with a 81% attendance rate. In Ambitions Bootle 94 patients were referred with a 50% attendance and finally in Ambitions Southport 32 patients were referred with a 86% attendance.



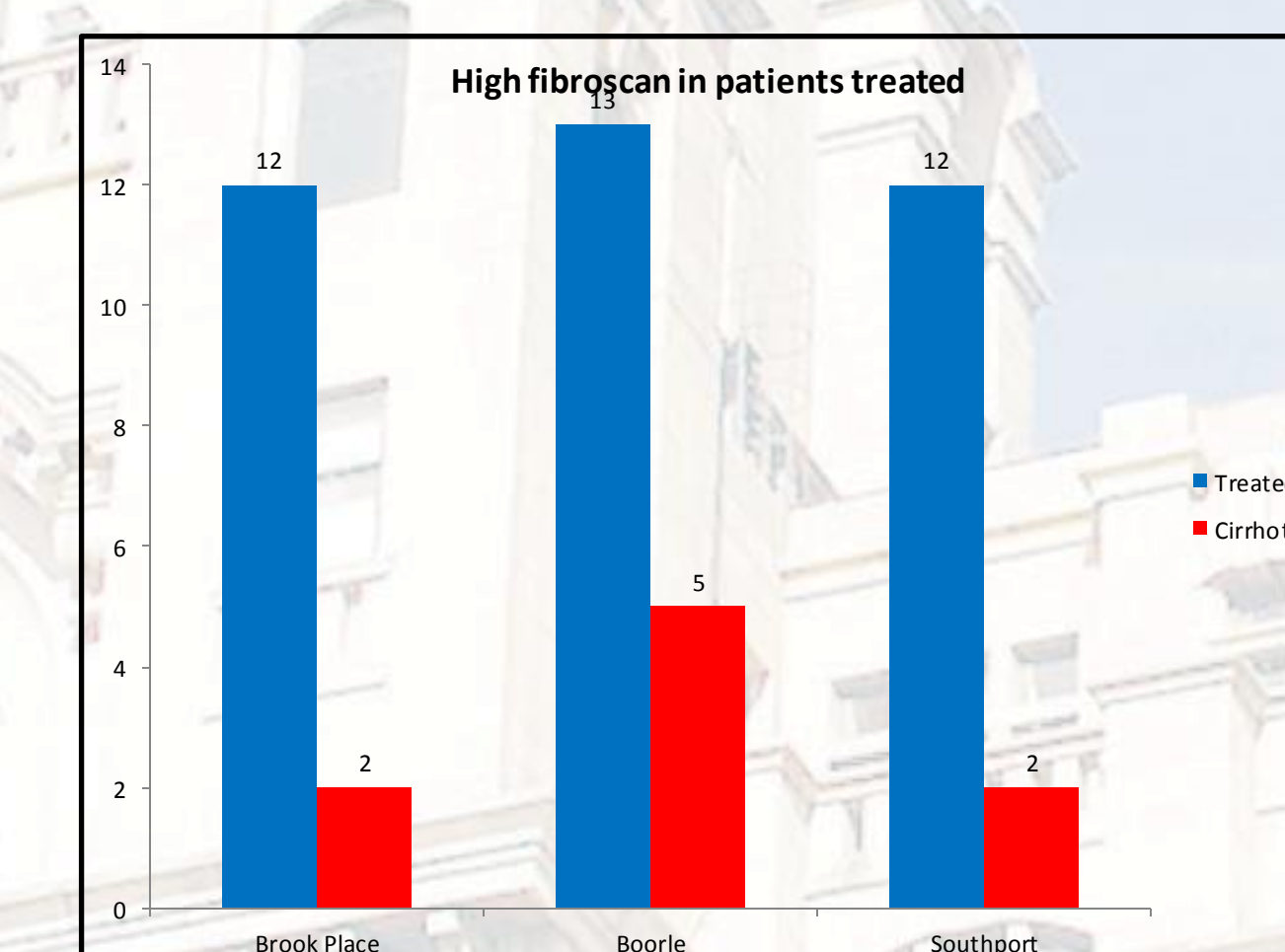
RESULTS

Of the 190 patients referred, 41 were treated (21.5%) with direct acting antivirals.

In Brook Place 12 patients (19%) commenced treatment; In Ambitions Bootle 13 patients (14%) commenced treatment and finally 8 patients (25%) were started on treatment in Ambitions Southport.



Of the patients treated 23% were diagnosed with advanced fibrosis / cirrhosis with a fibroscan > 11.5kpa.



CONCLUSION

Hepatitis C treatment outreach clinics based in addiction services are largely successful not only at delivering treatment but also in identifying patients with advanced fibrosis or cirrhosis who previously have failed to engage with secondary care. However these are new services and yet to reach full engagement. Indications are, once the service is more established, numbers will improve.

Background and Aims

Majority (70%-90%) of HCV positive individuals in England are people who inject drugs (PWID), a cohort that engage poorly with hospital services. Project ITTREAT (Dec 2013-Nov 2017) assesses feasibility of non-invasive detection, staging and treatment of HCV related chronic liver disease in the community

Methods

Study conducted at a large substance misuse service (SMS) in SE England. All services provided at one site: dry blood spot testing (DBST), transient elastography (TE), HCV treatment, OST, psychiatric services, social support and peer mentors. Following data collected: clinical, qualitative, patient reported outcomes (SF-12v2, SFLDQOL) and health economics (EQ-5D-5L). Hepatitis service provided by an experienced nurse (MOS) under Hepatologist supervision (SV). HCV treatment offered as per NHS guidelines. Interim clinical outcomes presented.

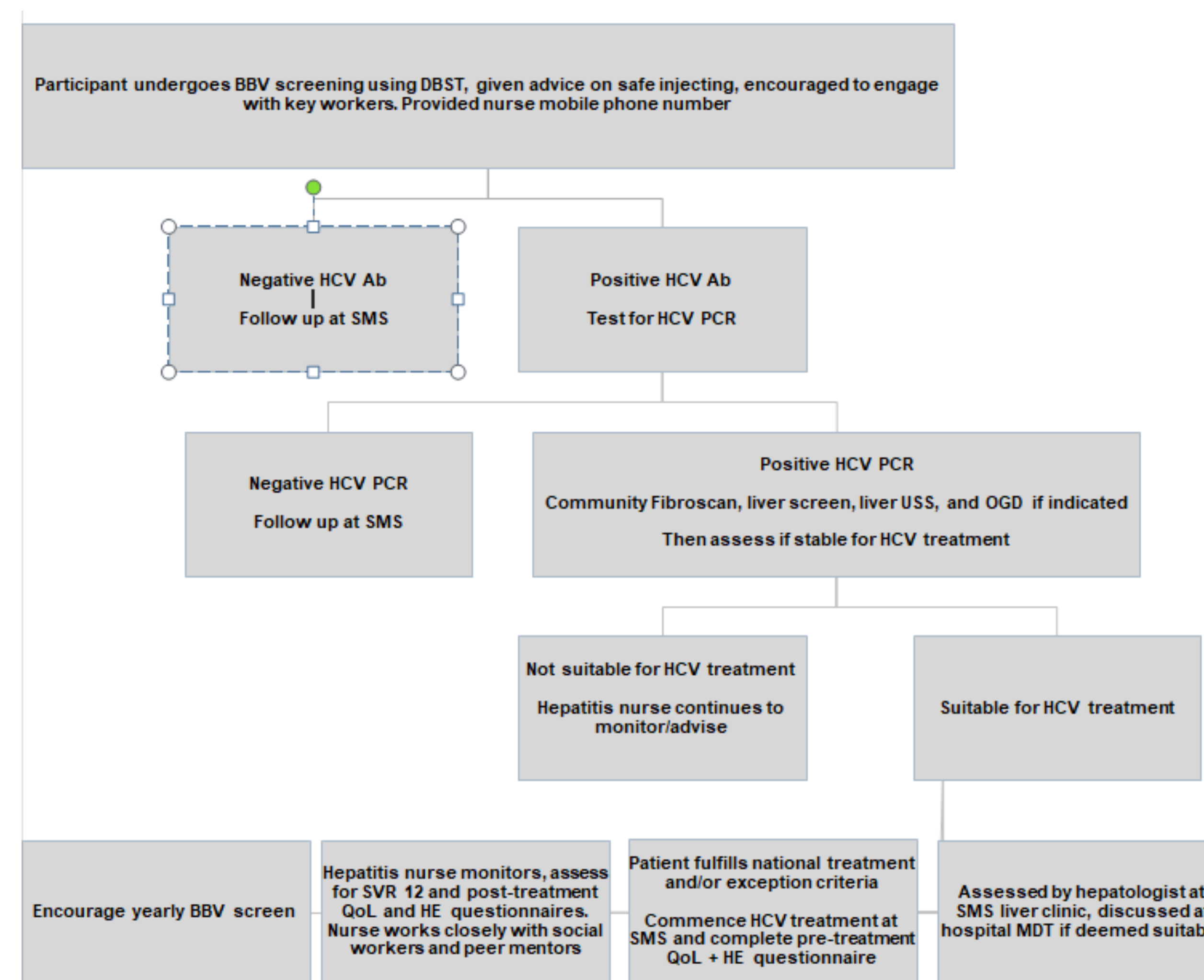


Fig 1: Participant pathway at the substance misuse service (SMS)

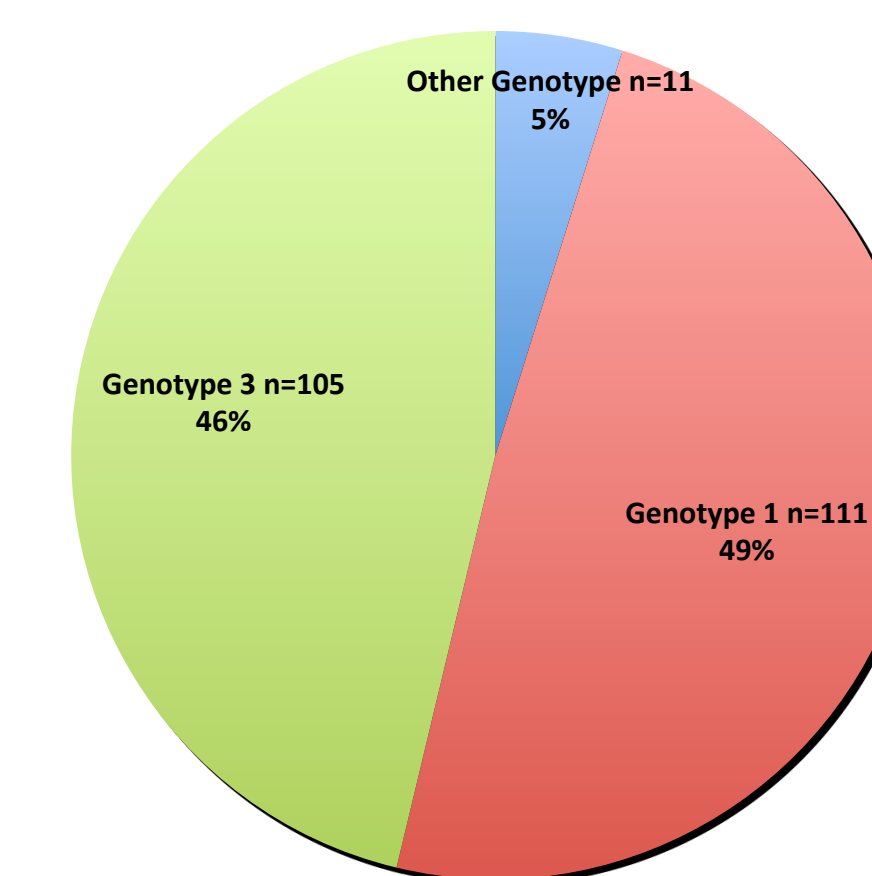
Results

Total Recruited	550
Age	40 ± 10.1
Males	439 (80%)
White British	462 (84%)
Heterosexual	520 (95%)
Injecting Drug Use	
Ever	390 (71%)
Currently	166 (31%)
Ever shared paraphernalia	531 (97%)
Over dose	169 (31%)
Alcohol Use	
Ever	482 (88%)
Currently	205 (37%)
Currently > recommended weekly	126 (23%)

Psychiatric Illness	
Ever	269 (49%)
Currently	194 (35%)
BBV Screening	
BBV screening uptake	536 (97%)
Positive HbcAb	94 (19%)
Positive HCV Ab	306 (57%)
Positive HCV PCR	250/306 (81%)
Positive HIV Ab	3 (0.6%)
Stable Housing	278 (51%)
Comorbidity	138 (25%)
Prior HCV treatment	13, 10 still PCR positive

Table 1: Baseline characteristics of cohort

Fig 2: Genotype Distribution



HCV treatment data

71/250 (28%) were not treatment candidates (chaotic lifestyle).

116/179 (65%) eligible individuals have commenced treatment.

Table 3: Baseline characteristics of treated cohort and treatment outcomes (n=116)

Age (yrs)	45 ±9.0
Males	98 (84%)
White British	111 (96%)
Stable housing	70 (60%)
Peer mentor support	14 (16%)
Injecting drug use	
Ever	108 (93%)
Injecting at baseline	39 (34%)
Non-injecting drug use at baseline	41 (35%)
Alcohol use	
Ever	102 (88%)
Drinking at baseline	38 (33%)
Underwent TE	115 (99%)
LSM (kPa)	9 (2.7-75)
LSM ≥ 12 kPa	45 (39%)
Decompensated cirrhosis	5/45 (11%)
Genotype 1	52 (45%)
Genotype 3	57 (49%)

INF/RBV	16 (14%)
Interferon/DAA	18 (15%)
DAA	82 (71%)
PEG/RBV (n=16)	14 SVR, 2 RR
PEG/RBV/TLV (n=3)	2RR, 1 d/c
PEG/RBV/SOF (n=14)	12 SVR, 1 d/c, 1 lost to FU
SOF/LDV + RBV (n=19)	15 SVR, 2 RIP, 2 EOTR
SOF/ DAC + RBV (n=2)	2 SVR
SOF/LDV (n=5)	3 SVR, 1 RR, 1 PR
SOF + RBV (n=4)	4 SVR
ABBVIE 3D + RBV (n=22)	14 SVR, 1 EOTR, 7 ongoing
SOF/VEL (n=20)	11 SVR, 9 EOTR
ELB/GZV (n=3)	3 EOTR
GLE/PIB (n=8)	5 on, 3 EOTR
SVR12	75/86 (87%)
EOTR	18
On going treatment	12
Others	11 - 5 RR, 1 PR, 2RIP, 2 d/c, 1 lost to FU
Treatment and clinic visit compliance	97%
Reinfection	1/41 (2.4%)

On multiple logistic regression independent predictors of a positive HCV serology were:

- ◆ **Age**, OR 1.04 (95% CI 1.02-1.07)
- ◆ **If ever injected**, OR 9.3, (95% CI 5.23-16.69)
- ◆ **Positive HBcAb**, OR 2.1, (95% CI 1.24-3.67)
- ◆ **Ever had a psychiatric diagnosis**, OR 1.3, (95% CI 1.15-1.51) p<0.002 for all

Table 2: Community Fibroscan data

Number with positive HCV PCR accepting community FibroScan	203/250 (81%)
Mean liver stiffness measurement (LSM) kPa	Median 6.8 (2.7-7.5)
LSM ≥ 7.5kPa (clinically significant hepatic fibrosis)	87/203 (43%)
LSM ≥ 12kPa	50/203 (25%)

Conclusions

- ◆ **Prevalence of positive HCV serology remains high in PWID explaining the 43% prevalence of clinically significant hepatic fibrosis.**
- ◆ **70% with positive HCV PCR willing to engage with HCV treatment; of those treated, 97% compliance with treatment outcomes comparable to secondary care.**
- ◆ **Our interim data endorses the success of this novel, easy to replicate “one-stop” community based HCV treatment model**

References

Public Health England. Hepatitis C in England 2017 report.
Marufu, M., Williams, H., Hill, S., Tibble, J. and Verma, S. (2012). Gender differences in hepatitis C seroprevalence and suboptimal vaccination and hepatology services uptake amongst substance misusers. *Journal of Medical Virology*, 84(11), pp.1737-1743.

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Graphics: Gemma Wilde, ODN Data Manager

Thames Valley Hepatitis C Operational Delivery Network Oxfordshire Community Service

BACKGROUND

In the first half of 2015, Oxford University Hospitals NHS Foundation Trust (OUH) conducted a survey across Oxfordshire to determine the proportion of people accessing substance misuse services and needle exchange services being offered an antibody test for hepatitis C, and how many tests were carried out.

A total of 686 questionnaires were distributed, with 138 completed and returned. The results showed that approximately one third of injecting drug users who completed the questionnaire had never been offered a test for hepatitis C.

Following the survey results, OUH established a partnership with Turning Point the provider of all substance misuse services in the Oxfordshire area, to establish a blood borne virus (BBV) Liaison Service for their clients.

This was delivered by a band 7 Hepatology Specialist Community Liaison Nurse (HSCLN) with support from the hospital based clinical nurse specialists.



FIGURE 1—Map of Turning Point Drug and Alcohol Services across Oxfordshire.

AIMS

- Universal testing for hepatitis C using dry blood spot antibody testing (Allere) in all 4 drug services across Oxfordshire
- Training of drug workers to perform testing
- Confirmatory venous blood HCV RNA testing and direct referral of positive individuals to the ODN without GP involvement
- Screening for hepatitis C treatment and treatment to be started in the drug services

METHODS

Testing and Training of Turning Point Staff

A two-hour training session was delivered to Turning Point staff across four sites (Oxford, Didcot, Banbury and Witney). These training sessions involved guidance in pre-test consent and carrying out dry blood spot (DBS) testing. Staff are then signed off to carry out tests independently

The Hepatology Specialist Community Liaison Nurse (HSCLN) works on a three-week rotation, spending a variable amount of time at each site, depending on the number of clients engaged with the service. All dry blood spot test results are received and reviewed by the HSCLN and a plan is established for informing the patient of the results. For any positive results a follow up plan is put into place.

Hepatitis C RNA testing and referral for Treatment

All antibody positive DBS have venous blood confirmatory HCV RNA tests as we found DBS for HCV RNA were not 100% accurate. As of June 2017, the HSCLN has CCG approval to carry out venous HCV RNA tests and refer patients directly into secondary care, avoiding the need to involve GPs.

Screening for/and Treatment

The service has a portable Fibroscan. Screening for treatment now occurs at Turning Point and the drugs are currently dispensed at the John Radcliffe Hospital and couriered by the HSCLN to Turning point.

Two community treatment slots were allocated per month from the run through numbers in May 2017 when we had a 6 month waiting list for treatment

in Oxford to allow more rapid diagnosis to treatment. Drugs are dispensed to patients 1-4 weekly on case by case basis.

Individuals lost of follow-up on pre, during or post treatment within secondary care treatment

HSCLN also engages with clients who have previously been diagnosed but not referred or treated, discussing the new DAA treatments and arranging either a new or re-referral. This includes individuals identified through the 3 year retrospective review of HCV RNA antibody/antigen lab results from the Oxford virology laboratory

RESULTS

Testing

Turning point has 2704 active clients (not all previous/current IVDU). Since the Oxford Liaison Service was established in September 2016, 659 BBV tests have been carried out in substance misuse clinics with 44% of tests at the Oxford Turning Point. The rates of testing have increased over the last 3 years

17% are hepatitis C antibody positive and of these 74% are HCV RNA positive

62 clients have been diagnosed as being hepatitis C RNA positive and 30 are HCV antibody positive awaiting confirmatory HCV RNA testing

Finding Disengaged Patients

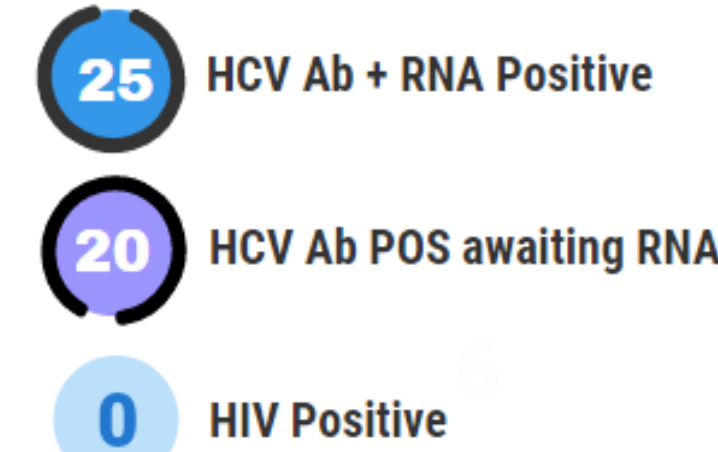
As a result of the HSCLN's work with diagnosed but untreated patients, **18** patients have been re-engaged, with **4** treated at John Radcliffe Hospital and **6** in the community, and others awaiting treatment.



Testing - The Numbers

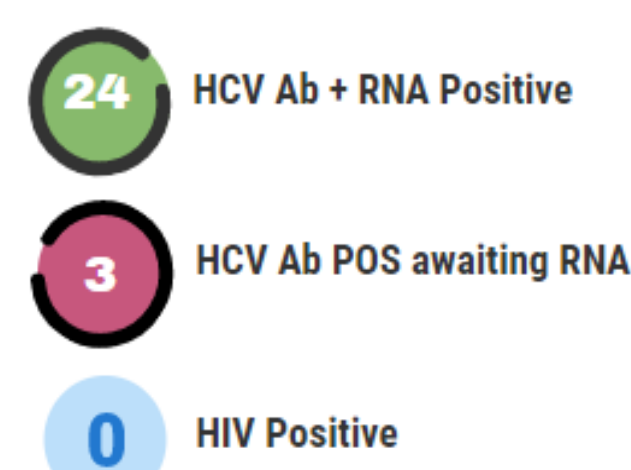
Oxford

290 Tests Conducted



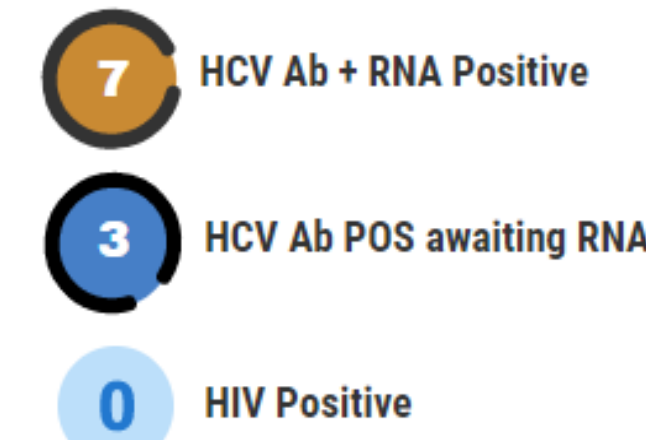
Banbury

135 Tests Conducted



Witney

74 Tests Conducted



Didcot

160 Tests Conducted

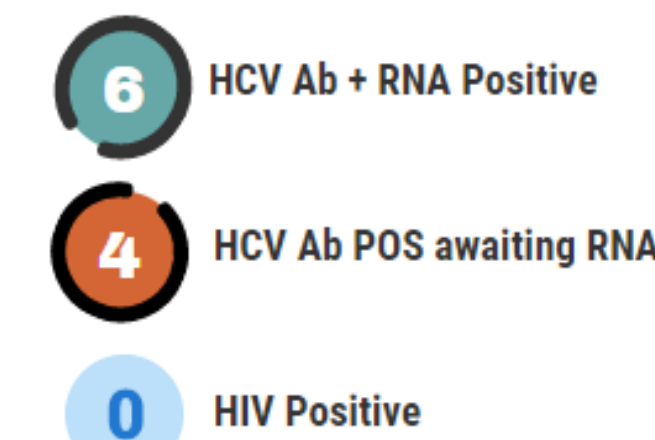


FIGURE 2—Infographics of HCV testing conducted in community drug services

Out of the 62 who tested RNA positive



FIGURE 3—Infographics of community patient outcomes



TREATMENT

Screening for treatment at Turning Point over the last 6 months has now become the focus of the service rather than sending clients 'up the hill' to the John Radcliffe Hospital. Harm reduction advice given in parallel. Treatment has been started in Turning Point (community) since September 2017

Of the 62 HCV RNA positive clients; 23 have been treated and 2 screened and on waiting list for treatment

4 patients who attended screening for treatment in secondary care but were then lost to follow-up

have also now also been found and started treatment

Only 1 client treated in the community has been lost to follow-up on treatment.

1 client was positive at end of treatment but there were concerns regarding compliance.

LEARNING POINTS

- Hepatitis C RNA testing on dry blood spot unreliable so need confirmatory venous blood HCV RNA
- Text to contact patient as may not have money left on phone to reply to verbal message
- Frequent calls to remind individuals of visits on treatment on day, following day and weekly
- Tie in visits with methadone collections at Turning Point
- Arrange volunteer or meet if need hospital visit

FUTURE

- All hepatitis C antigen positive blood test to Oxford lab reported to ODN weekly and are now tracked to ensure HCV RNA done and referred for treatment
- More rapid diagnosis to treatment (easier with shorter treatment waiting lists)
- Community Pharmacy to give out hepatitis C drugs at the same time as methadone
- Identify those high risk for infection who are not currently/no longer accessing Drug and Alcohol Serviced with a GP surgery and community

BARRIERS

- Financial implications to ODN of losing patients on treatment or at 3 month follow-up means we are not taking enough risk in treating more chaotic patients who may not complete therapy/attend follow up and not giving out 3 months of drug at a time
- Waiting time for treatment (and so losing clients before can treat) currently fallen from > 6 months to 2-3 months with a successful bid for 33 extra treatment slots in October 2017
- Inability to dispense hepatitis C drugs in community pharmacies

FINDING NEW PATIENTS

GP and Turning Point posters

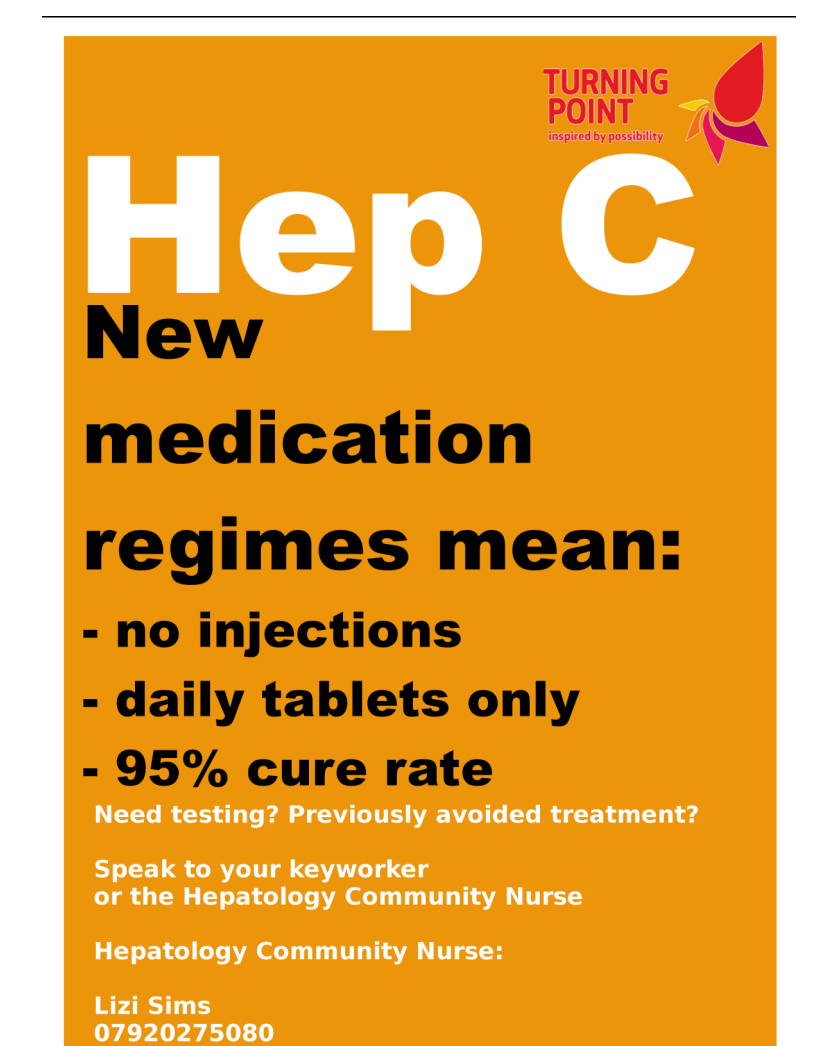
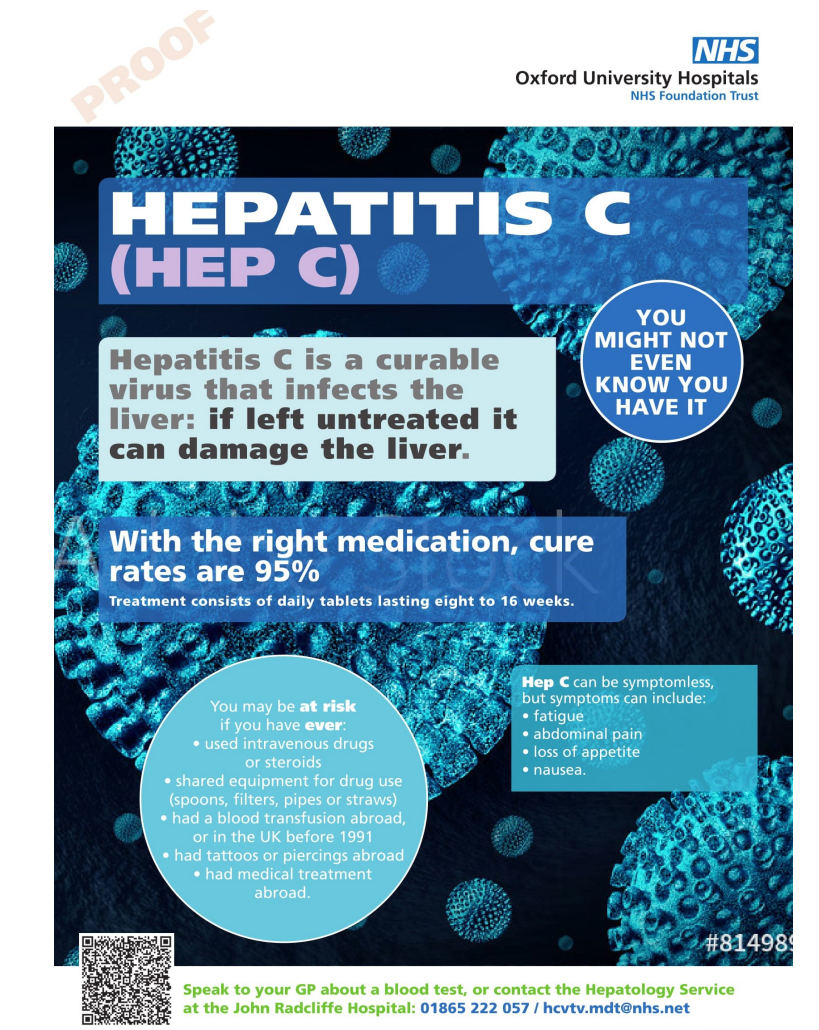


FIGURE 4—Promotional posters to be used in GP surgery's and community hubs

Lisa Ellis CNS,RGN,INMP, Dr. Ahmed Elsharkawy
Birmingham ODN

Background- GP outreach

‘Ridgacre’ Surgery (Sept 2015-April 2017)

- First Hepatitis C outreach service set up Sept 2015 in local GP surgery (Ridgacre) to deliver Hepatitis C treatment
- To target marginalised Hepatitis C positive patients who were not attending Queen Elizabeth Hospital new referral appointments
- Linked Methadone prescription with Hepatitis C treatment provision
- Low attendance due to the restricted public transport links to GP surgery
- **Ridgacre (GP Surgery) 37% attended New Patient appointment with Hepatology Consultant**



Why change outreach to Drug Service?

‘Scala House’ (Commenced May 2017)

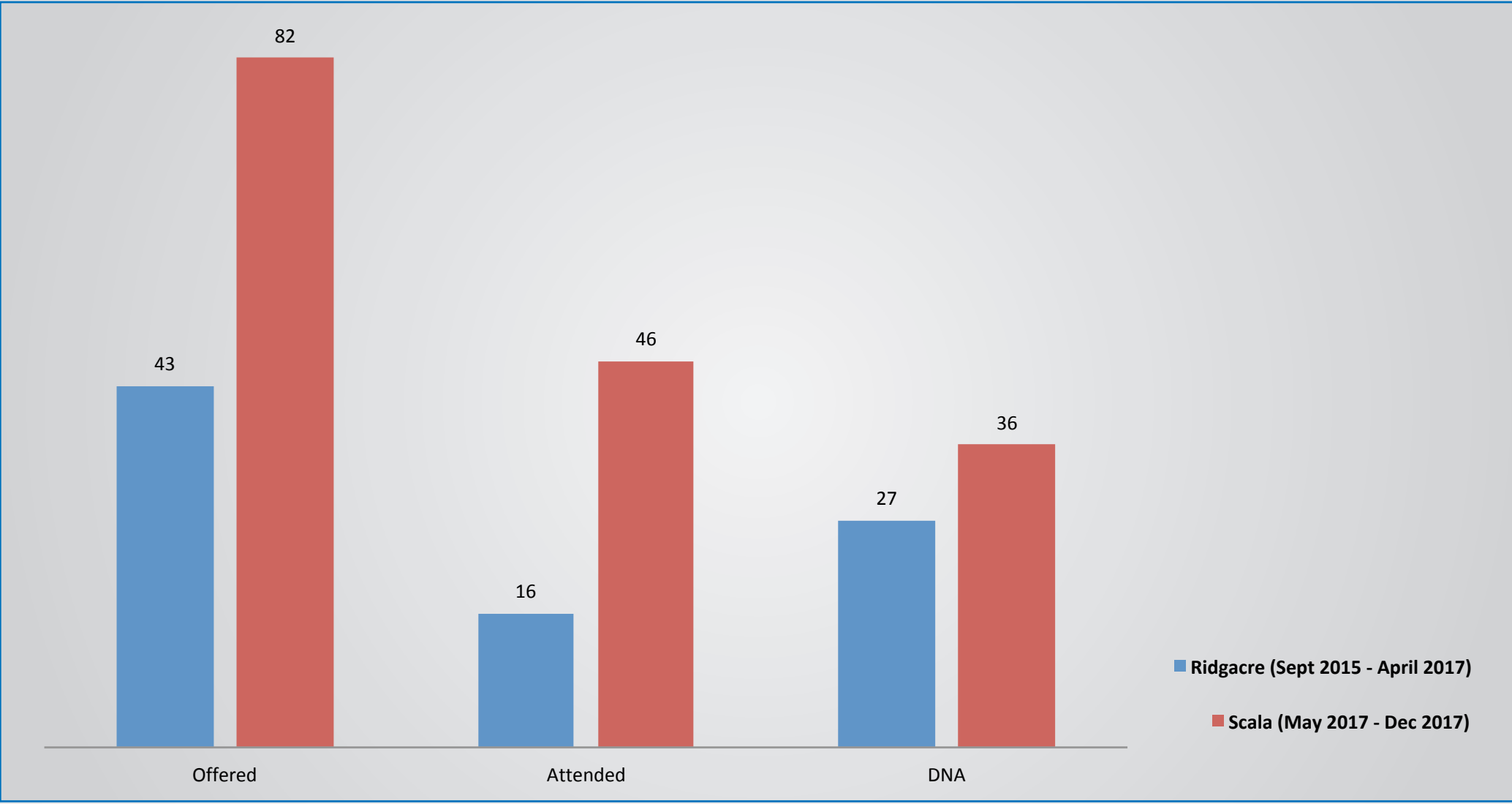
- Location, location, location
- Central drug service in Birmingham City Centre identified Change/Grow/Live (CGL)- ‘Scala House’ May 2017
- Biggest provider of Opiate Substitute Treatment provision in Birmingham
- To increase the number of ‘harder to reach’ patients accessing Hepatitis C treatment
- ‘Taking treatment to where the patients are’
- **CGL (Scala House) 56% attended New Patient appointment with Consultant**



Practicalities of setting up the clinic

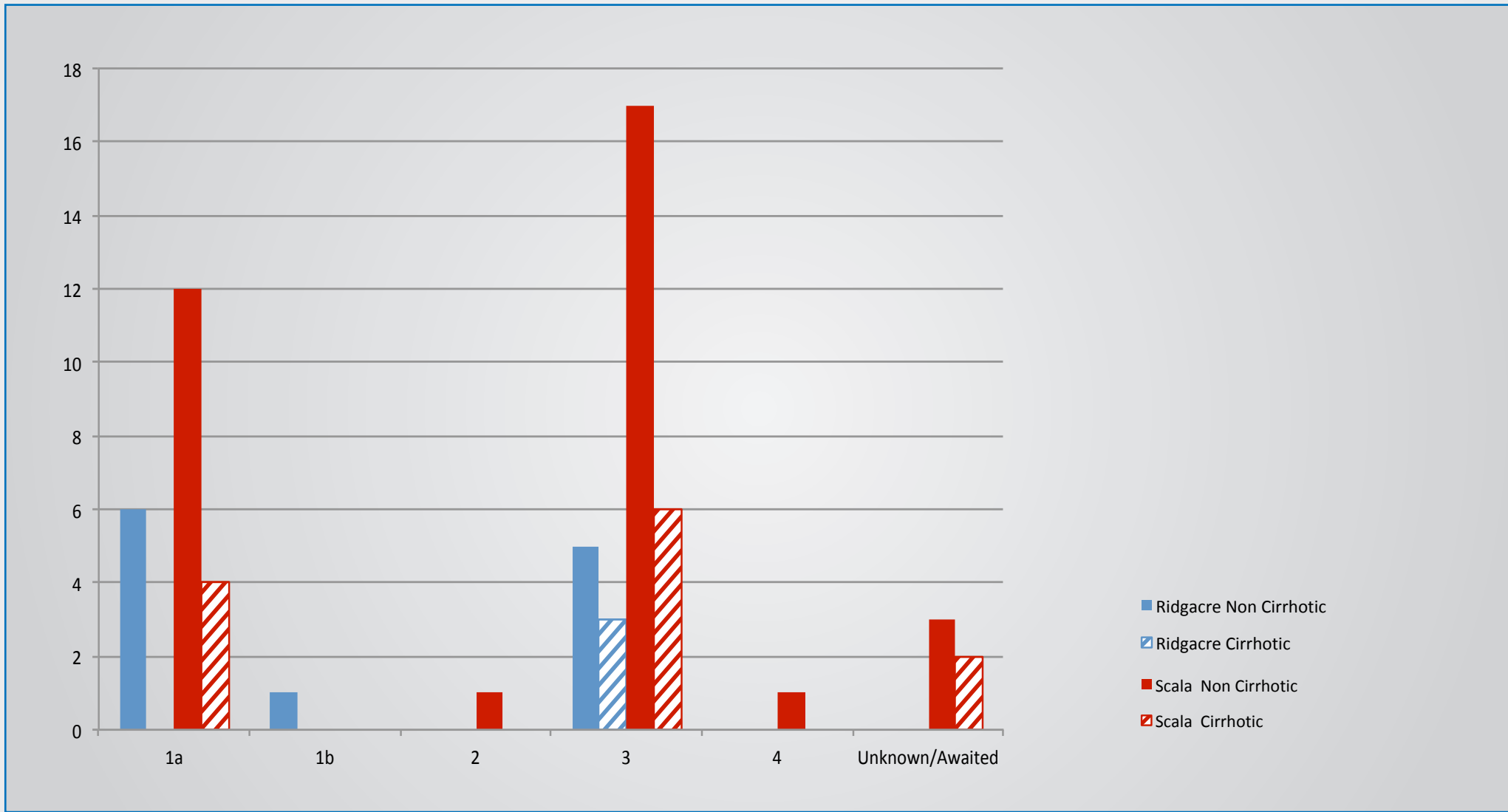
- CGL Patient pathway into Hepatitis C treatment service - to be as simple as possible
- Clinic space for monthly Consultant and weekly CNS sessions with hand washing facilities and couch for Fibroscanning
- Relevant experience (prescriber essential) and knowledge of Ribavirin
- Phlebotomy provision - LFT’s/FBC/HCV RNA/genotyping
- Computer access/Remote QE Hospital desktop
- Administration support
- Transport of medication/blood samples/fibroscanner
- Lab virology assistance and clear pathway for results

Consultant appointment

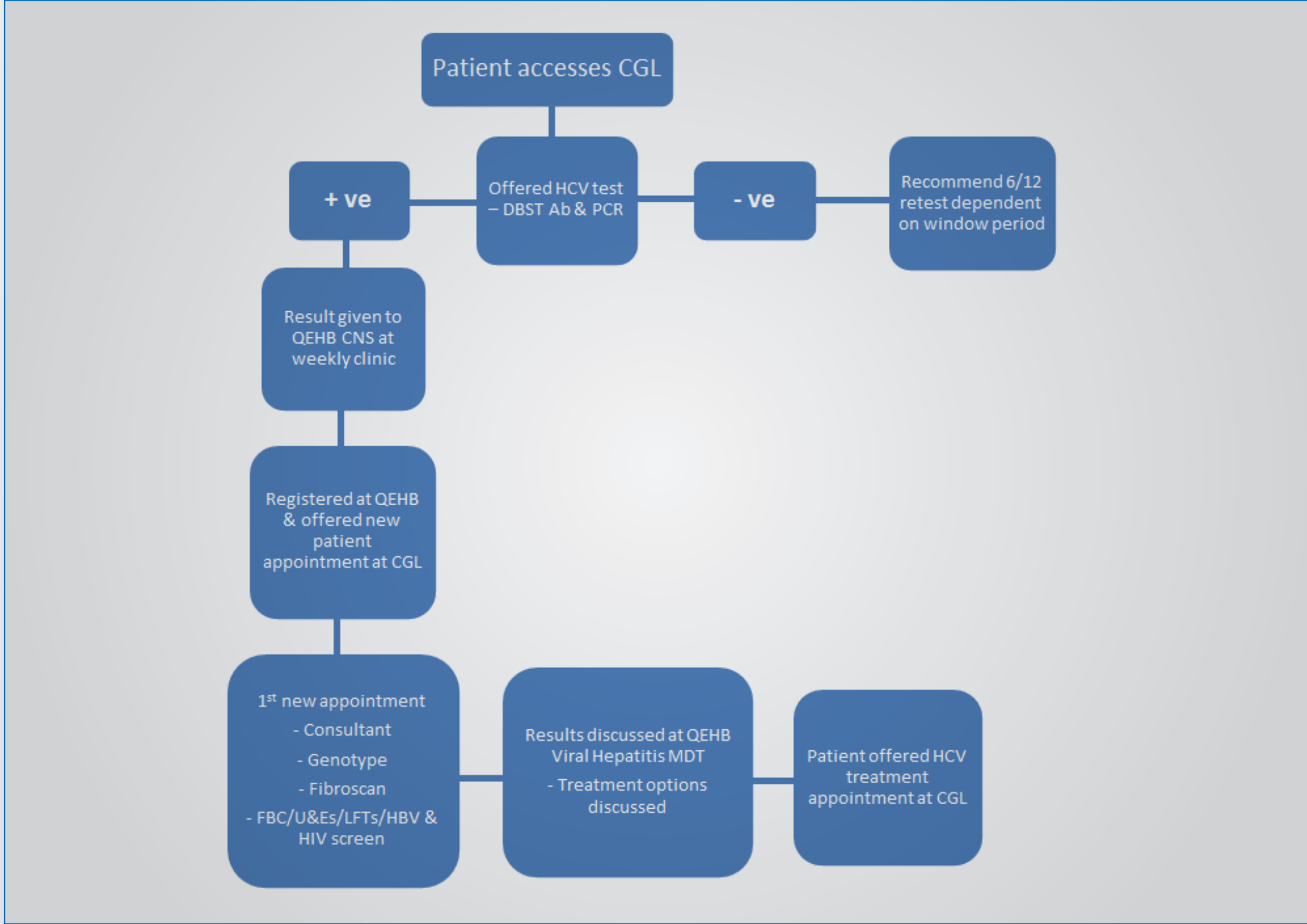


Breakdown of Genotypes

Non-Cirrhotic/Cirrhotic



CGL Patient Pathway



CGL Outreach May- Dec 2017 Stats:

- 82 patients referred
- 46 patients seen by Consultant (56%)
- 30 patients seen by CNS (65%)
- 23 commenced treatment (76%)
- 17 completed (74%)
- 1 viral breakthrough
- 6 currently on treatment
- 3 SVR 12 weeks

Outcomes of Treatment CGL

Treatment	Duration	Patient numbers	End of Treatment	12 week SVR
Epclusa	12 weeks	6	<12	1 achieved 5 DNA
Zepatier + Ribavirin	16weeks	3	<12	3 awaiting
Zepatier + Ribavirin	12weeks	1	<12	1 DNA
Harvoni	8 weeks	2	<12	2 awaiting
Harvoni	12 weeks	1	On tx	NA
Maviret	8 weeks	4	<12	4 awaiting
Maviret	12 weeks	3	On tx	NA
Maviret	16 weeks	1	On tx	NA
Abbvie 3D + Ribavirin	12 weeks	2	1 breakthrough wk 6* 1 on tx	NA

Outreach Strategies to promote engagement

- Being kind, caring, compassionate and above all non-judgemental
- Dispelling myths surrounding current Hepatitis C treatment
- Peer support (buddy from Hepatitis C Trust attending appointments with patient)
- Links with Pharmacies where patient collects Methadone/Buprenorphine
- Texting/telephoning prior to appointment
- Link with other CNS's around the UK

Challenges

- Complex Mental Health issues and medication
- Poor venous access
- Frequent change of contact details
- Current ‘chaotic’ life choices
- Fear of previous Interferon treatment
- Losing medication
- Taken into Custody during treatment/moving areas - Tracking Patients
- Patients not attending end of treatment or 12 week SVR appointments

Next Steps

- Referral pathway - making it as easy as possible and removing barriers
- Breaking down myths with key workers and patients
- Commencing a further outreach service in the centre of Birmingham (Homeless GP service)
- Links with Drug rehabilitation Centre to raise awareness and increase BBV dried blood spot testing

South Yorkshire, Bassetlaw and North Derbyshire HCV ODN

Improving utilisation of ODN-wide personnel to improve treatment in underserved areas

Solutions

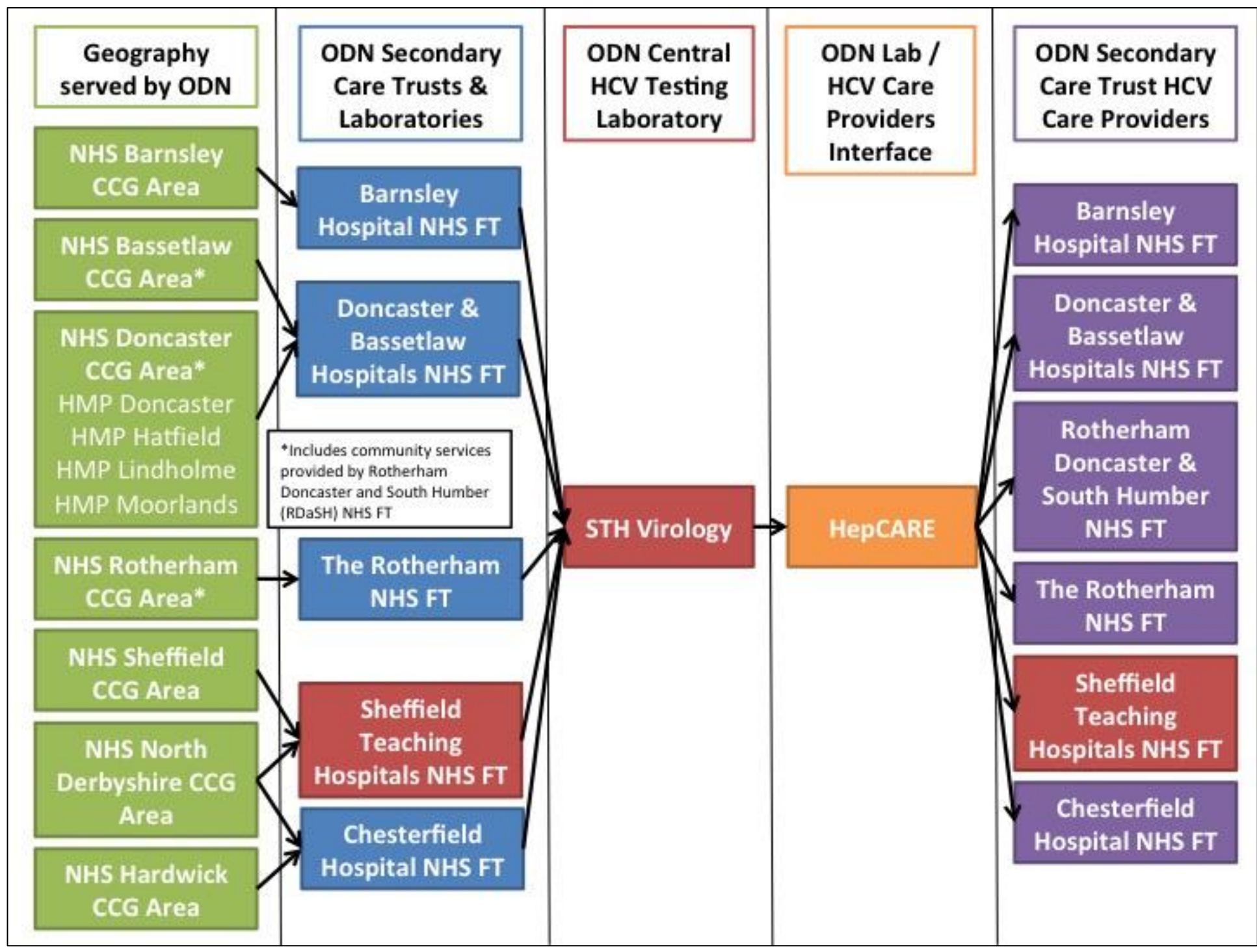
- Sheffield Teaching Hospitals (STH) Infectious Diseases CNS to set-up and deliver in-reach service into Chesterfield Drug Service until Chesterfield CNS appointed
- Doncaster Gastroenterology physician contracted to work one session every fortnight to deliver hepatitis clinic in Rotherham District General Hospital and to support training of recently appointed Hepatology CNS
- STH Hepatology CNS to deliver in-reach service into Rotherham Drug Service and into high-prevalence Rotherham GP practices
- Unresolved need for additional CNS(s) to expand treatment capacity in prison in-reach service and to establish community-based treatment in Doncaster

Improving case-finding and linkage to care of HCV RNA+ patients

Solutions

- To establish agreements across ODN for use of single HCV RNA testing laboratory (STH Virology) (Figure 5)
- Acquisition of and ODN-wide access to HepCare UK (RealQ®) database – funded by Gilead Sciences
- Live integration of STH Virology data with HepCare UK – funded by Gilead Sciences (integration by Jan 2018)
- Band 5 Case-Finder to search for HCV RNA-positive data in HepCare UK, locate patients and contact tester or patient to offer clinic appointment – one year 1.0wte salary funded with grant from AbbVie (in post from Jan 2018)

Figure 5. ODN-wide HCV RNA testing and reporting pathway



ODN HCV Services, Staffing & Performance

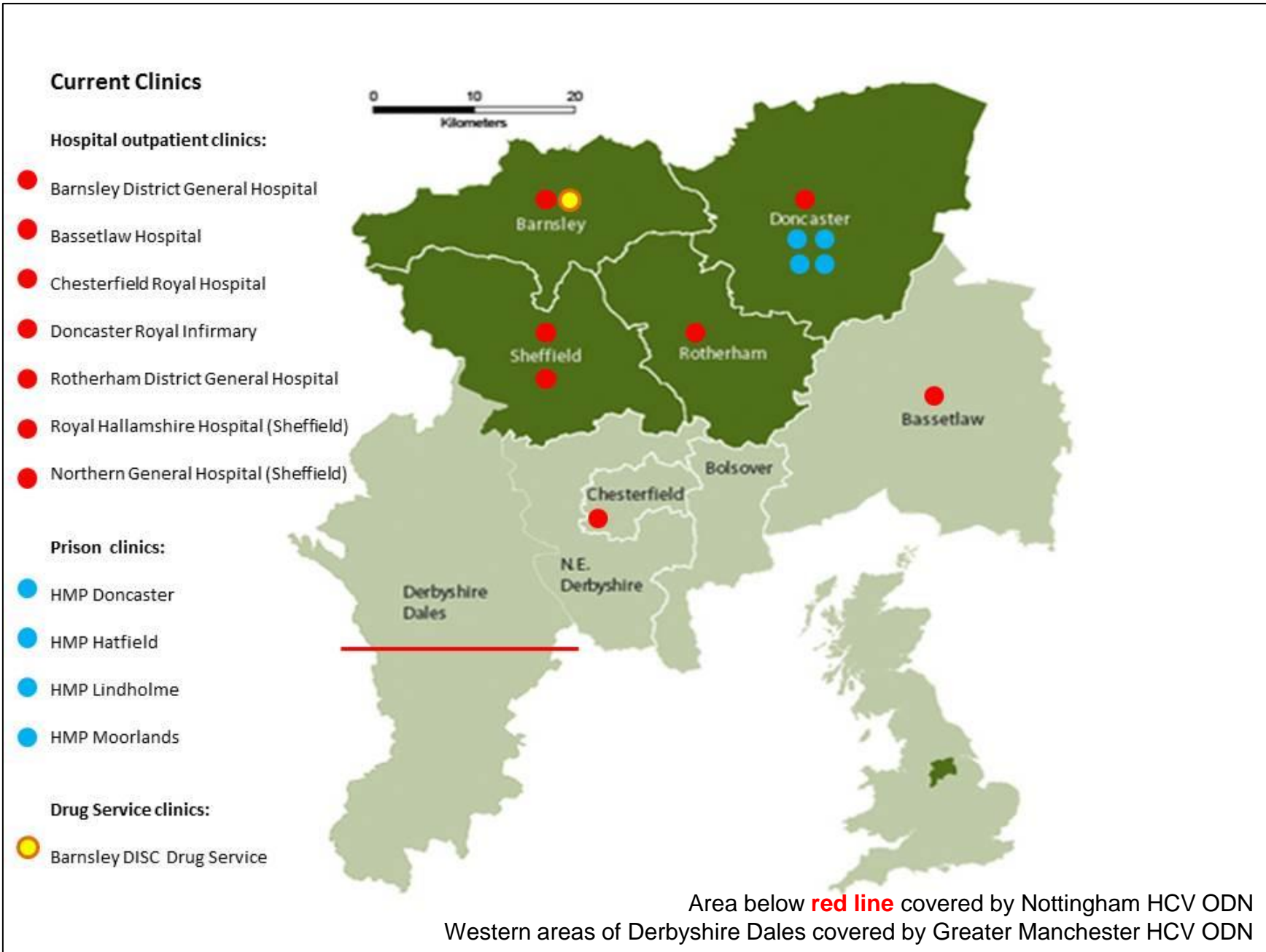


Figure 1. ODN geography (above red line) and existing HCV treatment centres (Dec 2017)

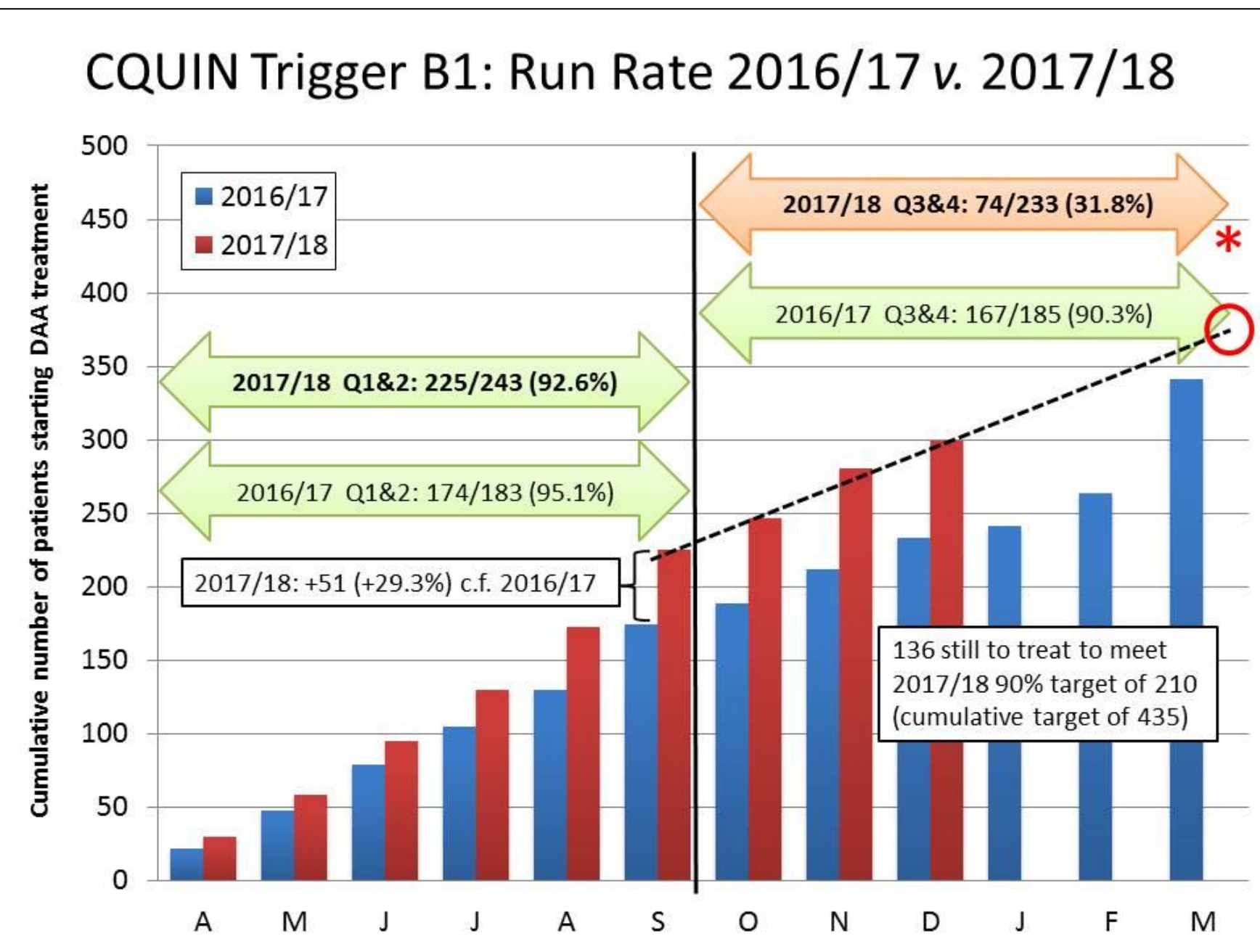


Figure 3. ODN monthly cumulative treatment numbers 2016/17 v. 2017/18 (to end Q3) compared with run rate

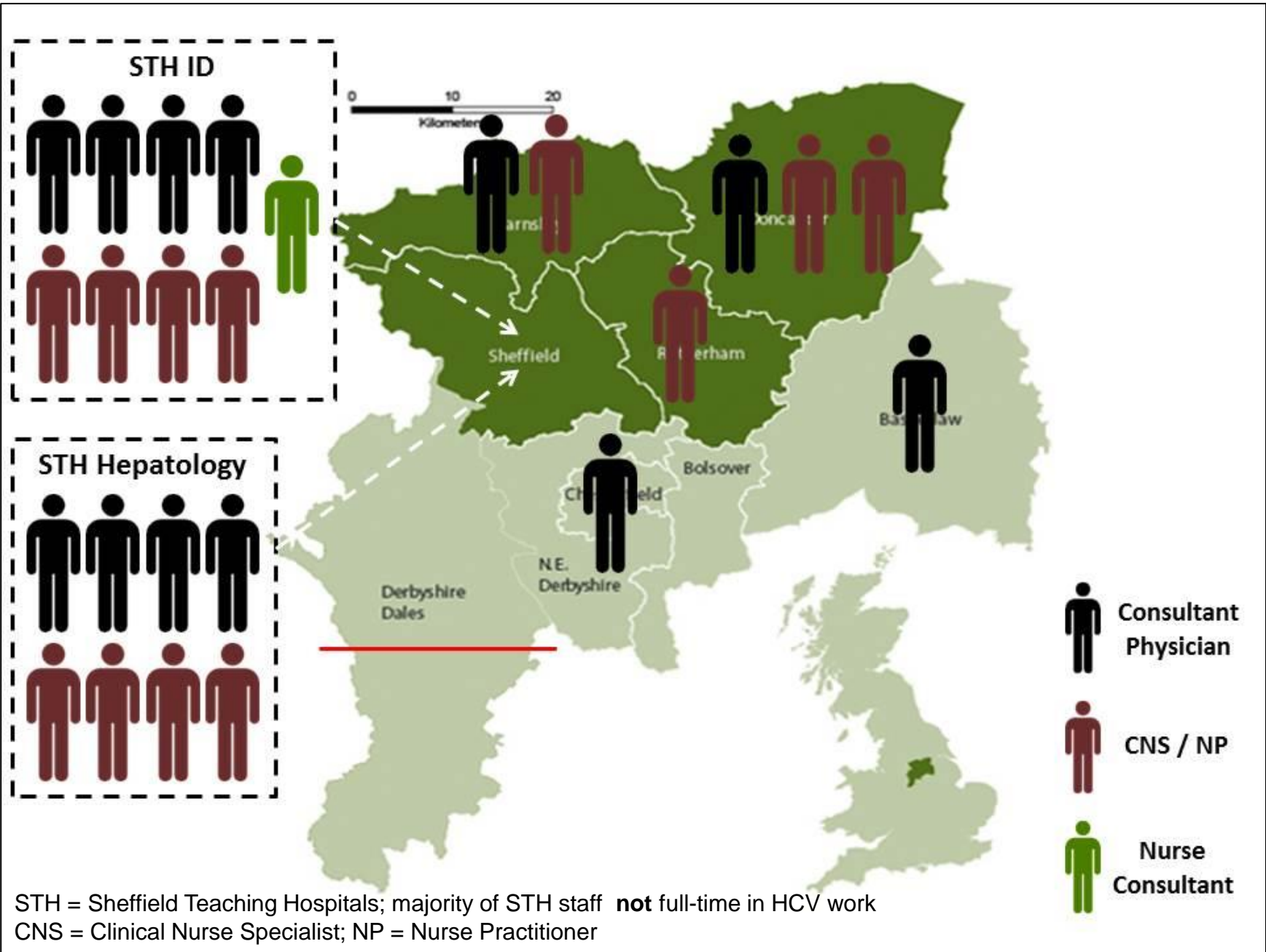


Figure 2. ODN staffing capacity per treatment centre

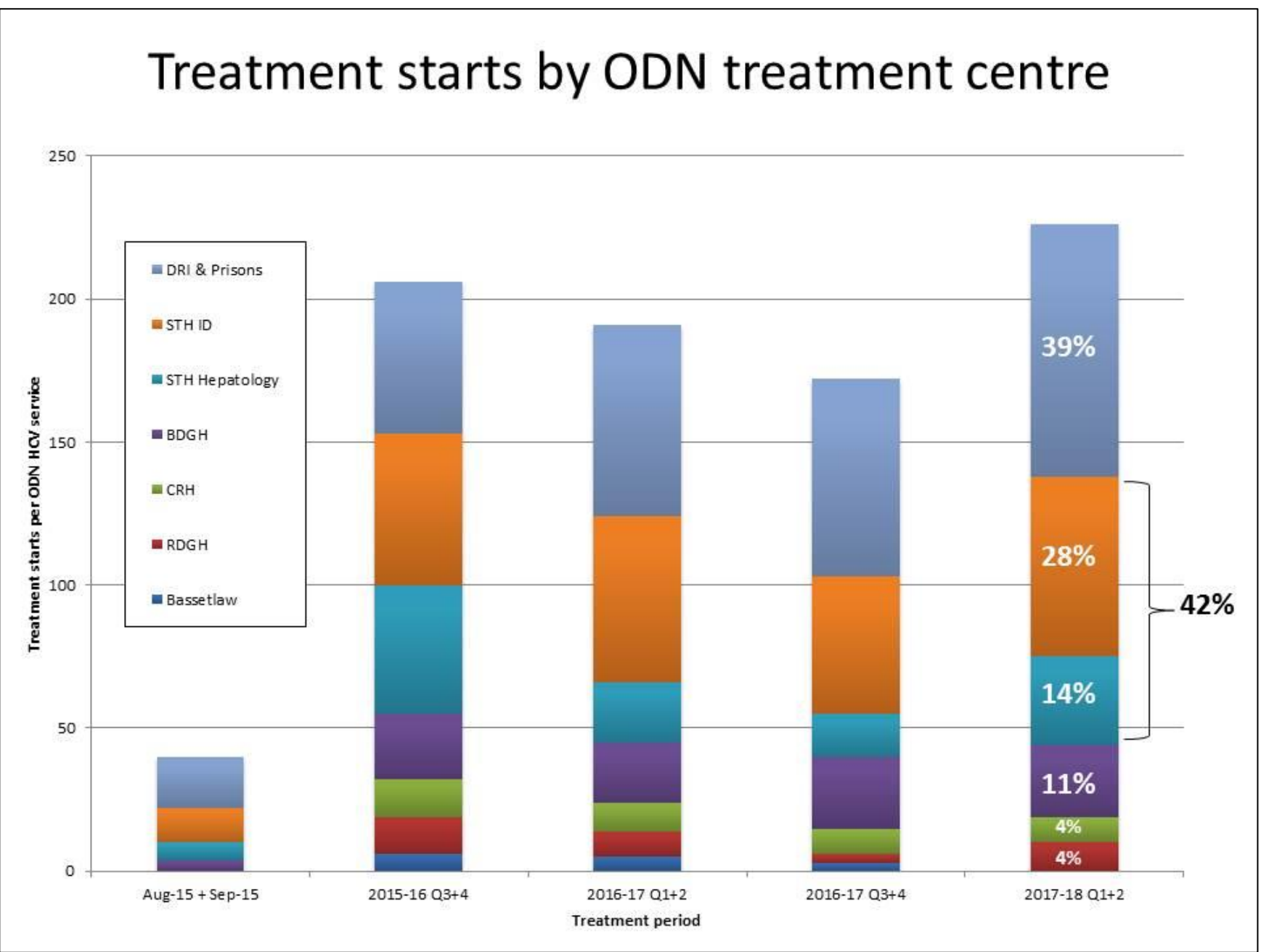


Figure 4. ODN treatment starts by treatment centre

- 908 patients treated across ODN between 1 August 2015 and 31 December 2017
- Treatment locations: 7 hospital outpatient clinics, 1 in-reach service into all 4 ODN prisons (Doncaster), 1 drug service in-reach clinic (Barnsley – since October 2017)
- Run rate targets met in 2016/17 Q1&2 and Q3&4 and in 2017/18 Q1&2
- The need for further expansion of HCV treatment in 2017/18 Q3&4, in 2018/19 and beyond presents the ODN with certain challenges and the need for solutions and proactivity

ODN Challenges

- To improve utilisation of inequitable distribution of personnel to increase HCV treatment in historically underserved and/or understaffed ODN areas
- To improve attendance to existing hospital-based services
- To expand HCV treatment locations for patients who don't want to attend hospital
- To improved case-finding and linkage to care for patients testing HCV RNA positive

Improving attendance to existing hospital-based services

Solutions

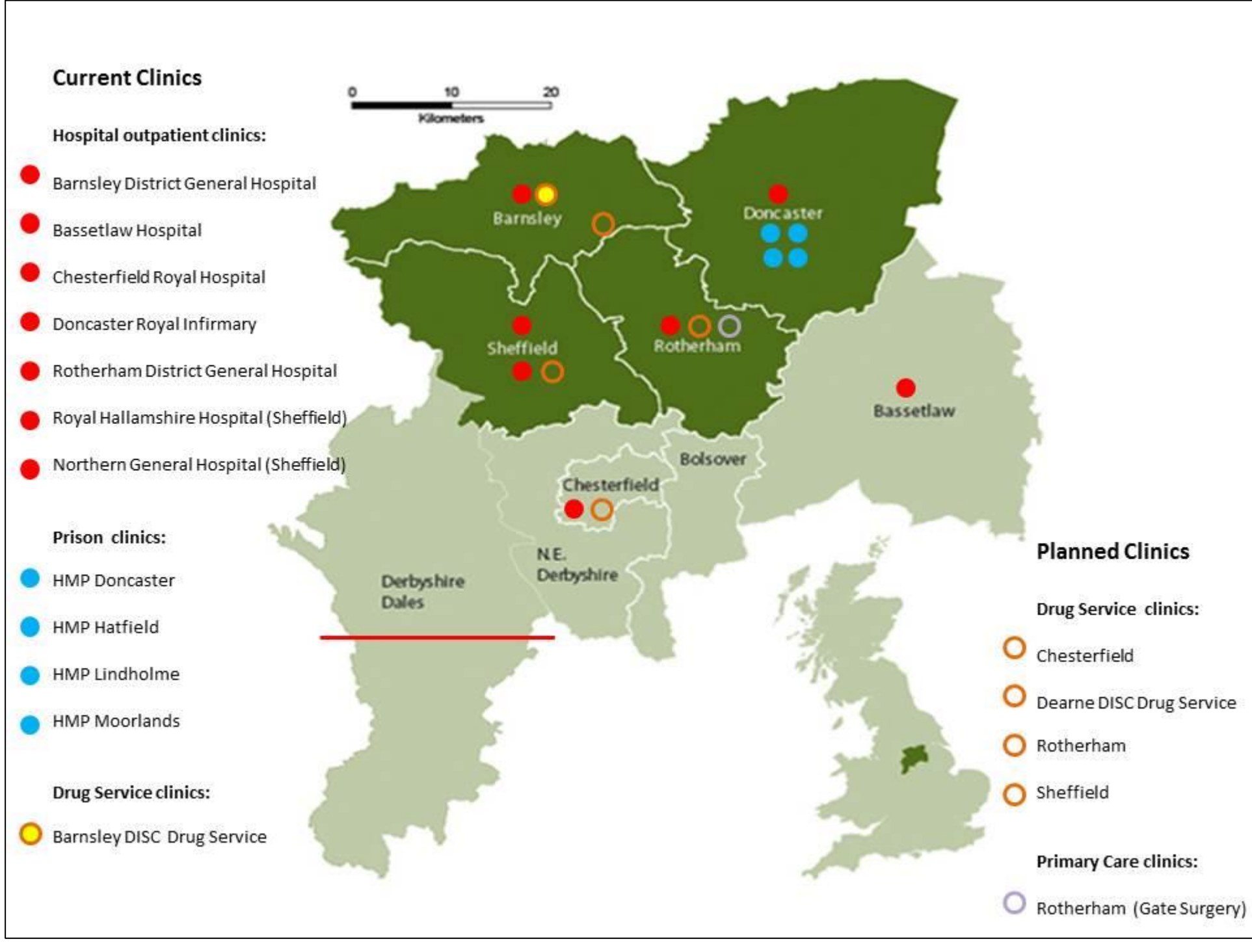
- Preliminary study completed and pan-Yorkshire study planned to assess use of incentives – taxi transport to/from hospital and/or offering high street voucher – to improve attendance at first hospital appointment
- Use of key workers and development of peer navigators to support patient hospital appointment attendance

Expanding non-hospital treatment locations

Solutions

- DISC drug service in-reach clinic established in Barnsley with first patients treated in October 2017:
 - HCV testing and appointment scheduling of HCV RNA-positive patients organised by drug-service staff
 - appointments linked to opiate substitution therapy (OST) prescription – shared appointment
 - HCV drugs dispensed from hospital pharmacy in tamper-proof bags – can be returned to hospital and re-used if not dispensed and seal intact
- 3 additional drug service in-reach clinics in Sheffield, Chesterfield and Dearne to start treating from January 2018
 - alternative methods of HCV drug delivery, e.g. hospital Boots pharmacy to community Boots pharmacy in tamper-proof bags, patient to collect with OST, can return if not dispensed and seal intact
- Plans to establish drug-service and primary care in-reach clinics in Rotherham by summer 2018
- Ongoing aspiration to set up mobile clinic in Sheffield – pilot undertaken in 2017 and suitable minibus sourced

Figure 6. Existing and planned new ODN HCV treatment centres



Creating a Hepatitis C Case Register – System Design, Implementation & Outputs

Iain Roddick¹, Lynsey Emmett¹, Dr Will Gelson², Dr Mark Reacher¹

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² Addenbrooke's Hospital, Cambridge

Background

Hepatitis C is a bloodborne infection mainly affecting those from marginalised and underserved groups including people who inject drugs.

There are an estimated 214,000 individuals chronically infected with hepatitis C in the UK. Without successful treatment hepatitis C can have serious consequences. Deaths from hepatitis C related end stage liver disease and liver cancer have doubled over the last decade.

An accurate database of those diagnosed with hepatitis C is essential to assist in the planning, evaluation and delivery of healthcare services.

To this end we have designed an individual level hepatitis C case register pulling together data from different sources.

Amalgamating Data Sources

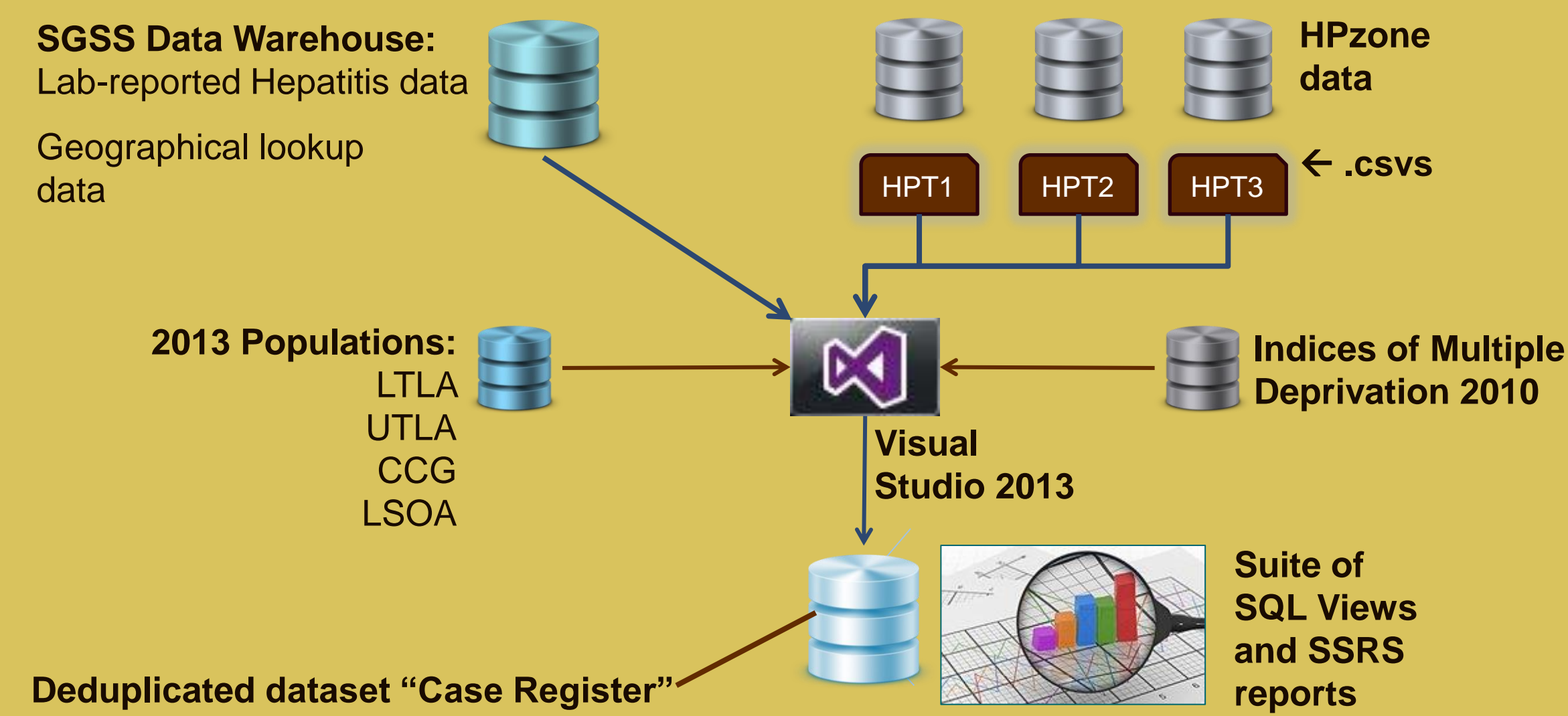


Figure 1. Microsoft Visual Studio enables us to automate the amalgamation of data from a number of different databases, and to further process that data in a consistent and repeatable manner.

Main Systems

SGSS is PHE's national laboratory surveillance system (replaced **Cosurv** in 2014). Positive microbiology test reports for infectious diseases (including hepatitis C) are held in a national SQL server database in a systematic and standardised format. We aim to capture a patient's first positive test for hepatitis C in SGSS.

HPzone is the system used by PHE's Health Protection Teams (HPTs) for a range of functions including the management of enquiries, cases, contact tracing, outbreaks and incidents. Its data is not easily accessible but can be exported to csv file. Not all cases of hepatitis C are entered onto HPzone but valuable risk factor data is often available for those that are.

Data De-duplication

Patients are often tested more than once for hepatitis C and it is important to identify the earliest known specimen date.

However, data processing challenges are significant:

- De-duplication of reports is not technically very easy for laboratories to achieve.
- SGSS, at its current stage of evolution, is not adequately identifying repeat reports.

For our case register database we have implemented a more comprehensive means of identifying duplicate reports.

We **cross-reference every record** in the dataset with every other record, looking for earlier specimens reported for the same person.

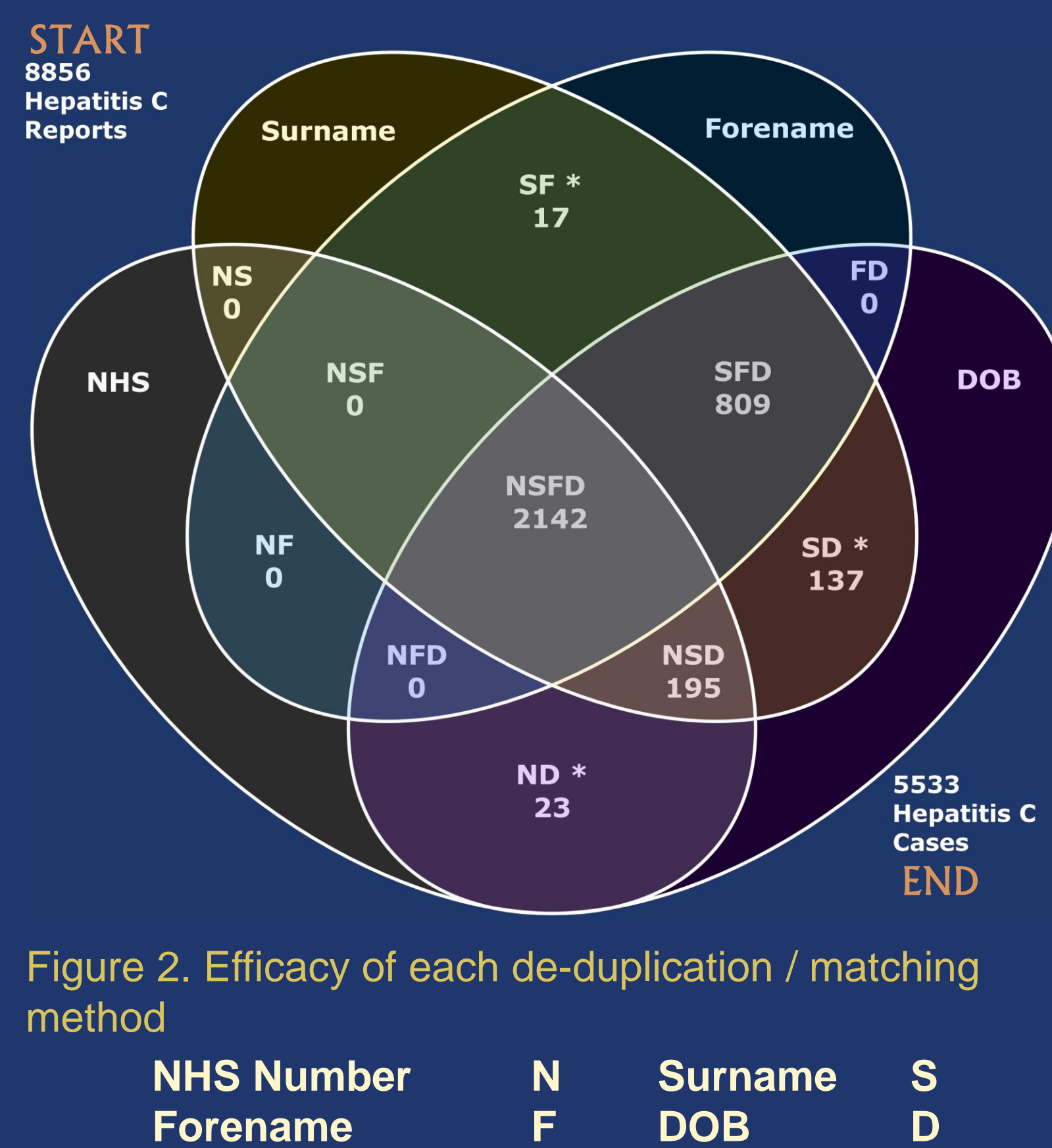


Figure 2. Efficacy of each de-duplication / matching method

Individuals are matched using their available demographic data, namely

An "NSFD" match is the best possible i.e. all 4 data fields are identical between 2 records, and is also the most common match, as the completeness of particularly NHS number has greatly improved in recent years.

* **SF, SD and ND** matches were only considered adequate to identify a record as a duplicate if **hospital number** was also the same in each pair of records.

Considering **8856** hepatitis C reports from 2010-2015, our de-duplication process removed **3323** duplicate records.

This is over twice as effective as SGSS's current de-duplication routine.

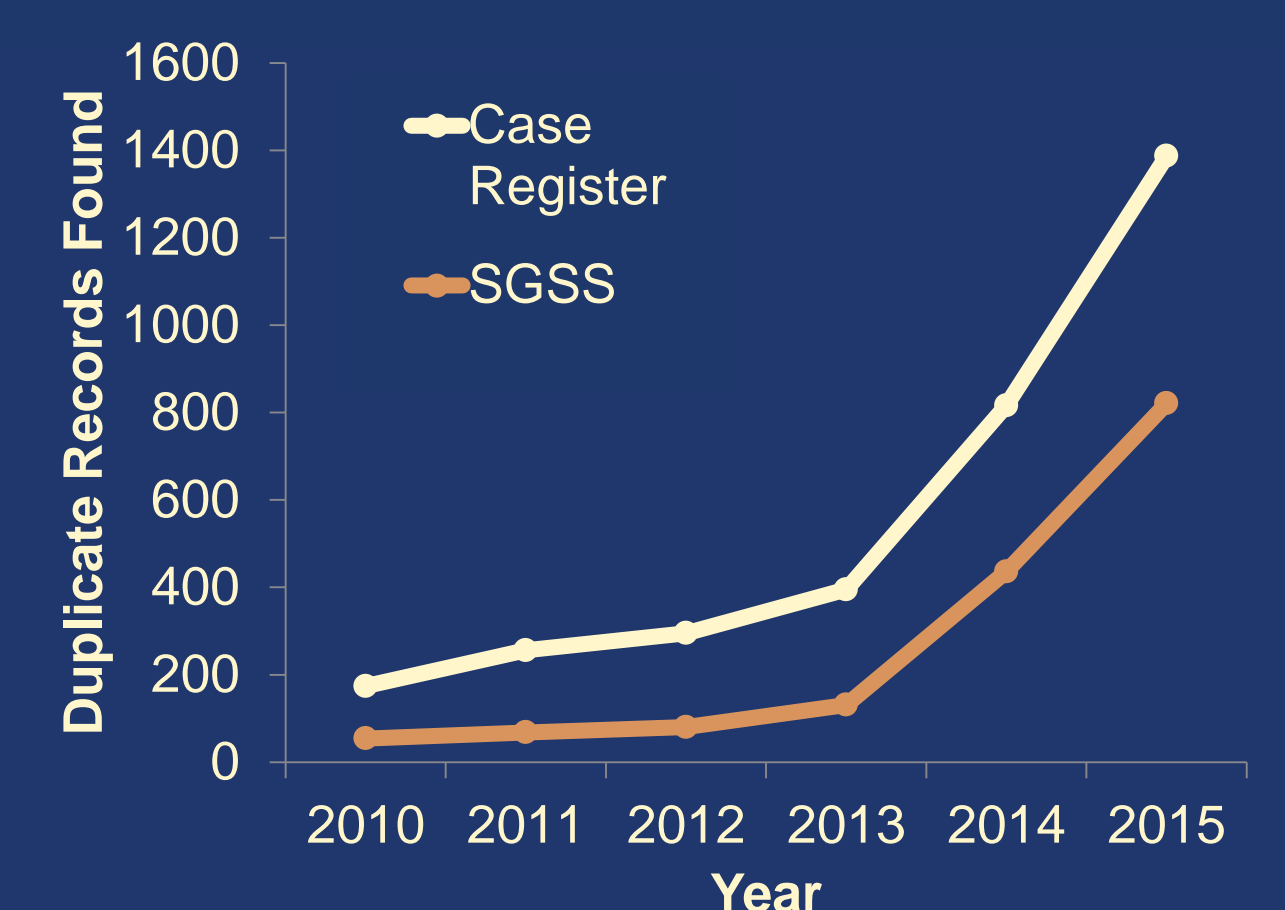


Figure 3. Enhanced Duplicate Detection

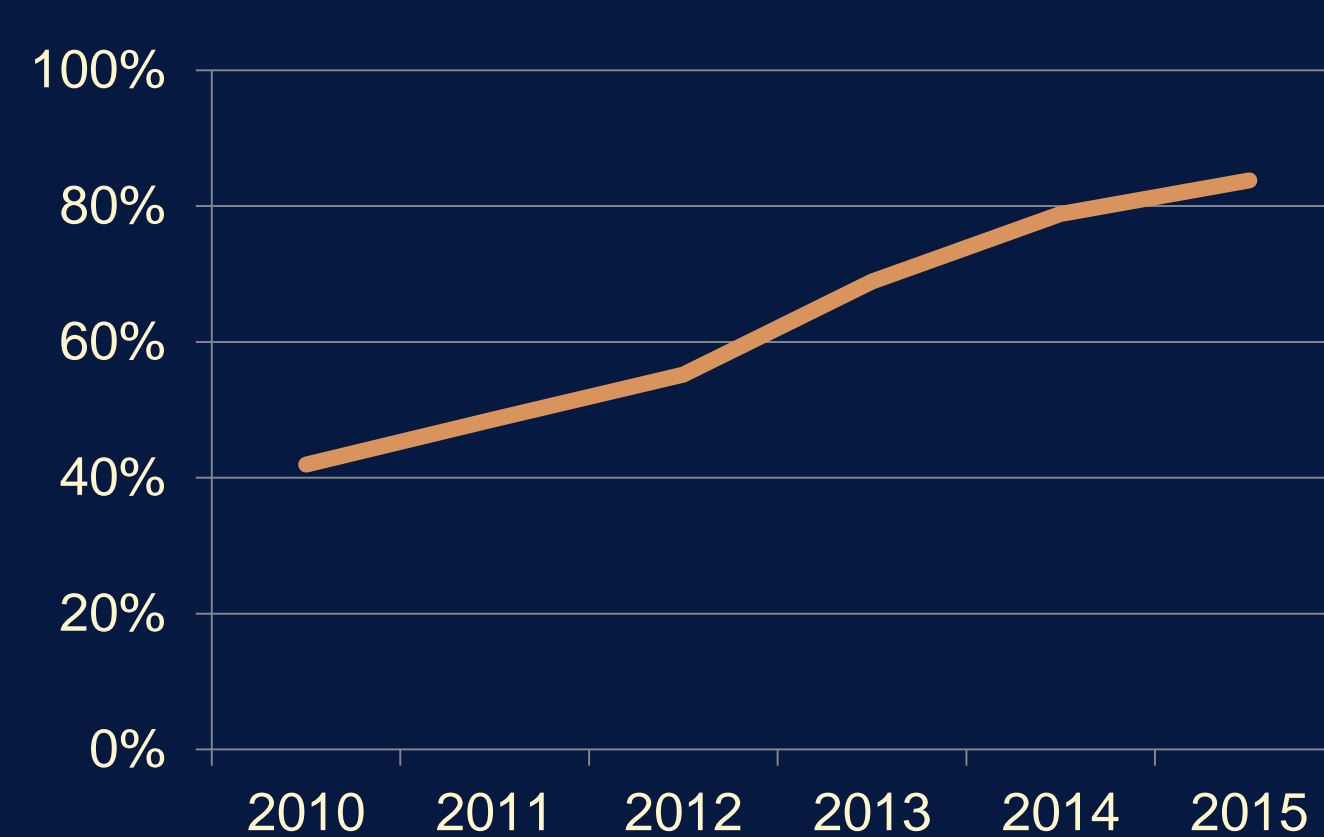
Data Enrichment

Generally speaking, the quality of laboratory surveillance data has improved over the years.

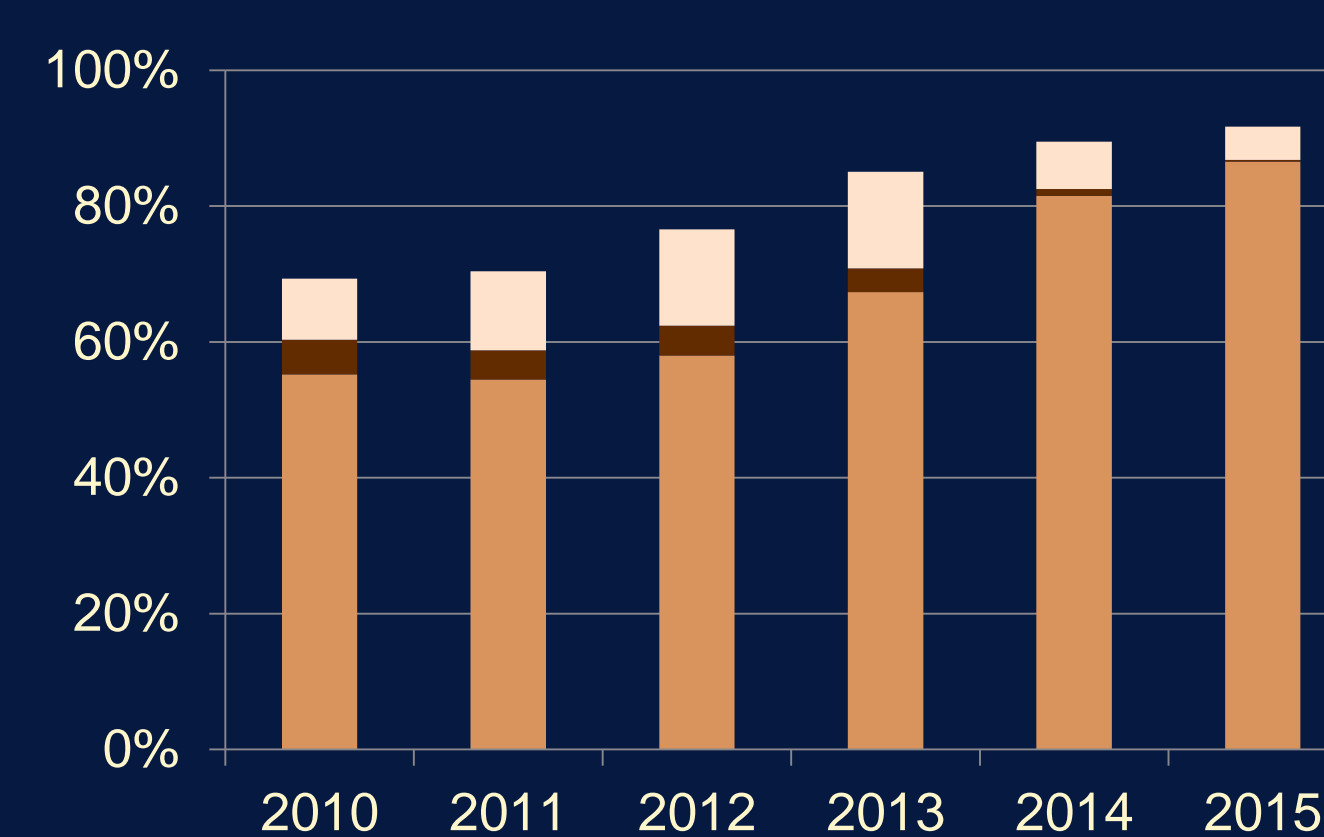
However, by extracting only the earliest lab report for a patient we may "lose" useful data that we have captured.

There are two main ways to enhance the data capture.

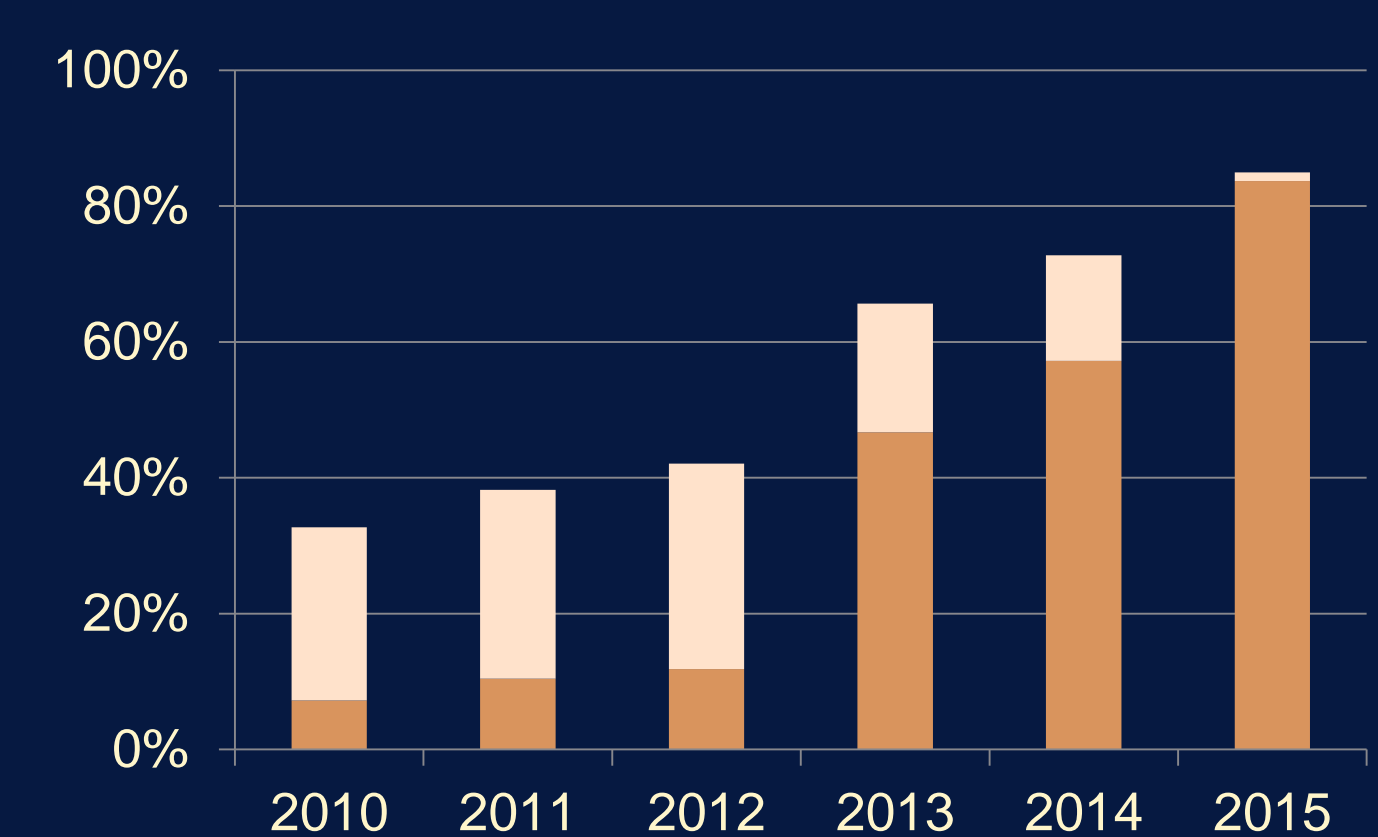
- Searching a patient's subsequent lab reports in SGSS for more complete data fields
- Matching the patient with any available records in HPzone - this can be especially effective as it is often the case that the Health Protection Team has made the effort to follow up the patient, at least with respect to ensuring the correct information is known about them e.g. postcode, GP details and any intravenous drug use.



(a) Proportion of lab reports with a matching HPzone report



(b) Proportion of lab reports with patient postcode



(c) Proportion of lab reports with Practice Postcode

Figure 4. Geographic data assignment – (b) Patient postcode and (c) GP Practice postcode are critical pieces of information in surveillance. Without at least one of these we have to use the location of the testing laboratory as a proxy for patient's residence.

represents the original data quality, data improved by searching SGSS, and data improved by matching patients in HPzone.

With increasing centralisation and privatisation of diagnostic laboratory services such that they are not even sited near the communities they serve this is a significant risk to hepatitis C surveillance.

Outcomes & Further Work

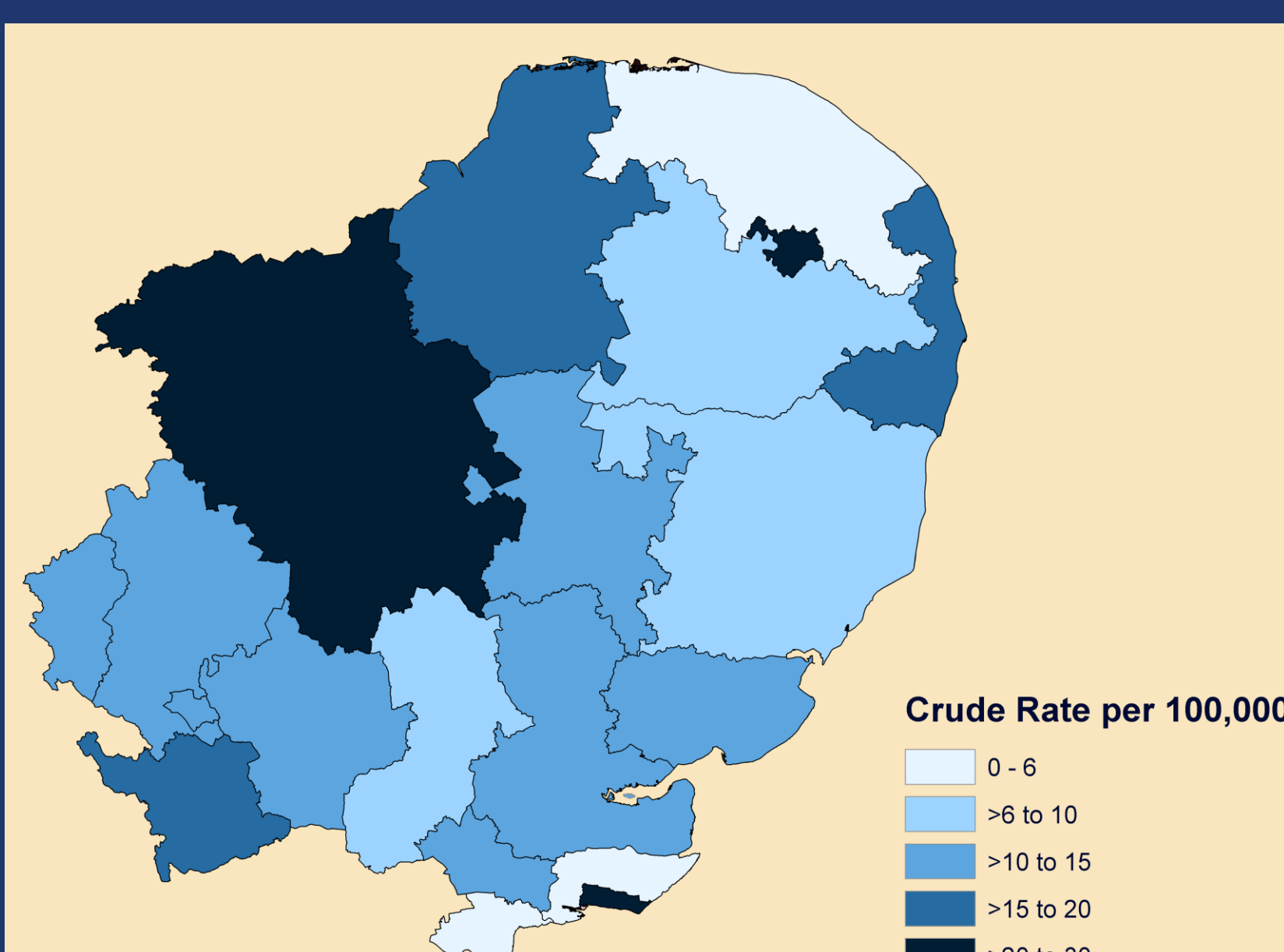


Figure 5. Crude Annual Rate of hepatitis C (average 2011-2015)

Improving data quality and completeness

- Because the Case Register is more complete and "cleaner" than its constituent data sources alone, we can have an improved understanding of the disease in the East of England.

- The Case Register's enhanced data processing already makes routine descriptive analyses of hepatitis C considerably quicker and easier.

The effect on data quality and ease of analysis is highly significant: 15 – 20% of extant SGSS records are duplicates.

- The Case Register could be scaled up to encompass the whole of England with relative ease.

Delivering data for action

- Coupled with hospital attendance data the Case Register will allow us to assess patient access to appropriate treatment.

- Estimating prevalence accurately is very difficult, but it is something we are often asked to do, particularly by commissioners of services, who need to be aware of the likely demand for services.

This dataset takes us closer to being able to make swift, accurate analyses, such as prevalence estimates, with confidence.

- The enrichment of the GP data, coupled with appropriate safeguards, would allow us to generate emails and/or letters directly from the database server to the registered GP of newly-diagnosed cases.

Interactions with Hepatitis C therapies -is the pharmacist now your best friend?

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Background:

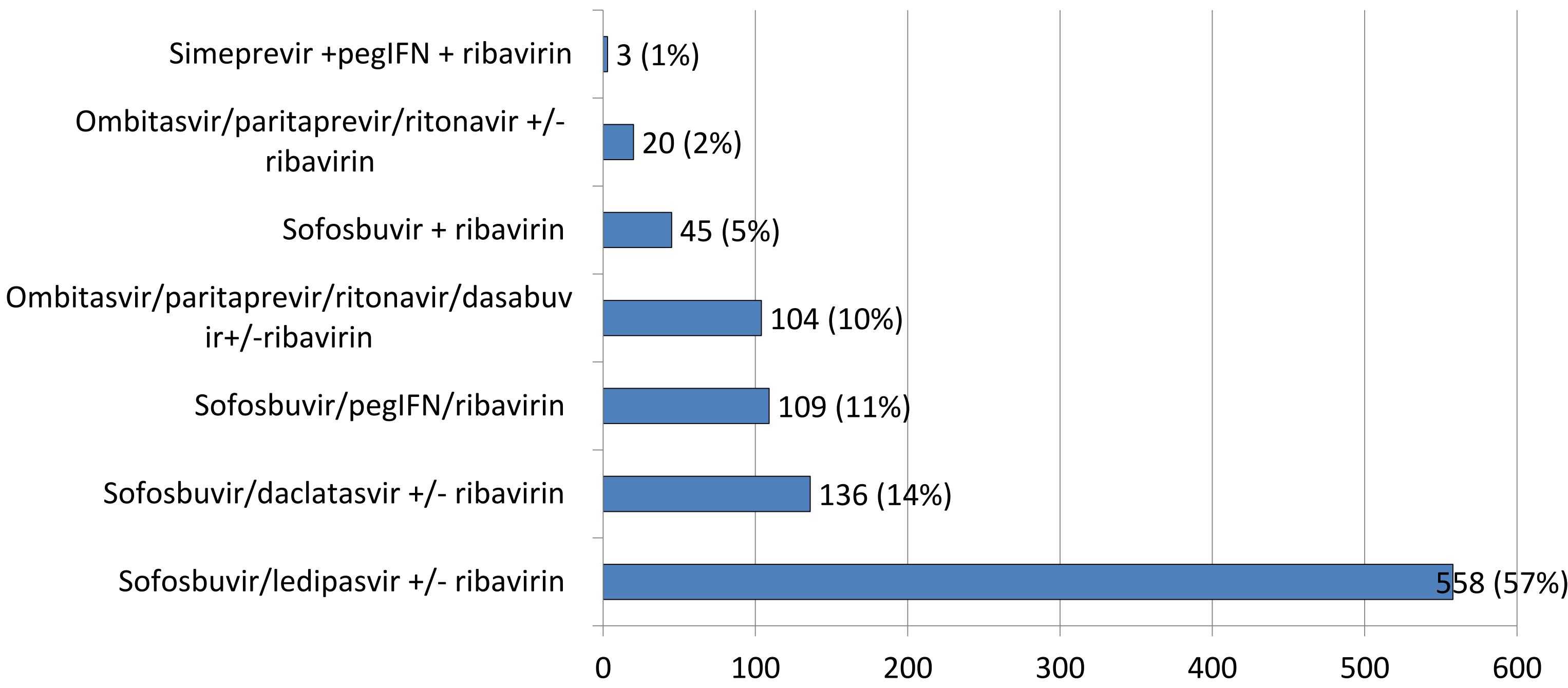
Directly active antivirals (DAAs) are highly effective agents which are ensuring the cure of the majority of Hepatitis C (HCV) patients with all forms of severity of disease. However HCV patients also have co-morbidities which complicates the treatment of HCV with the most cost effective option as the DAAs have many drug drug interactions (DDIs).
EASL Recommendations on Treatment of Hepatitis C 2016 recognises that numerous and complex DDI are possible with the use of DAAs. Therefore it is recommended that co-medicines are assessed for potential DDI prior to and during treatment. Clinical pharmacists are a key member of the multidisciplinary team to perform this task to ensure safe and effective treatment.
We set out to evaluate the incidence of DDIs in the UK and its impact on treatment.

Methods:

We performed a retrospective evaluation of HCV patients receiving hepatitis C therapy with DAAs seen across 17 UK centers from August 2015 until April 2016. Data were collected on demographics, HCV genotype, choice of DAA and additional monitoring required. The Liverpool hep-druginteractions.org website was used to evaluate presence and severity of potential DDIs.

Table 1: Baseline Characteristics	Results N=975 (100%)
Male sex	684 (70%)
Age, years Median	53y (23y-89y)
HCV genotype 1	608 (62%)
HCV genotype 2	50 (5%)
HCV genotype 3	237 (24%)
HCV genotype 4	65 (7%)
Cirrhotic	564 (58%)
Prior HCV non-responder	95 (48)
Co-medicines: Total observed	3808
Number per patient with co medication	804 (82%)
Median medicines per patient	5.5

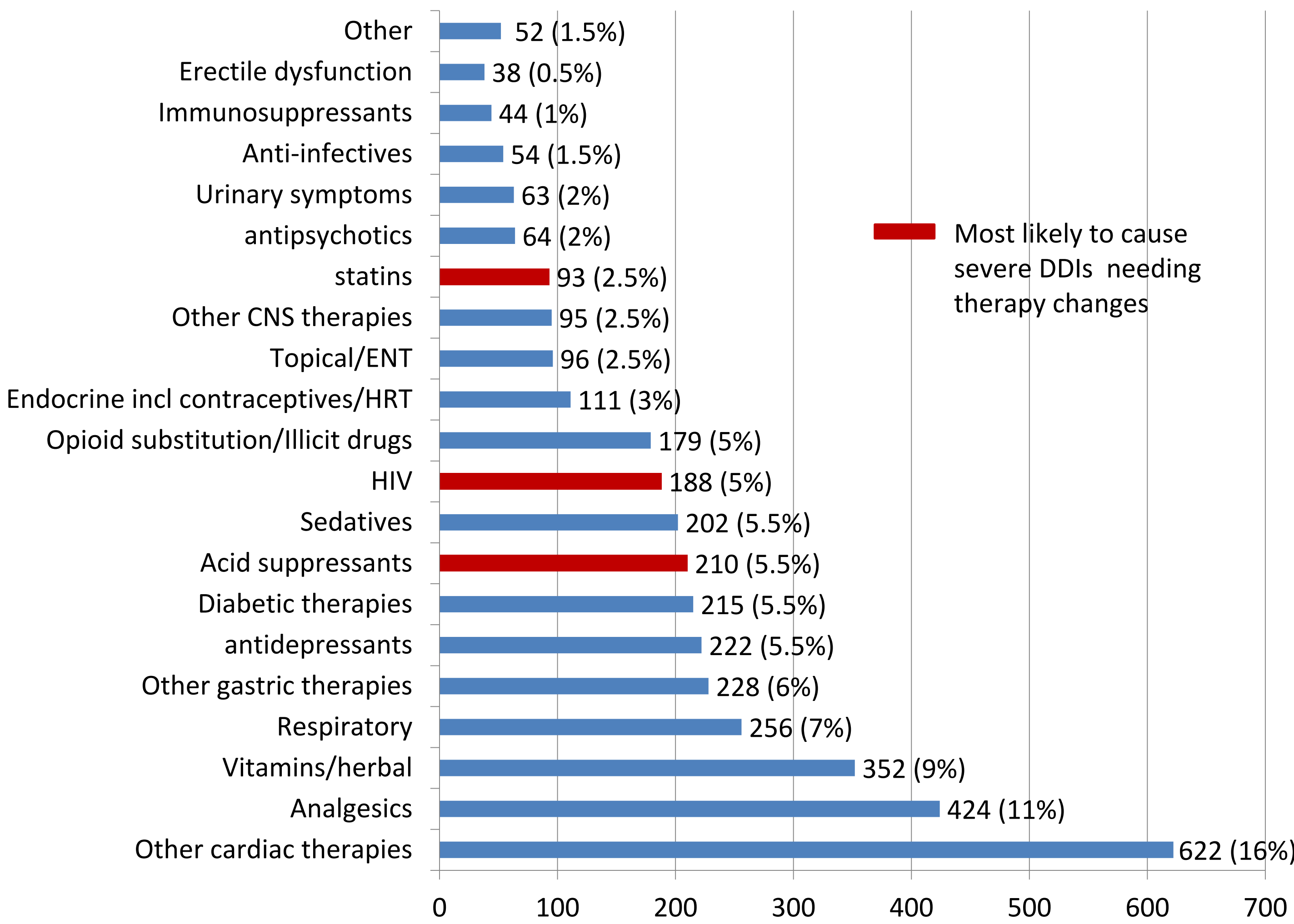
Figure 1: HCV regimens



Co-medications prescribed:

Of the co-medications prescribed: 26% were CNS, 19% cardiac, 12% gastric 5% HIV and 4.5% opioid substitution therapies.

Figure 2: Co-prescribed medication



DDIs identified:

- 678/702 (96%) Amber DDIs (close monitor/dosage adjustment required)
- 24/678 (4%) Red DDIs (do not co-administer)

Groups of medication most responsible for DDI:

Statins, ARVs (ritonavir, efavirenz, nevirapin, darunavir), PPIs, Carbamazepin (contraindicated with all DAAs).
In 4% of cases either the DAA regimen was changed or the regular medication needed adjustments.

Conclusions:

This study has shown that although polypharmacy is common in this cohort of patients, this does not preclude cost effective HCV treatment options.

The expertise of the clinical pharmacist is essential to ensure accurate drug history taking, screening and advice on managing DDIs to ensure optimal treatment outcomes.

Limitations:

- Retrospective evaluation.
- DDIs with recreational drugs, including chems may be underrepresented.

UK Viral Hepatitis Pharmacists Working Group

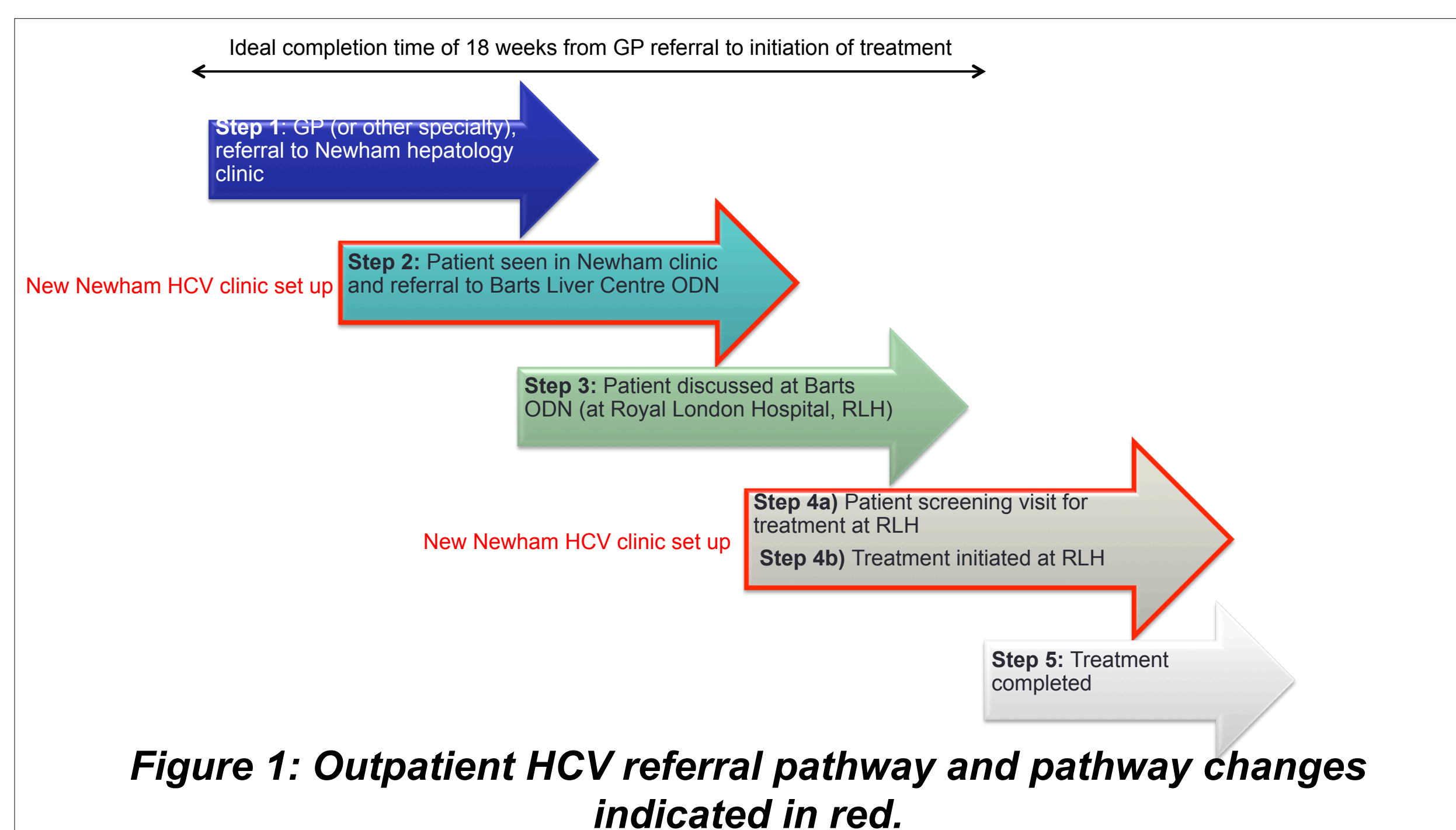
NEW CLINICS IN HIGH PREVALENCE SETTINGS – RAPID SCALE UP OF THERAPY WHEN ACCESS IS PROVIDED

Navjyot Hansi¹, Sachin Shah¹, Josephine Schulz², Victor Ramos², Sheila Sinclair², Aruna Dias¹
Graham R. Foster², Sushma Saksena²

¹Gastroenterology, Newham University Hospital, Barts Health NHS Trust ²Barts Liver Centre, Royal London Hospital, Barts Health NHS Trust, London, UK

INTRODUCTION & AIMS

- The Operational Delivery Network (ODN) model was launched to sustain and develop clinical networks under the leadership of NHS England and focuses on coordinated patient pathways between providers over a wide area to ensure equity of access to specialist resources and expertise. Barts Liver Centre at the Royal London Hospital (RLH) has been the hosting organisation of Barts Hepatitis C ODN for patients resident in the catchment area of Newham University Hospital.
- There is a high prevalence of HCV in East London with high rates of hospital admissions from HCV-related end-stage liver disease¹. HCV patients seen at Newham University Hospital were referred to Barts Liver Centre ODN for discussion and treatment, but this has involved delays at several steps especially 2 and 3 (see Figure 1).
- To reduce delays and improve patient access, a weekly outreach HCV clinic was set up at Newham University Hospital in February 2017, including a Hepatologist and Clinical nurse specialist to reduce duplication and provide care close to the patient.



- This study reviewed our experience before and after introducing the Newham HCV clinic, to assess whether this helped the effectiveness of the ODN and increased access to treatment by reducing steps within the pathway.

PATIENTS & METHODS

- Patients were identified from the ODN database. A total of 75 consecutive patients referred from Newham to ODN were analysed and this included prior to setting up the Newham HCV clinic (Aug 2016 to Feb 2017) compared with those discussed after roll-out of Newham HCV clinic (March 2017 to Sept 2017).
- Data on genotype, fibrosis assessment and treatment were documented.
- The time from referral to discussion at ODN and subsequent initiation of treatment was compared.

RESULTS

- A total of 75 patients were referred and discussed at ODN between August 2016 and September 2017. Table 1 demonstrates the demographics and characteristics.

CONCLUSIONS

- Implementing a local clinic to facilitate assessment, referral and treatment of patients has demonstrated a higher uptake of patients discussed at ODN and significantly shorter time in initiating treatment. While the local clinic has reduced total patient journey from referral to initiation of treatment there is still scope for improvement, with plans to provide a transient elastography service locally, improve awareness of referral pathways within primary care and drug treatment services, and set-up outreach community HCV clinics.

RESULTS

- The two groups were similar in terms of age, gender and prevalence of cirrhosis. Table 2 is a further breakdown of treatment and sustained viral response (SVR).

	Before Newham HCV clinic	After set-up of Newham HCV clinic
No. of patients discussed at ODN	28	47
Age in years, median (range)	47 (25-77)	45 (28-79)
Sex (Female:Male)	12:16	21:26
Genotype (n)		
1	8	24
2	2	1
3	15	19
4	3	2
6	0	1
Cirrhosis, n (%)	8 (29%)	13 (28%)

Table 1: Patient characteristics of cohorts

	Before Newham HCV clinic	After set-up of Newham HCV clinic
Treated	26	39
<i>*patients lost to follow-up after ODN</i>	*2	*8
Treatment		
<i>Epclusa 12 weeks</i>	12	17
<i>Maviret 8 weeks</i>	1	1
<i>Viekirax/Exviera 12 weeks</i>	6	5
<i>Zepatier 12 weeks</i>	5	14 (n=1 for 8 weeks)
<i>Harvoni</i>	0	2
<i>Peg/RBV/Sofosbuvir</i>	1	0
<i>Clinical trial</i>	1	0
SVR, n (%)	17/19 (89%)*	18/18 (100%)**
Fail EOT	1	0

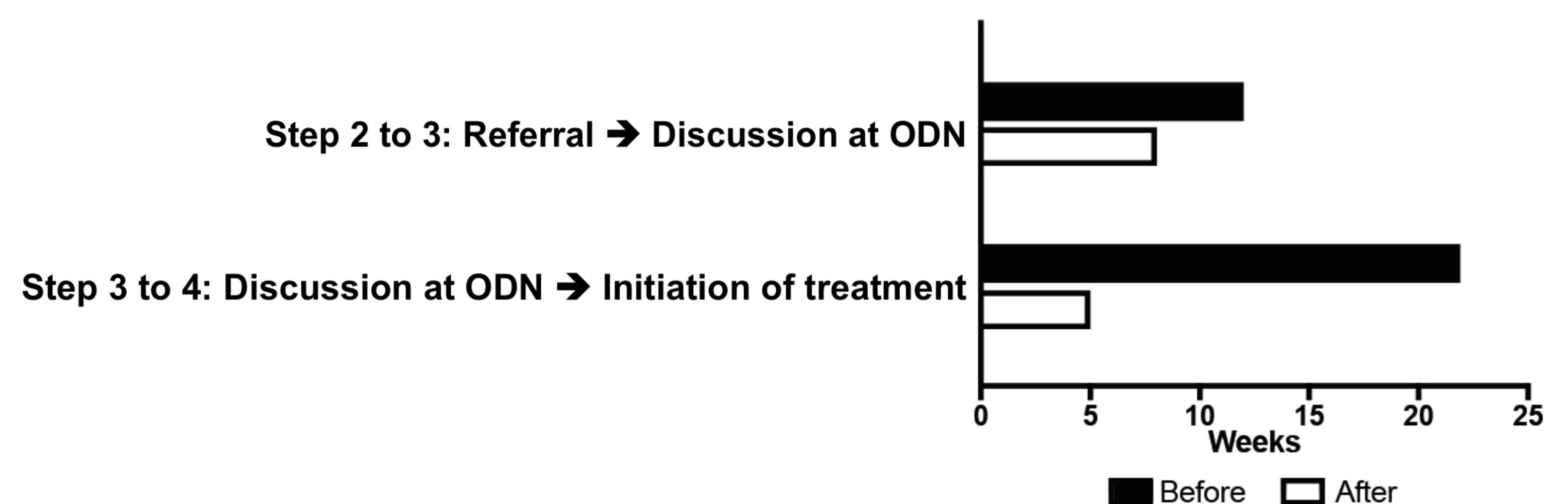
Table 2: Treatment and SVR

*Treatment fail; n=2 {rash, 6 log virus at week 4 of treatment}, SVR awaited for 6 patients, n=1 lost to f/up
**SVR awaited for 21 patients at time of data collection

	Before Newham HCV clinic	After set-up of Newham HCV clinic	p value
Step 2 to 3: Referral → Discussion at ODN, No. of days, median (range)	No. of patients=28 81 days (1-424)	No. of patients=39* 58 days (2-629)	n.s
Step 3 to 4: Discussion at ODN → Initiation of treatment, No. of days, median (range)	No. of patients=26 154 days (26-423)	No. of patients=39 35 days (5-124)	<0.0001

Table 3: Comparison of times between referral pathway steps before and after introduction of Newham HCV Clinic. This has also been represented diagrammatically in Figure 3 (below).

*47 patients discussed at ODN but on 8 patients no date of referral to MDT



- There has been a significant reduction ($p < 0.0001$) in the time interval between discussion at ODN and initiation of treatment following the set up of Newham HCV clinic (Figure 3 and Table 3).

Interactions between HIV and HCV therapies: How common and who wins?

Torkington A¹, Barnes J², Cripps S³, Lee K⁴, Marshall N⁵, Morgan H⁶, Muqbil G⁷, Pratt A⁸, Sayers I¹, Selby P⁹, Swabe J¹⁰, Swaden L⁵, Vaghjiani T¹⁰, Zimmer M⁶, Bhagani S⁵, Collier J³, Macdonald D⁵, Nelson M⁶, Prince M⁴, Wright M⁹, Ustianowski A¹

1. North West ID Unit, Manchester, UK; 2. Heartlands Hospital, Birmingham , UK; 3.Oxford University Hospitals, Oxford, UK; 4. Central Manchester University Hospital, Manchester, UK. 5. Royal Free London, London, UK; 6.Chelsea and Westminster Hospital, London, UK; 7. St Georges Hospital, London, UK; 8. York Hospital, York, UK; 9. Addenbrookes Hospital, Cambridge, UK 10. University Hospitals Southampton, UK.

Background:

- The current era of HCV direct acting antivirals (DAAs) has allowed HIV/HCV co-infected patients to achieve similar rates of response to HCV mono-infected patients¹.
- Managing HIV/HCV therapy is complex, often involving drug-drug interactions (DDIs) between the DAAs, ARVs and other medicines.
- We evaluated the incidence of DDIs in co-infected patients and its impact on choice of preferred HCV therapy as recommended by NHS England.

Methods:

- Retrospective evaluation of all HIV/HCV co-infected patients receiving DAAs seen across 10 UK centres from June 2015 till May 2016.
- Data were collected on demographics, HCV genotype, choice of DAA and ARVs and any changes made to these or additional monitoring required.
- The Liverpool hep-druginteractions.org website² was used to evaluate presence and severity of potential drug interactions.

Table 1: Baseline characteristics

Characteristics	Outcome	Results N=198
Male sex	N (%)	177 (89)
Age, years	Median	49 years
HCV genotype	1	157 (81)
	2	2 (1)
	3	17 (8)
	4	21 (10)
Cirrhotic	N (%)	84 (42)
Prior HCV non-responder	N (%)	95 (48)
Co-medicines:	N (%)	728
	Median	3.5

Figure 1: ART regimen co-prescribed with HCV therapy

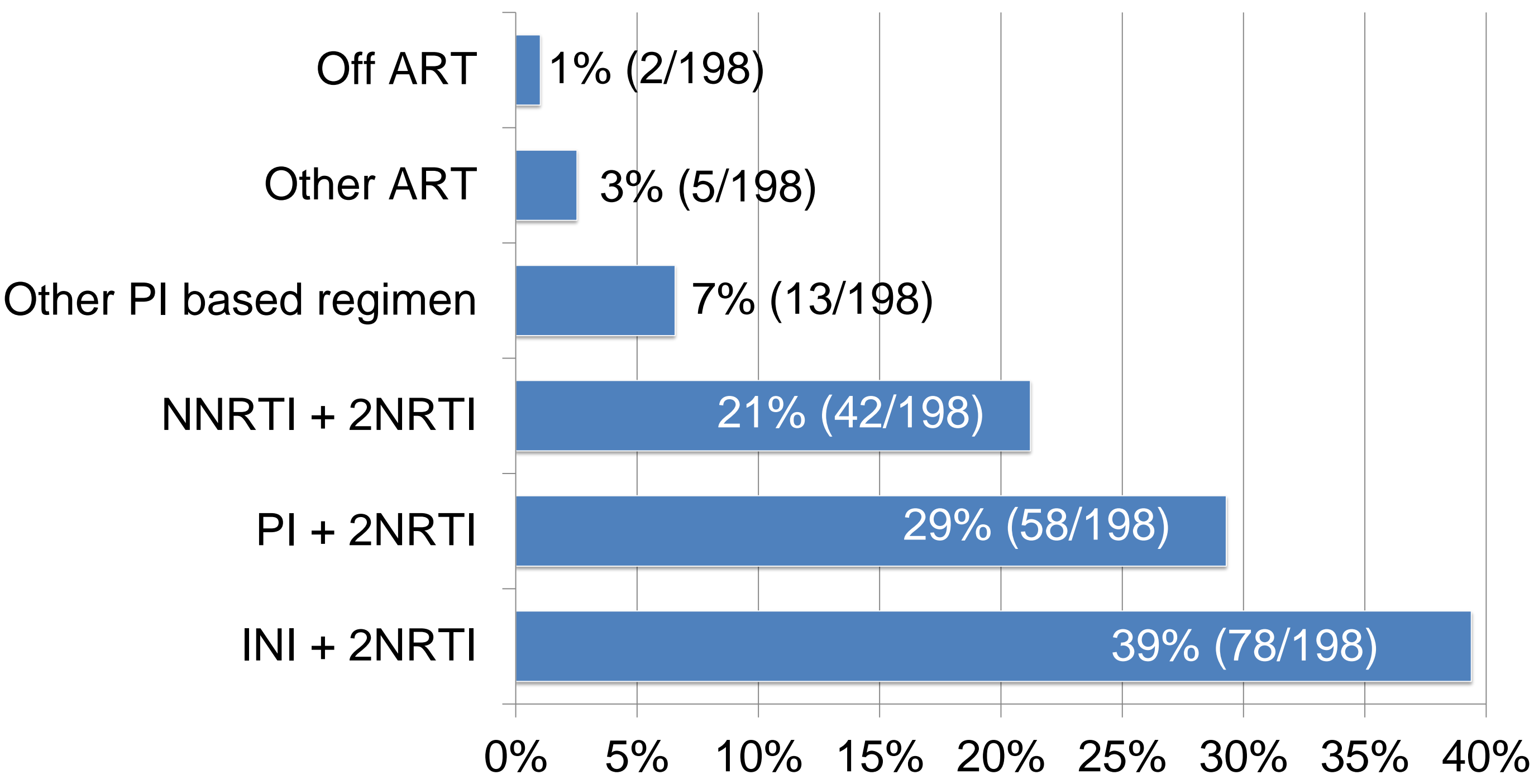


Figure 2: HCV regimens

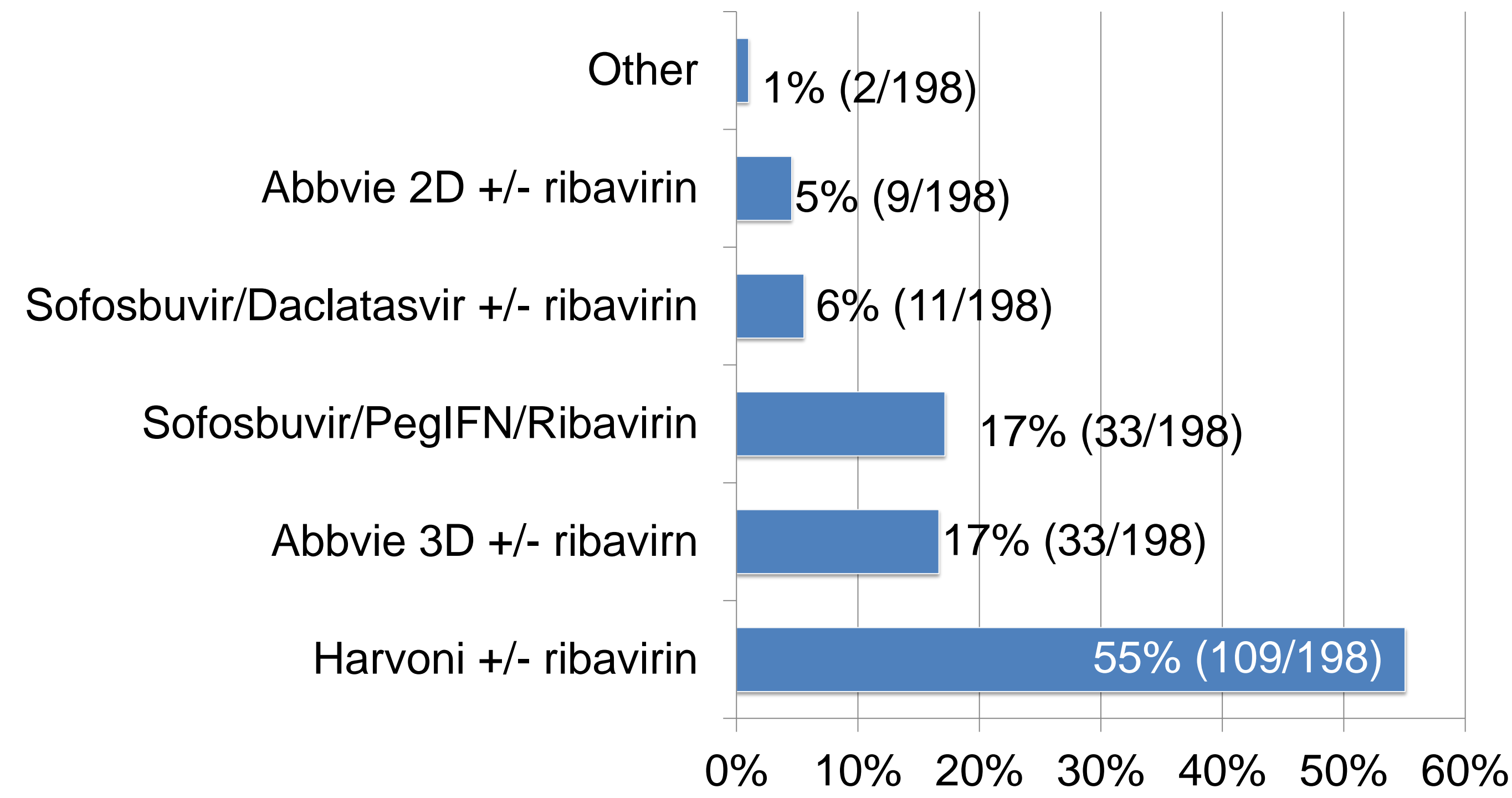


Table 2: Changes to HIV ARVs to accommodate HCV therapy

ARV Change	N (%) of patients
Omit ritonavir on Abbvie 2D/3D	13 (7)
NNRTI to unboosted Integrase	13 (7)
PI to unboosted Integrase	3 (1)
PI changed	2 (1)
Boosted Integrase converted to unboosted Integrase	1 (1)
Other	4 (2)
Nil change made/possible	162 (82)

Impact of DDIs on ART and HCV DAA choice:

- 36/198 (18%) required alteration to their HIV regimen prior to DAA therapy, 24/36 (66%) of which received Abbvie 2D/3D (ritonavir) based DAA.
- 6/198 (3%) required adaptation of HCV regimen due to current ART regimen.

Limitations:

- Retrospective evaluation.
- DDIs with recreational drugs, including chems may be underrepresented.

Conclusions:

- Managing HIV/HCV co-infected patients is clearly complex requiring review and modification of both HIV and HCV therapy with additional monitoring.
- The renal monitoring associated with the tenofovir/ledipasvir DDI needs standardising as patients are being monitored when it is not necessary.
- The role of the specialist pharmacy team is key to managing this cohort.

Co-medicines and monitoring:

- 728 co-medicines were identified in 153/198 (77%) patients (median 3.5/patient).
- 186/728 (25%) amber DDIs (close monitor/dosage adjustment required) were identified in 147/198 (74%) of patients, with 24/728 (3%) red (do not co-administer) observed for 20/198 (10%) of patients.
- The need for additional monitoring were reported for 75/198 (38%) of patients due to potential DDIs with the DAA chosen. Renal monitoring for tenofovir/ ledipasvir co-administration was reported in 22/198 (11%) of patients. The monitoring was only required in 9/22 (40%) of those patients.

1. Arends et al. Natural history and treatment of HCV/HIV coinfection: Is it time to change paradigms? J Hepatol. 2015 Nov;63(5):1254-62
2. <http://www.hep-druginteractions.org/>

Introduction

Chronic hepatitis C virus infection (HCV) is a major cause of end stage liver disease. It is known that HCV is common in incarcerated individuals, with previous estimates suggesting ~7% of the UK prison population is HCV antibody positive. Increasing diagnosis, treatment and monitoring of HCV in prison is therefore a priority in order to achieve “elimination”. Prior to the implementation of opt out, as a national policy, HCV testing rates in UK prisons were low (4%) and largely opportunistic.

Aim

To increase diagnosis and treatment of HCV in prisons in the North East of England (NEE) we implemented:

1. A universal offer of blood borne virus testing (UOBBVT) using dry blood spot testing (DBST) for prisoners at reception to increase diagnosis
2. Prison Telemedicine clinics within NEE Prisons to increase HCV treatment rates.

Method

Development of the BBV testing and treatment pathway

In 2014 a “Task and Finish” group was convened to develop a blood borne virus testing and treatment pathway for all the prisons in NEE.

The BBV testing pathway

- Dry blood spot testing (DBST) was introduced to maximise uptake of the UOBBVT.
- Staff training was implemented prior to roll out of the program
- From March 2016 all HMP Durham prisoners were to be offered BBV testing at prison reception using DBST (Fig 1).
- Staff were encouraged to ask the prisoners in a positive manner and to indicate that it was routine practice for all inmates to be tested for BBVs.

HCV treatment pathway

- The HMP healthcare staff identify inmates who have tested HCV positive and wish to proceed with treatment.
- Full assessment and history taking is undertaken by the in-reach viral hepatology nurse who co-ordinates a Telemed Clinic (TC) with the Hepatology Consultant.
- The inmate is then referred into the MDT for discussion in line with HCV treatment option guidelines.
- Those individuals found to be HCV RNA positive with a short sentence (preclude commencement of antiviral therapy) in the Prison were provided with written information about their diagnosis and details of contacts for community HCV treatment services accessing treatment upon release.

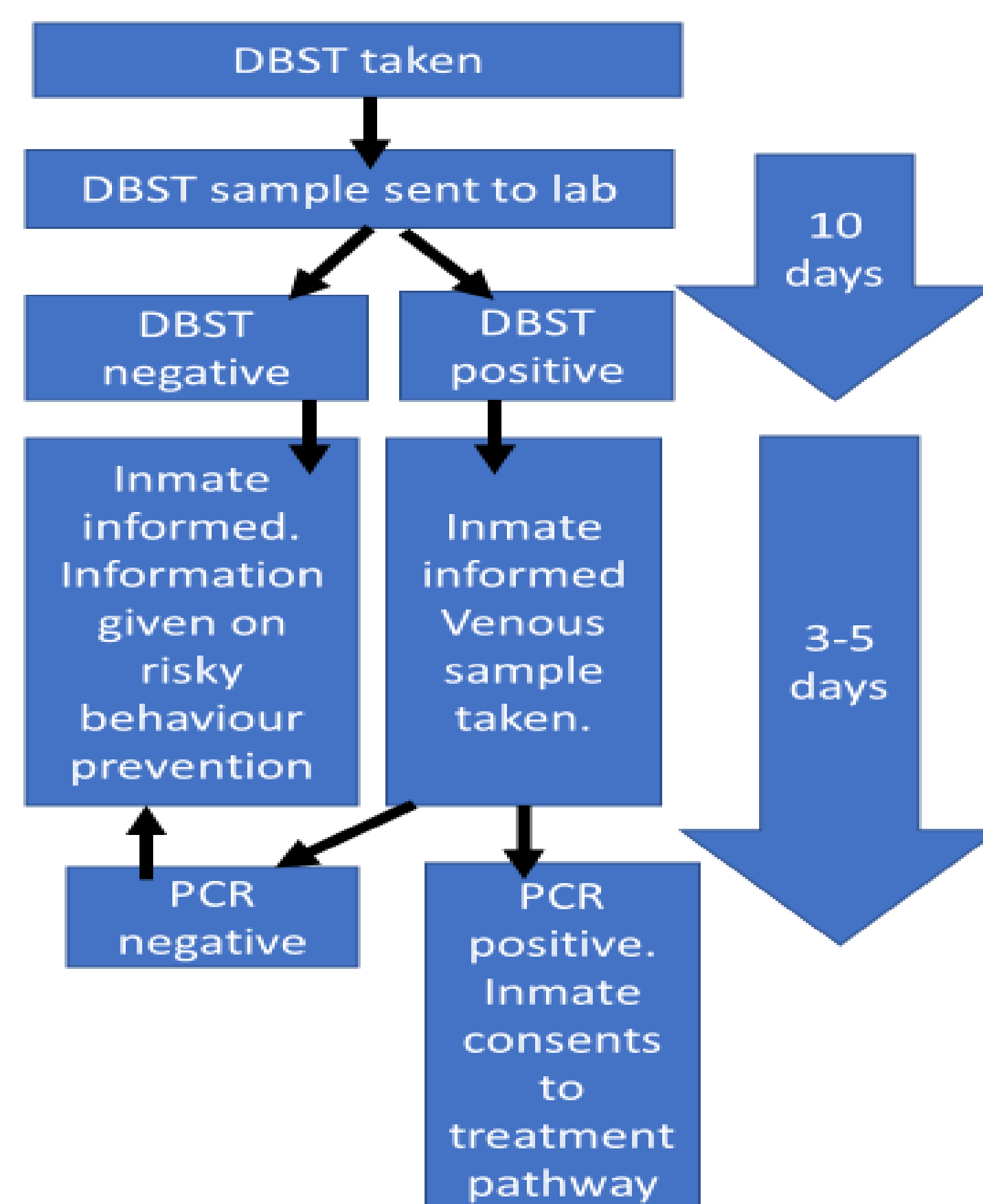


Fig 1: Testing pathway for DBST and PCR in NEE HMP.

Results

UOBBVT

- Prior to implementation of UOBBVT in HMP Durham testing rates were low - **in 2013/4 only 164 of the 7,000 new receptions (2.3%) had BBV testing.**
- UOBBVT was initially implemented at HMP Durham, March 2016.
- **From Mar 2016-Feb 2017 2,831 (66%) new receptions were offered BBV testing.**
- 1,495 (53% of offered) of new receptions accepted BBV testing.
- 95 (6.4%) were anti HCV antibody positive.
- **47 (49.5%) were HCV RNA positive, confirming active infection (3.1% of all tested).**

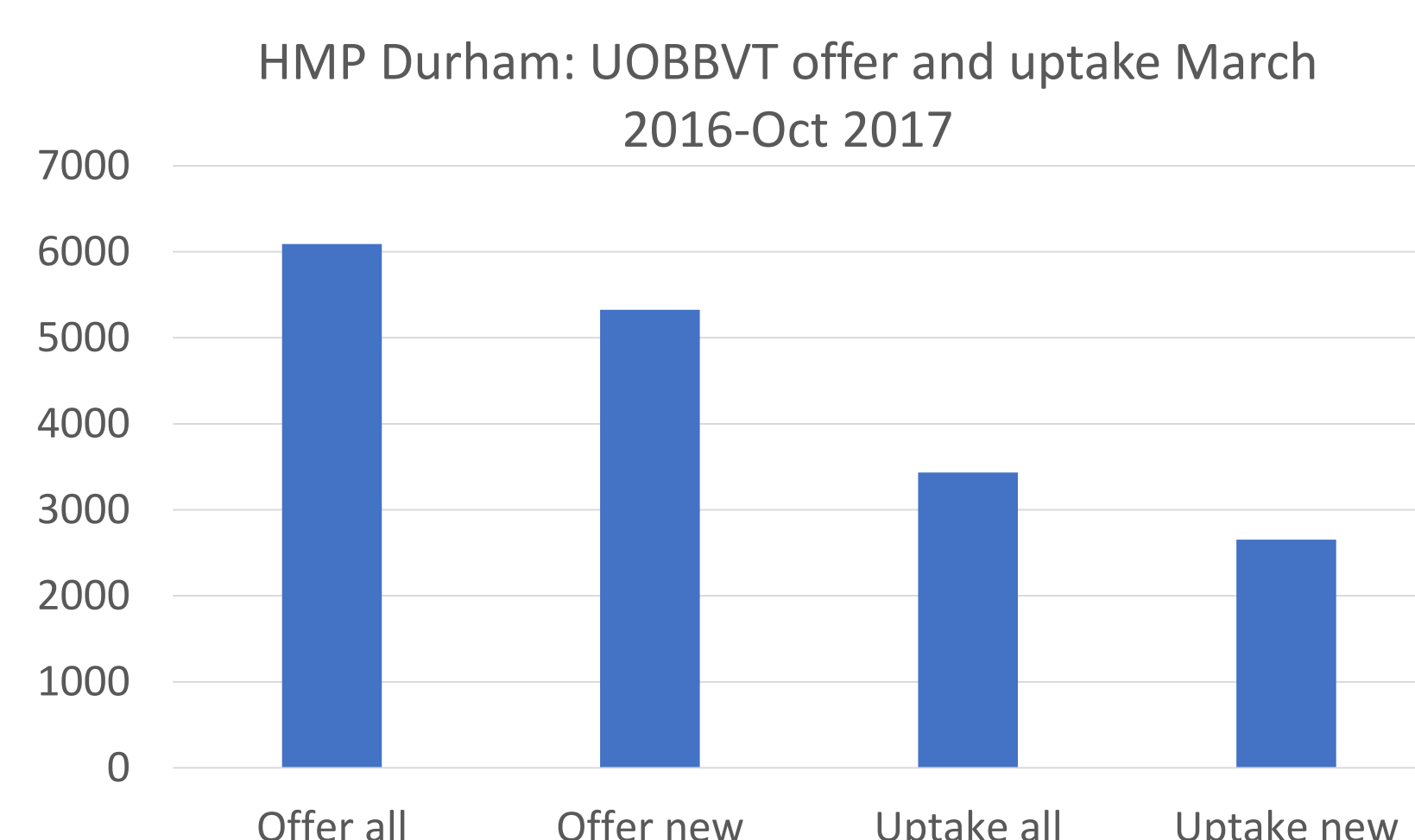


Fig 2: HMP Durham: UOBBVT offer and uptake. Mar 2016-Oct 17

- Common reasons for non-acceptance of the test were inmates stating: “doesn’t want it” (54%), “already had test” (37%) or “doesn’t need it” (5.4%), illustrated in figure 3.

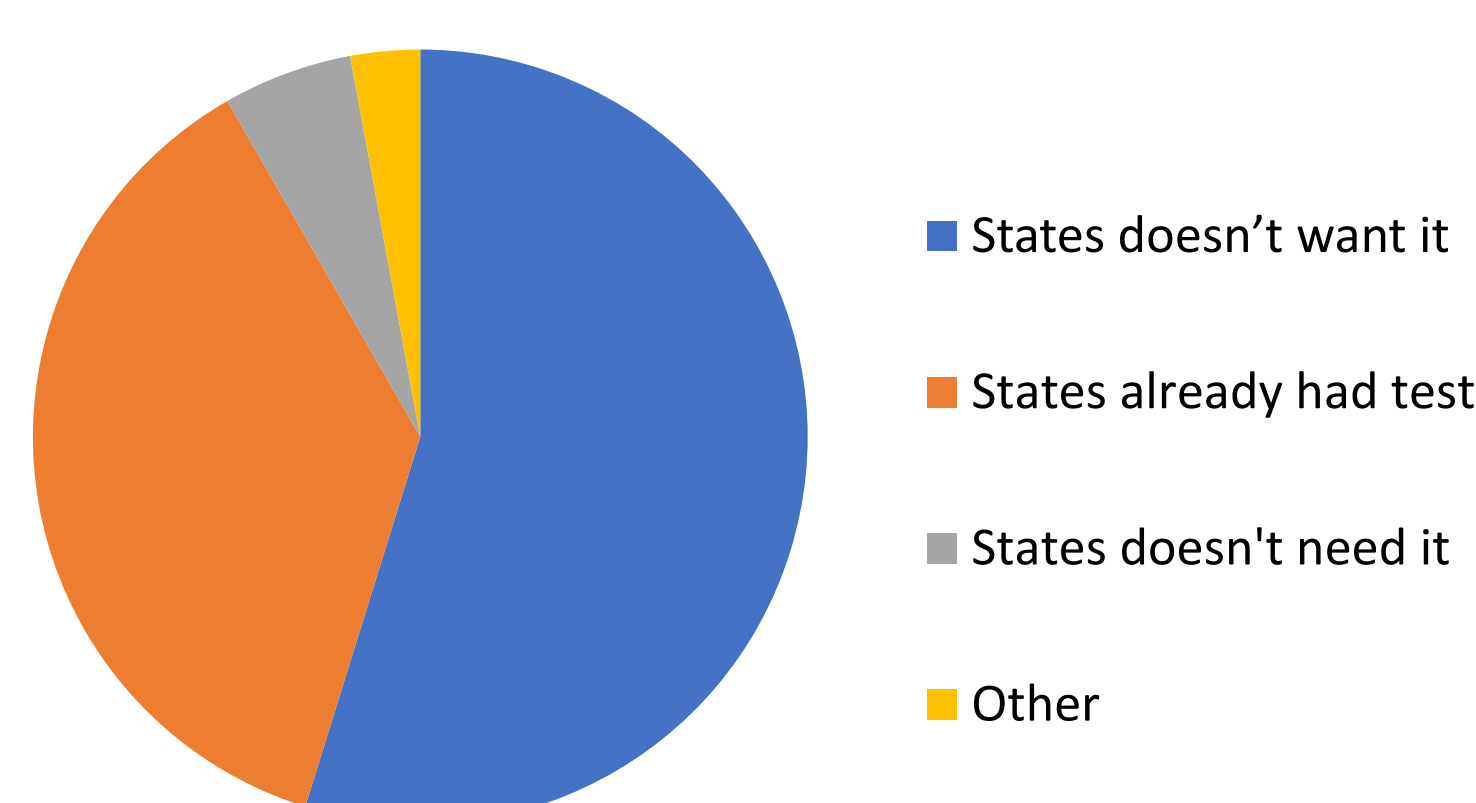


Fig 3. Reasons for refusal of UOBBVT (Mar 2016-Feb 17)

The roll out of UOBBVT across the NEE HMP estate has seen a large increase in the numbers offered and tested for both new reception and all inmates from implementation to October 2017.

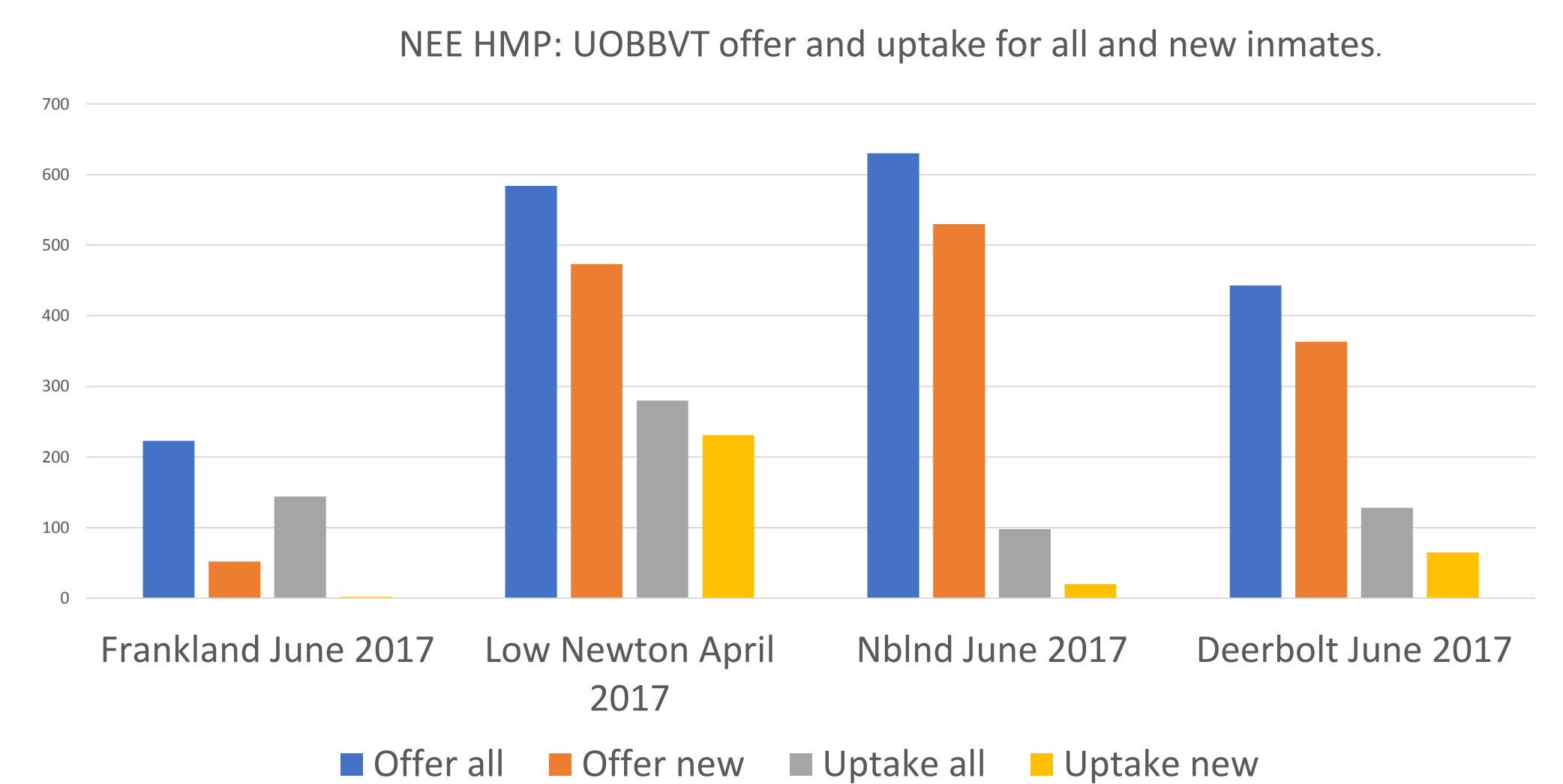


Fig 4: NNE HMP roll out. Universal offer and uptake for all and new patients since roll out.

The percentage of inmates who received a PCR positive result from the total number of inmates screened month on month is illustrated in figure 5 showing a variation of between 2.4% to 13.2 with an average of 11% an increase on 3.1% from the 2013-2014 data (PHE 2014).

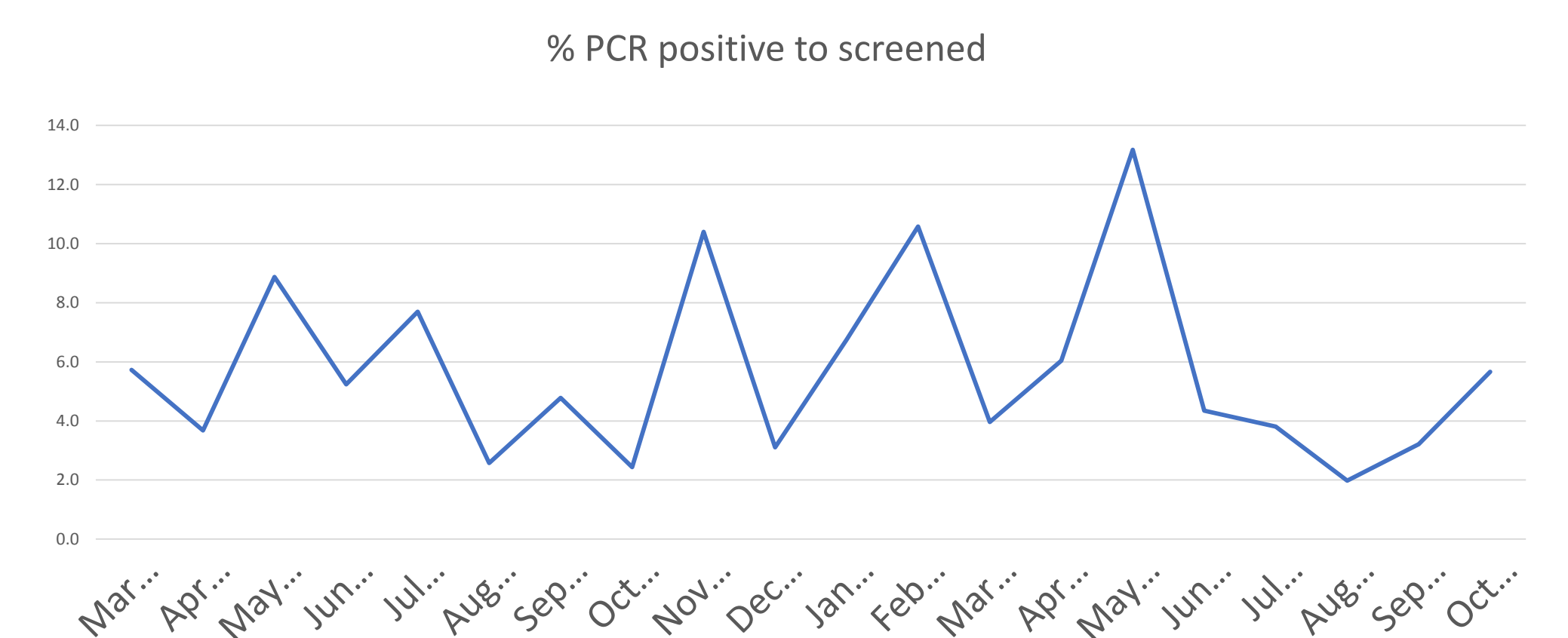


Fig 5: HMP Durham: % of inmates' PCR positive, captured from numbers screened

Review of treatment rates prior to and after implementation of the telemedicine treatment pathway in Northumberland Prison (NP)

- Prior implementation of TC, in 2013-2014 102 HCV tests (44 HCV Ab pos and 29 HCV RNA pos) were performed at HMP Northumberland **only 4 started treatment in that year** (PHE, 2014).
- Telemed clinics (TC) began in August 2015 in HMP Northumberland, which houses medium/long stay prisoners.
- **Following implementation TC, between Aug 2015 and Oct 2017 80 individuals were seen in the TC in HMP Northumberland.**
- Of those seen in the TC, 57 (71%) commenced HCV treatment.
- Overall, satisfaction with the TC among the prisoners was very high (80% good or excellent).
- TCs are a highly efficient use of consultant time and is hugely cost saving with reduced cost of prisoner movement.
- Typically a consultant sees 10 inmates in a 2 hour clinic.
- The non-attendance rate is low -0-20% per clinic

Conclusions

- A universal offer of BBV testing to prisoners at reception to prison can substantially increase testing rates and lead to many new diagnoses of HCV.
- Non-acceptance rates still remain high so it is important that there are other opportunities for testing within the prison.
- Telemedicine clinics with Nurse-led Prison in-reach offer a cost effective and efficient method of treating HCV in the prison environment.
- These services have now been implemented in all NEE Prisons.

Sharing HCV ODN Knowledge & Best Practice

South Thames ODN (STHepNet)

Dr Dan Forton (joint Clinical Lead), Dr Kosh Agarwal (joint Clinical Lead), Dr Mary Cannon, Dr Ashley Barnabas, Janet Catt, Helen Boothman, Nick Tatman, Beverly Edwards, Cecilia Clarke, Marie-Ange Badot, Lizzie Smith, Prof Geoff Dusheiko

Introduction

The STHepNet mission statement is to:

'Improve liver health within the South London population, through maximising uptake and completion of Hepatitis C treatment, to cure more people of infection and to prevent onwards transmission.'

STHepNet has applied learning from international research and best practice, to the development of our services. STHepNet workstreams are divided into key themes:

- Linkage from testing into community-based treatment
- Education & training
- Peer support & navigation
- Diagnostic innovation
- Data infrastructure

Community based treatment

Many people requiring treatment for hepatitis C are from socially disadvantaged groups including people who inject drugs, the homeless & people in prison. It is well known that these cohorts of the population experience barriers in accessing specialist care in the hospital setting. STHepNet has sought to co-locate a proportion of its HCV treatment services alongside existing community services.

Addiction services: Outreach HCV services are provided by Viral Hepatitis specialist nurses from both specialist centres. This includes:

- CGL, Southwark
- Lambeth Addictions Treatment Consortium
- Turning Point, Croydon
- St John's Therapy Centre, Wandsworth

HCV outreach will extend to further addiction services in south London in 2018. Portable fibroscan & blood tests are used to assess clients.

Medications are prescribed by hubs & couriered to addiction services where they are stored securely until the client attends to start treatment.

HMP Prisons: STHepNet has established models for HCV in-reach treatment in HMP Wandsworth, HMP Brixton & the HMP Thameside cluster (Belmarsh, Isis & Thameside). We have successfully treated patients in partnership with prison staff.

Homeless hostels:

In 2018 the King's College Hospital team will treat patients within homeless hostels in SE London. This initiative forms a study awarded a global grant from Merck, looking at efficacy of HCV treatment in the homeless population.



Figure 1. Dry blood spot testing



Figure 2. South London boroughs.

Education & Training

STHepNet has sought to provide education to support prevention, early identification & referral for HCV treatment. We have focused on sharing positive messages about efficacy & tolerability of DAA regimens. We have found that the public & professionals are often not aware of the availability & benefits of DAA treatments.

Education has been provided at forums for GPs, commissioners, BBV nurses, addiction clinicians & Homeless healthcare workers, led by the ODN.

In 2018 we will establish a Project ECHO® hub at King's College Hospital, linking specialist clinicians with local primary care & addiction clinicians. Partners become part of a learning community, receiving mentoring from specialists on hepatitis C treatment & being empowered to treat patients in the community setting.

Peer Support & Navigation

International research & best practice shows the importance of peer support for improving linkage to care in the HCV care cascade.

STHepNet has partnered with The Hepatitis C Trust to run the Follow Me Programme. A dedicated peer education coordinator recruits peers to run HCV education in addiction services & homeless hostels. The workshops provide clients with education on HCV treatment, an opportunity to be tested and access to peer support for appointments.

The peer support has been particularly successful at improving linkage to care where dedicated 'walk in' outpatient appointments are made available in the nurse-led hospital HCV clinic. A peer worker can arrange to meet a client to bring them to hospital, bypassing barriers such as hospital appointment systems, letters & long waits to be seen.

Diagnostic Innovation

Capillary blood testing is used at St George's Hospital. This helps overcome challenges in taking blood from individuals with difficult venous access. There is potential for this method to be rolled out as an innovative method for point of care testing & for SVR results.

A Cepheid machine for point of care testing is in use at the Lambeth Addictions Treatment Consortium, enabling turnaround of RNA results within 2 hours.

STHepNet has partnered with the London Joint Working Group on an innovative project that offers HCV testing to clients accessing needle exchanges, with referral into King's College Hospital for those with a positive result. Peer support is offered to individuals testing positive. Swab testing has been used for this project although there are plans to move to dry blood spot testing in the next phase of the project.

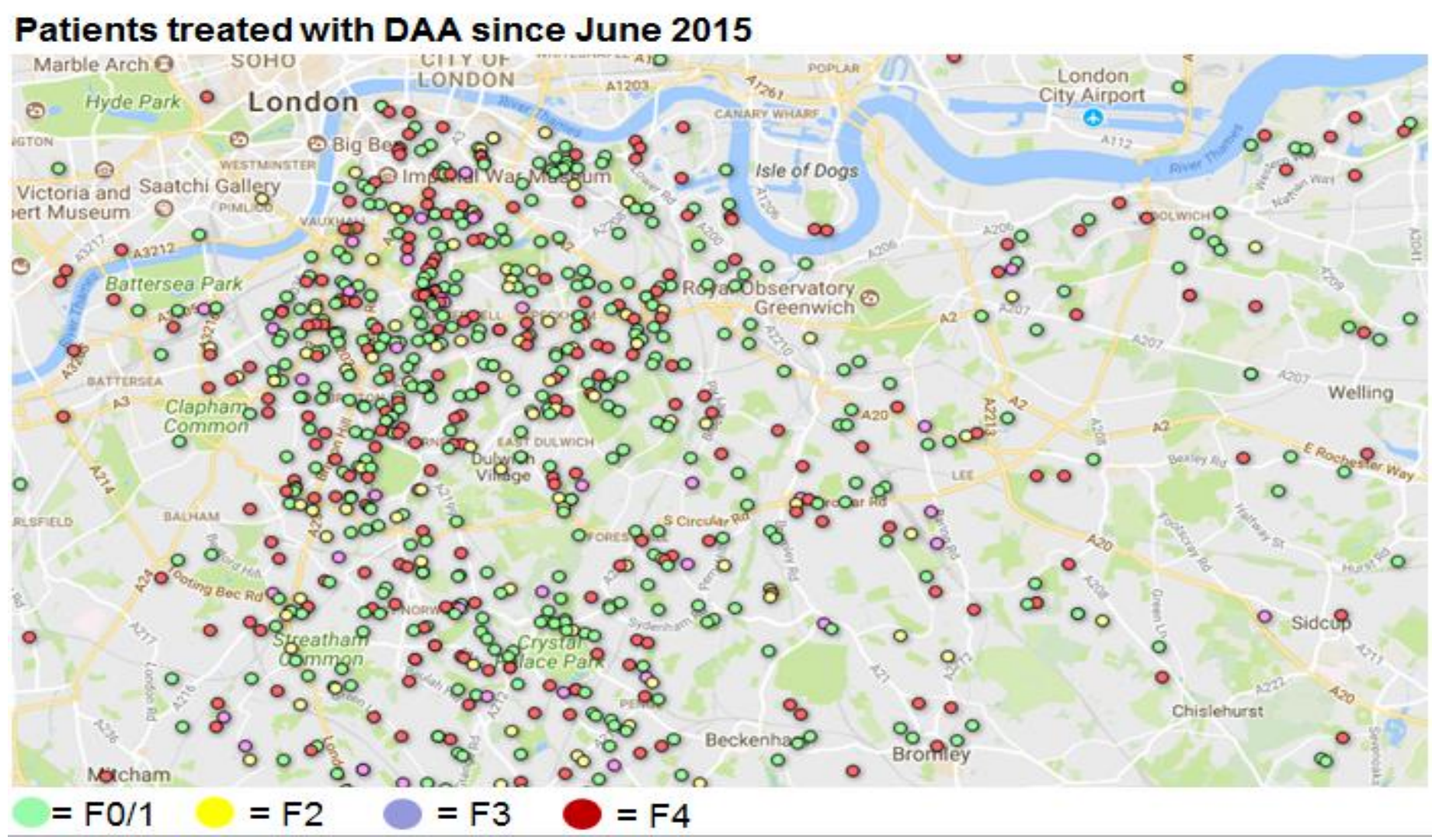
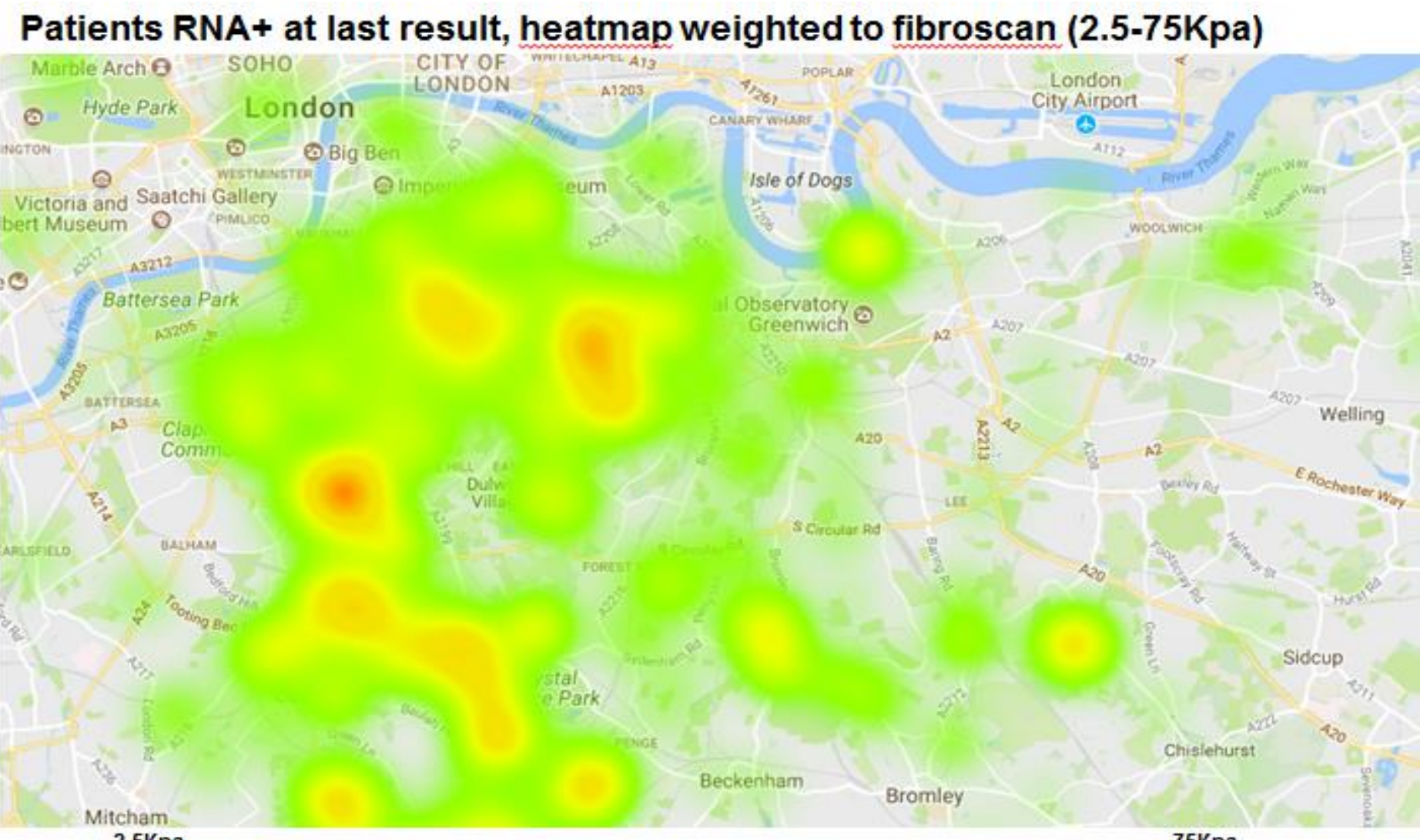


Image 1-2: Data mapping using Virology data accessed from HepCARE.

Data infrastructure

STHepNet has recognised that management of virology data is of crucial importance to managing cohorts of individuals with diagnosed hepatitis C. To improve data management, we have implemented HepCARE; a viral hepatitis patient management tool & database. HepCARE provides a single system for identifying & managing all viral hepatitis patients & allows automated HCV treatment outcome reporting. This enables clinicians & managers to access data on SVR outcomes effectively. HepCARE also enables us to map geographical data, as shown in the maps above, enabling identification of high prevalence areas.

In 2018 STHepNet will start to contact patients who have been identified as having HCV through virology data, to link them into treatment. This includes individuals tested in primary care as well as in secondary care.

Conclusions

What have we learned about what works well in delivering HCV services? Our key messages are:

- Co-locate HCV treatment services with existing community services accessed by high-prevalence groups, such as addiction services, homeless hostels & needle exchanges.
- Share specialist knowledge to encourage referrals & democratize HCV care.
- Ensure that people in prison are offered testing & treatment for HCV.
- Integrate peer support into services to reduce attrition between HCV testing & treatment.
- Consider novel diagnostics & how they can help address barriers to HCV testing & monitoring.
- Utilize data from virology labs to identify untreated patients - consider investing in a clinical management system such as HepCARE.
- Work with all partners to deliver the elimination strategy.

Easy Access to therapy in people who use drugs- maximising uptake in an outreach setting.

Mandie Wilkinson, Jane Dalton, Andrew Tippet, Jo Schulz¹, Valerie Ross¹, Graham R Foster¹
RESET, East London, ¹Barts Liver Centre, QMUL

INTRODUCTION

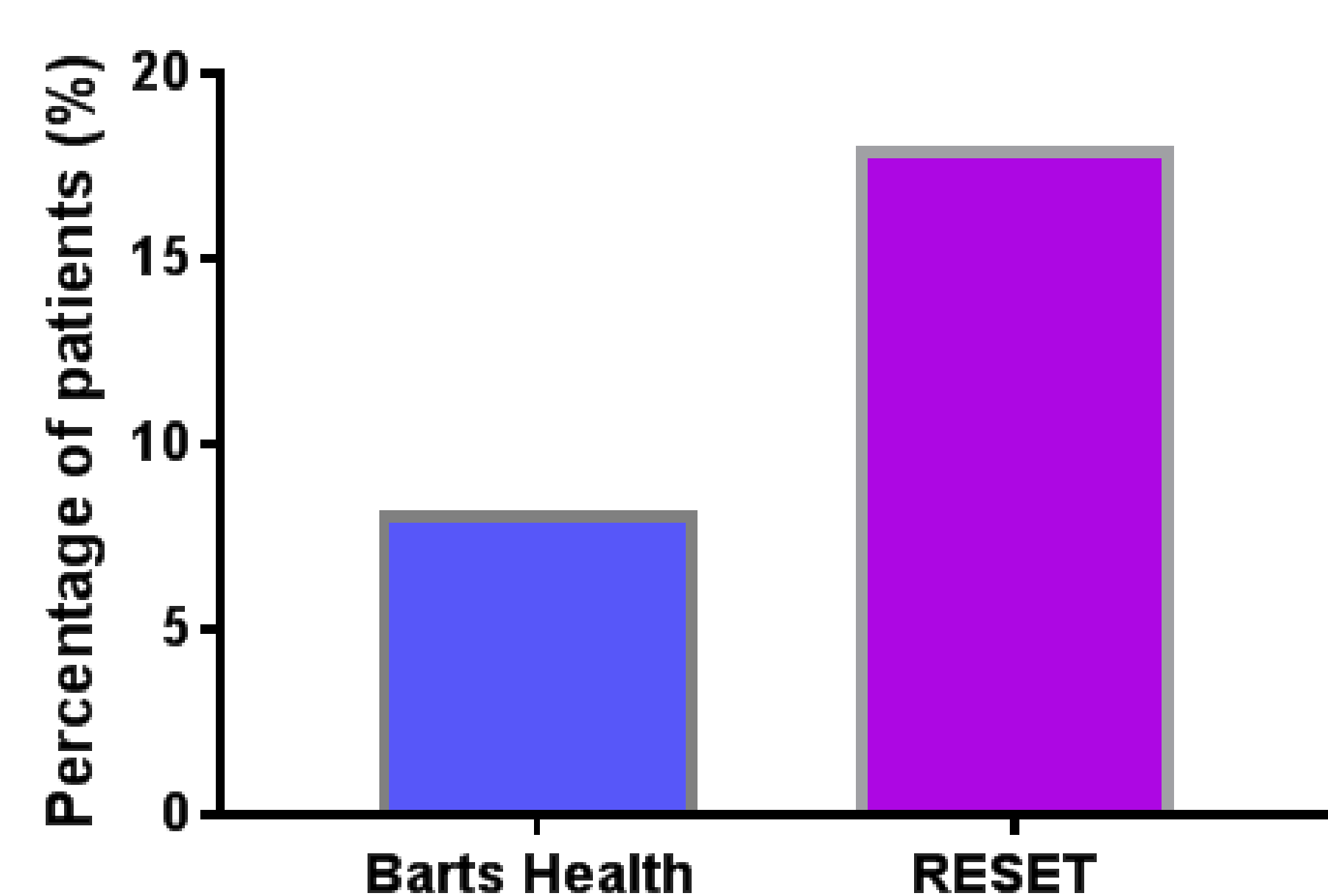
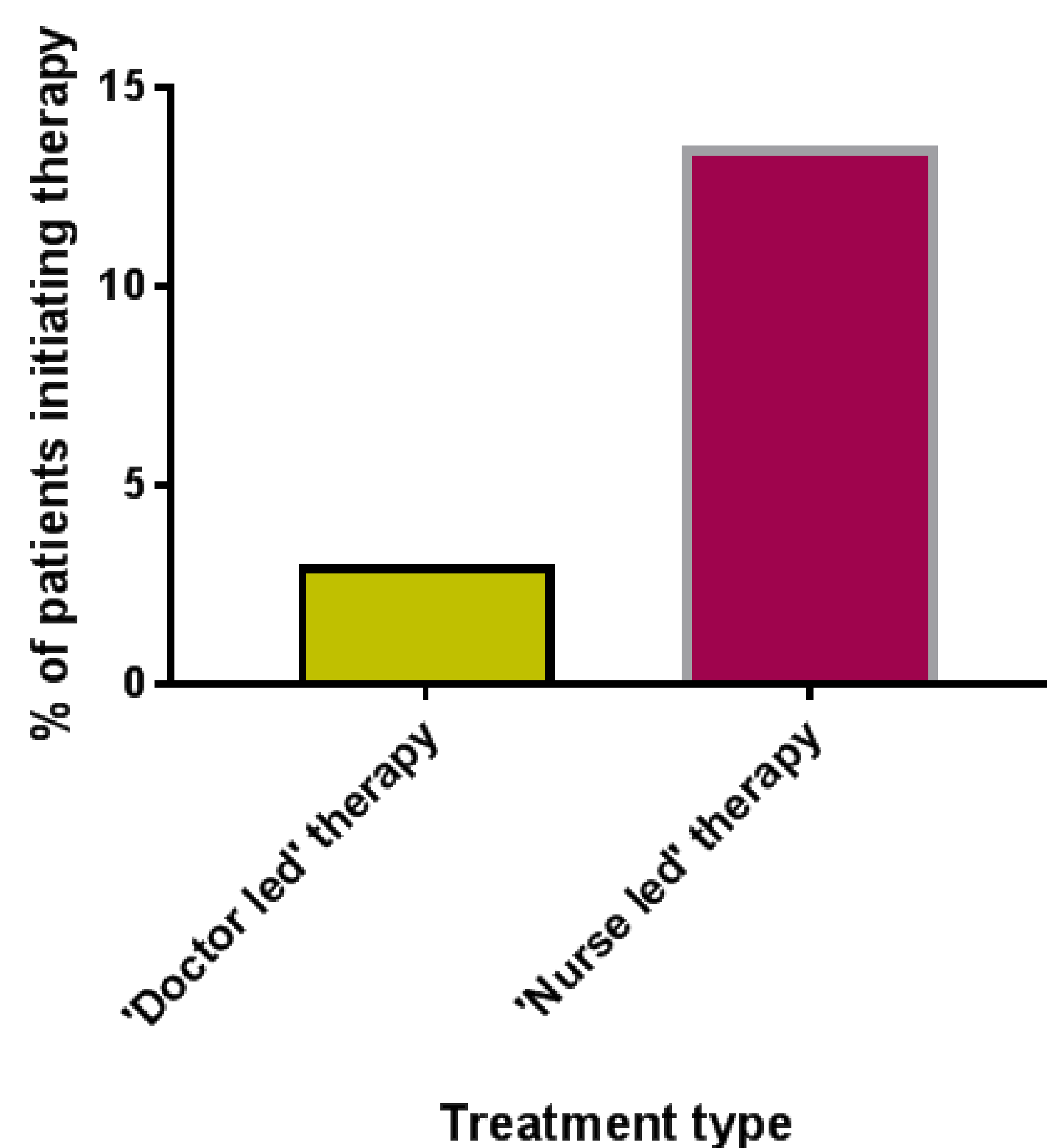
- UK prevalence of viral hepatitis is around 0.5% but higher in people who use drugs. Engaging with drug users is challenging as many patients agree to be tested but most viraemic patients do not attend for therapy.
- Improving access to treatment for active injecting drug users will be critical for effective elimination of HCV in England.
- RESET in Tower Hamlets, East London is an NHS based Addiction Service that has offered clinician led/nurse administered therapy to people who inject drugs for over a decade¹. Previous studies showed the efficacy of this approach in patients offered interferon and we applied the same model to oral antiviral drugs.
- Here we report our experience of an audit of ‘clinician led’ vs ‘nurse led’ therapy in an observational comparison of two different service models.

METHODS

- Following the introduction of DAA therapies for patients with HCV we offered patients attending the RESET Addiction Service in Mile End an opportunity to undergo effective antiviral therapy, in line with the NHSE rate card.
- In July/August/September 2017 we followed our traditional model (‘Doctor led’ therapy) in which patients who were actively using drugs were reviewed in the RESET clinic by a physician (GRF) and a RESET Blood Borne Virus (BBV) nurse and a joint decision on therapy made. After approval at the HCV MDT (usually within 4 weeks) patients were invited to return and commence therapy under the supervision of their regular BBV nurse.
- From October –December 2017 we introduced a new model. BBV nurses identified patients potentially suitable for therapy. They were discussed at the MDT meeting and ‘pre-approval’ for treatment agreed. At the next attendance at RESET the named BBV nurse offered immediate antiviral therapy ‘you can start tomorrow’. Drugs for such patients were immediately dispensed and delivered to RESET the following day to be given to the patient by the BBV nurse. No clinician interacted directly with the patient.
- Oversight of the service was provided by discussion of patients at the weekly MDT and at a monthly review clinic where patient results were reviewed by a physician.

RESULTS (1)

- 200 patients with addictive disorders and HCV attend RESET and are registered on the HCV database
- The proportion initiating treatment in the two treatment periods are shown in Figure 1



- ‘Second-line’ drugs were required for a high proportion of patients using illicit drugs. The most common reason for using second line drugs in this population was ‘drug-drug’ interactions with anti-psychotic medications (e.g. quetiapine) where the risk of destabilising mental health required the use of alternative agents.

RESULTS (2)

- To-date no serious adverse events have been reported.
- Of the 27 ‘chaotic’ patients receiving ‘nurse-led’ therapy 23 are fully compliant and 4 have required additional input (daily phone calls, reminders and repeat clinic appointments) to maintain adherence.
- Efficacy data are awaited with interest

CONCLUSIONS

- People who use drugs are at high risk of HCV infection and do not engage well with standard models of care.
- Out-reach clinics with visiting doctors do not encourage engagement in therapy.
- Nurse led therapy with ‘pre-approved’ treatment and rapid access to therapy allow a greater proportion of patients to initiate DAA medication
- Nurse led therapy is safe and effective and encourages engagement in antiviral therapy.
- Second line drugs that avoid ribavirin and boosted proteases are preferred

KEY POINTS

In people who use drugs effective treatment with enhanced treatment uptake is facilitated by rapid access, nurse-led antiviral therapy

An increased proportion of PWIDs require ‘second-line’ treatments

References:

- 1) Wilkinson M, Crawford V, Tippet A, Jolly F, Turton J, Sims E, Hekker M, Dalton J, Marley R, Foster GR. Community-based treatment for chronic hepatitis C in drug users: high rates of compliance with therapy despite ongoing drug use. Aliment Pharmacol Ther. 2009 Jan;29(1):29-37

10 Year 'Look Back' Review of Hepatitis C Patients

Alison West Specialist Nurse, Kaye Haslam Specialist Nurse, Stephen Brocklesby Data Collection
Hepatitis Department, Hull and East Yorkshire Hospitals NHS Trust

1. Introduction

- A number of patients known to have Hepatitis C Virus (HCV) were lost to follow up or discharged from service due to non attendance
- Our aims were to:
 - Encourage patients back into clinic to inform them of the new therapy now available
 - Increase the number of patients being treated for HCV
 - Raise awareness with GP's and patients regarding oral therapy

2. Process

- All positive HCV PCR results from our Hull Virology Laboratory were reviewed from January 2006 to December 2016
- Patients were removed who:-
 - Were already under the care of the service
 - Had been successfully treated and discharged
 - Were deceased
 - Had moved outside the ODN area
- Patients were categorised as 'lost to follow up' or 'never referred'
- 776 letters were sent to GP's informing them that their patient had a positive HCV test, that new all-oral therapy was now available for treatment, and encouraging re-referral to the service

3. Letters

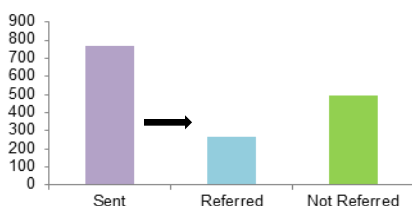
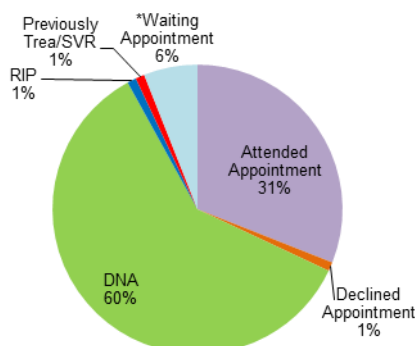


Figure 1

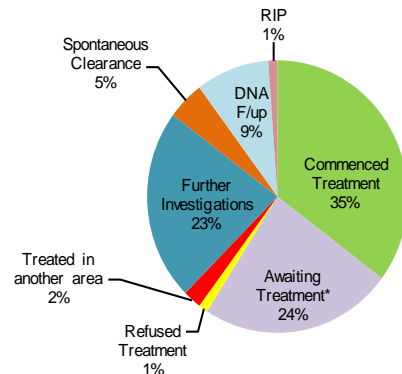
4. Outcome of referrals



*Referrals counted up until 1st December 2017/DNA one appointment awaiting further appointment

Figure 2

5. Outcome of Appointments



*Awaiting new rate card/patients choice to place treatment on hold

Figure 3

6. Analysis

- We now have excellent data on geographical distribution of HCV in our area
- Confidentiality restrictions meant that patients tested by GUM or dry blood spot testing could not be identified by our search
- We now know where our previously tested PCR positive patients are and which GP's to target for referrals, outreach clinics and testing
- All 776 letters were sent on one day, which led to one GP receiving 146 letters; it may be prudent to batch future letters
- We received referrals from GP's who had not previously referred
- More than 10 referrals were received into the service daily, leading to extra pressure on clinics to see patients in a timely manner

7. Conclusions

- Patients were made aware of diagnosis
- Increase in patient numbers being treated
- Patients with unknown cirrhosis were detected
- GP's awareness of the new treatments were raised
- Referrals from GP's who have not previously referred
- Patients accessed the service who were unaware of new medication
- Increased knowledge within the community regarding treatments available

Sharing knowledge and best practice of excellence in ODN

The Leicester ODN Hepatitis C Engagement Group

Best Practice for ODN's Stakeholder Meeting January 2018

¹Ms Lynn Fox and ²Prof Martin Wiselka on behalf of the Leicester Operational delivery Network

¹Data manager and ²Clinical Lead. Dept of Infection, University Hospitals of Leicester NHS Trust.

Kettering General Hospital Foundation Trust, Northampton General Hospital, NHS Trust

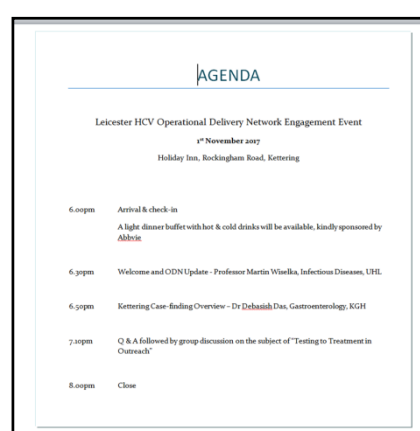
INTRODUCTION

- Oral therapy with directly acting antiviral agents (DAA's) has now allowed hepatitis C to be treated effectively with a course of tablets lasting 8-12 weeks in most cases.
- In England treatment is delivered through the Operational Delivery Networks (ODN's), with approximately 10,000 patients receiving treatment during 2016/17.
- The treatment and eventual elimination of hepatitis C involves collaboration across a large number and range of organisations, including primary and secondary care providers and the voluntary sector. The organisation of the ODN's means that those involved with treating and caring for patients with hepatitis C may be spread over a relatively large geographical area with face to face meetings occurring rarely.
- In November 2016 The Leicester ODN set up a Hepatitis C Engagement group to encourage and foster communication and dialogue between different organisations involved locally with hepatitis C. Organisations actively participating in the engagement events include
 - *University Hospitals of Leicester NHS Trust*
 - *Kettering General Hospital NHS Foundation Trust*
 - *Northamptonshire General Hospital NHS Trust*
 - *Offender Health*
 - *Sexual health services, Kettering and Northampton*
 - *Leicester Partnership NHS Trust including mental health services*
 - *General Practice and primary care services*
 - *Homeless and refugee health services*
 - *Patient Representative*
 - *Leicester AIDS support services (LASS)*
 - *Hepatitis C Trust*
 - *Turning Point drug and alcohol treatment centre*
 - *Public Health England*



ISSUES DISCUSSED BY THE ENGAGEMENT GROUP

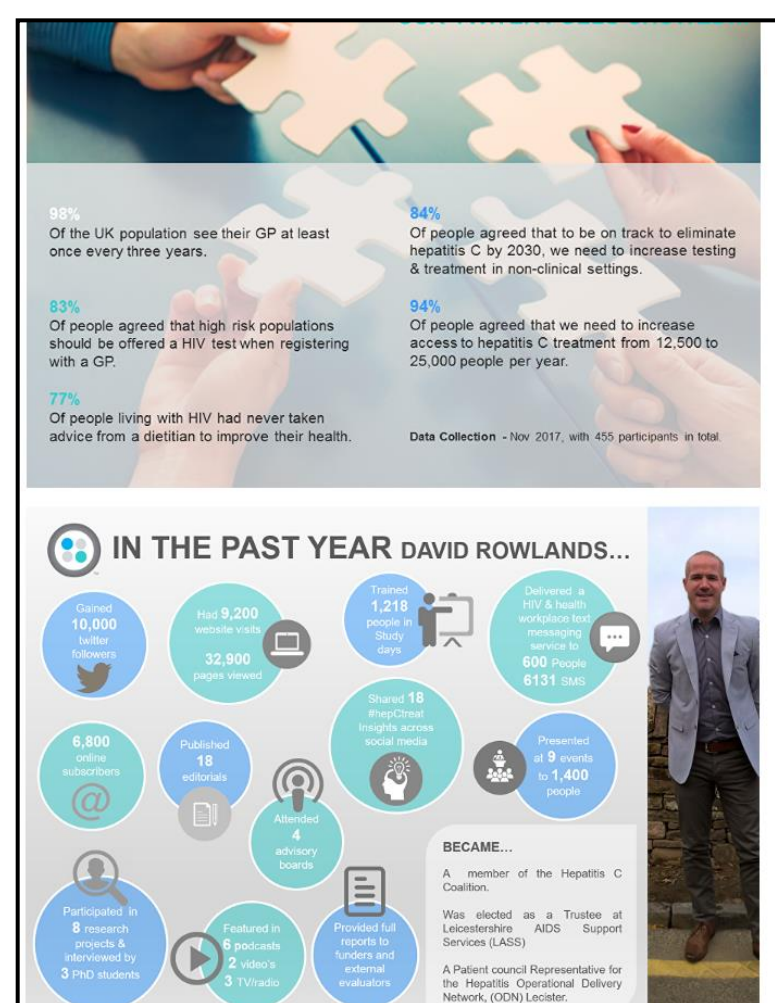
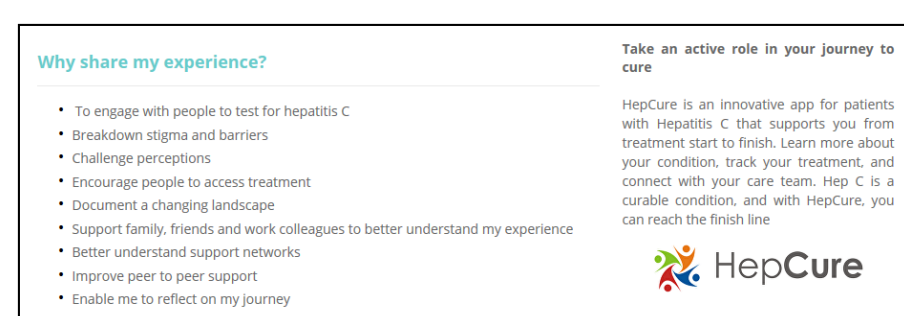
- ODN structure and organisation
- Achieving run rates
- Increasing testing and referral in different settings
- Role of voluntary sector and patient representative
- in promoting testing and treatment
- Treatment and referral protocols
- Education and training



PATIENT REPRESENTATIVE

- Group has benefitted from the active participation of the patient representative.
- Strong advocate for testing and treating
- Communications and Management Consultancy and website

www.DR-web.co.uk



OUTCOME OF THE ENGAGEMENT GROUP

- Three meetings over 12-month period
- 2 in Leicester, one in Kettering
- Facilitated by Pharma support
- Approximately 20 people at each meeting
- lively discussions between different agencies
- Has facilitated:-
 - inter-disciplinary working
 - networking across the ODN region
 - Education and training for different agencies
- Run rates achieved so far
- New outreach projects developed

Acknowledgements

All the staff working in and supporting the Leicester ODN



Dispensing and delivery of Hepatitis C direct acting antivirals to patients being treated in external clinics

Paul Selby^{1,2}, Kirsty McKibben^{1,2} & Will Gelson^{1,2}

1. Eastern Liver Network ODN, 2. Cambridge University Hospitals NHS Trust

Introduction

In order to meet the WHO directive to eliminate Hepatitis¹, and In line with national priorities^{2,3}, hepatitis C ODNs in the UK face significant challenges in testing and treating difficult to reach patient groups, and getting more diagnosed individuals into care².

Providing treatment for patients who are reluctant to attend hospital outpatient clinics is one element of ODN outreach programs³. Provision of medication in this setting is often complicated by the professional and legal requirements of drug provision, whether this is provided by homecare companies or privately commissioned (“outsourced”) pharmacies.

Proposed Strategy

We have investigated the possibility of dispensing from an outsourced pharmacy and delivering to outreach centres to allow collection by patients in clinic, and subsequent return if patients do not attend appointments.

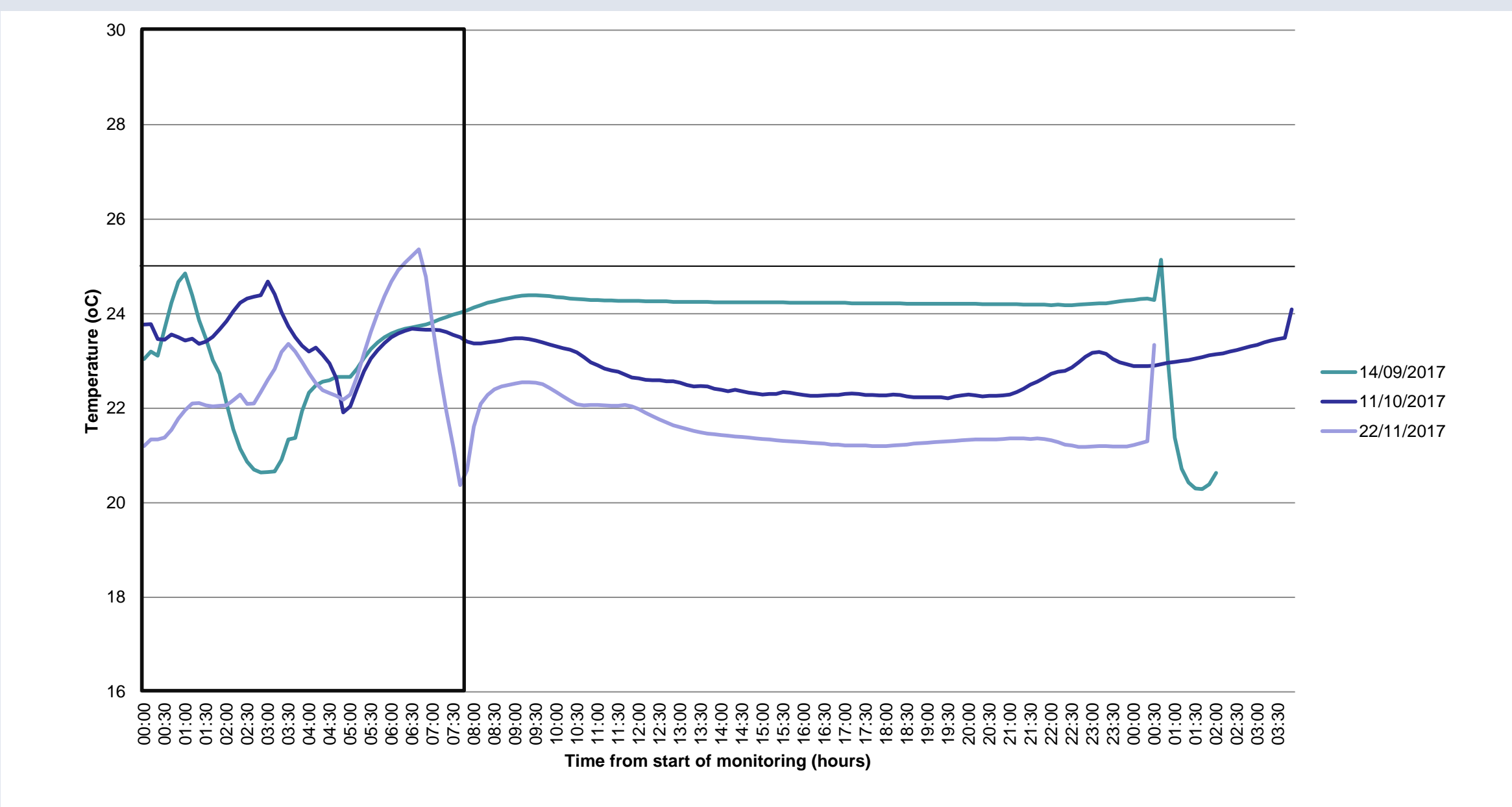
We proposed same day delivery and return only and it was deemed unnecessary to monitor all trips; but plans were made to validate the process. The trust appointed courier was used, who are familiar to the outsourced pharmacy

Patients who did not attend clinic will have their medications stored at CUH to allow subsequent collection. The decision to continue treatment will be by the treating clinician.

Validation

We completed three deliveries, one month apart under the process set out in Figure 1, using a Microlite™ temperature probe delivered in a standard pharmacy delivery bag. The results are presented in Graph 1. An example of the tracking available is given in Figure 2 and identifies delivery drivers and recipients.

No changes to the procedure were made following this, although the need for a larger bag and storage at each individual outreach centre should be carefully considered.



Graph 1: Temperature-logged journeys following delivery process; the box reflects the period the probe was away from CUH premises.

Tracking status

Job number: [REDACTED]			
Service description	Service type	Department	Reference
PRIORITY SMALL VAN	DV		
Booked by	Date booked	Ready on	Ready at
PAUL SELBY	17:20 - 07 Sep 2017	07 Sep 2017	17:20

Tracking status		
Event	Date	Time
JOB BOOKED	2017-09-07	17:20:00
COURIER EN ROUTE TO COLLECTION	2017-09-14	11:20:00
COURIER ARRIVED AT ADDENBROOKES HOSPITAL, CB2 0QQ	2017-09-14	12:11:00
JOB COLLECTED. COURIER EN ROUTE TO DELIVERY	2017-09-14	12:12:00
COURIER ARRIVED AT INCLUSION DRUG SERVICES CAMBRIDGE	2017-09-14	12:43:00
STOP COMPLETED. INCLUSION DRUG SERVICES CAMBRIDGE	2017-09-14	12:45:00
JOB DELIVERED AND SIGNED FOR BY	2017-09-14	12:45:00

Figure 2: Example delivery report from courier

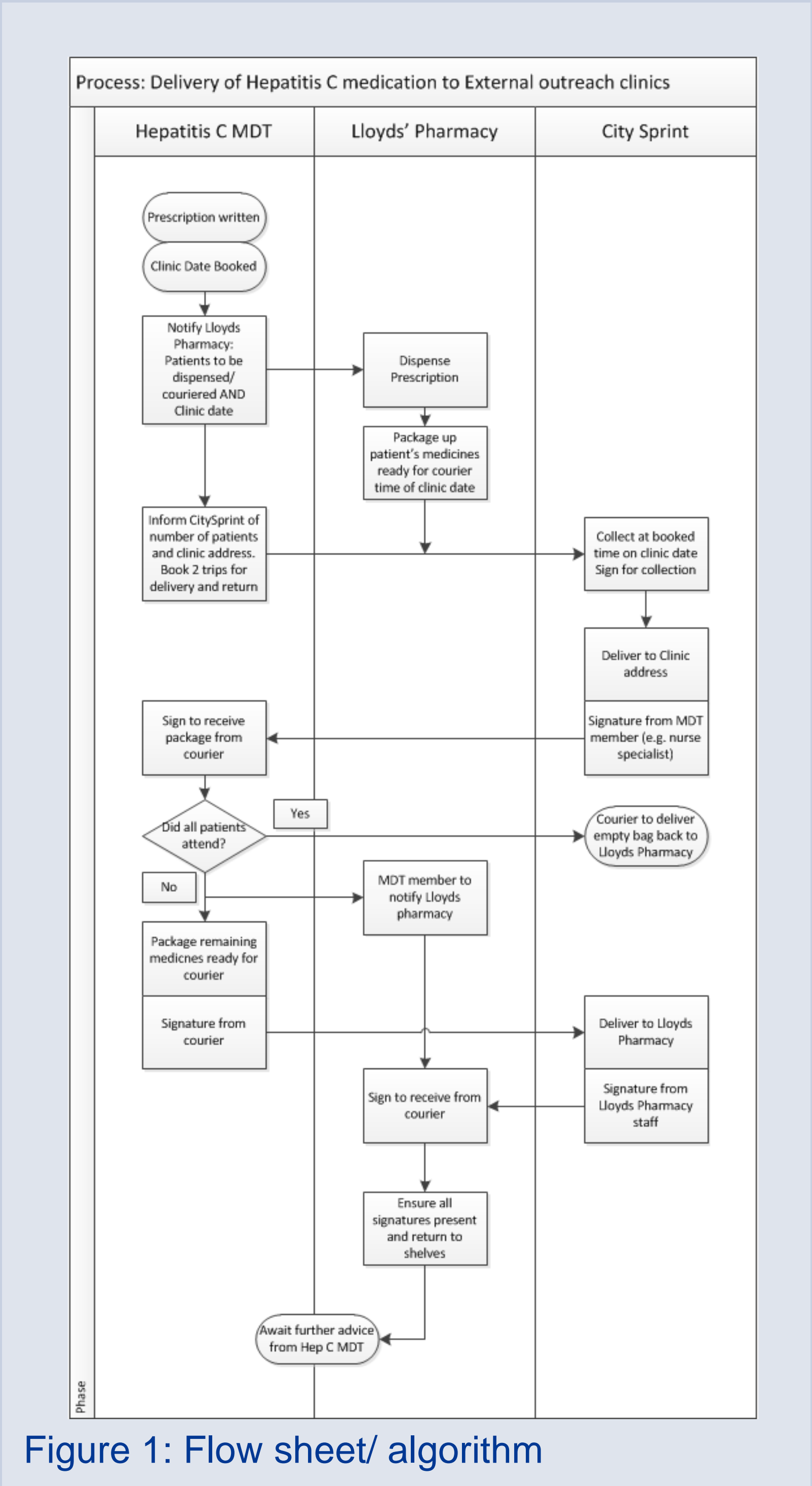


Figure 1: Flow sheet/ algorithm

Discussion

Having completed the three trial runs we are confident that we have created a process that is easy to follow, successful and provides clarity on delivery of the medication. Although there are significant costs incurred, the provision of a high quality and robust service provides the reassurance needed for medicines return. The cost benefit for the NHS is positive overall from avoiding wastage of high cost drugs.

As we look to expand our number of outreach clinics, it will be vital that clinical areas are assessed prior to starting clinic to ensure that storage is appropriate and that timings of clinic allow for delivery from and back to the hospital as storage overnight by City Sprint has not been assessed. This could be completed at a later date if required.

There will likely be some work to be covered by our outsourced outpatient pharmacy on separation of stock to ensure this is not reused for wholesale, however currently these are stored away from other stock.

References

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3. NHS England, 2017. Service Specification F04/S/f: Operational Delivery Networks for Hepatitis C Care in Adults. London: NHS England

Behaviours and attitudes to needle syringe exchange programs (NSP) in UK prisons

Surrey HCV
Operational
Delivery Network

Chantal Edge¹ and Dr Michelle Gallagher²

¹Surrey County Council Public Health Team, ²Royal Surrey County Hospital NHS Foundation Trust

NHS

Royal Surrey
County Hospital

NHS Foundation Trust

INTRODUCTION

The prevalence of hepatitis C (HCV) infection in incarcerated people is higher than that of the general community. Injecting drug use (IDU) is the primary source of infection for HCV, and many offenders report recent or previous history of IDU¹ prior to or during the period of incarceration. The World Health Organization strategy to eliminate HCV by 2030 will require both effective therapy and harm reduction strategies. Prison environments include high prevalence of HCV and a significant proportion of individuals engage in risk behaviour - to reduce transmission of HCV and other blood borne viruses (BBV) in prisons effective harm reduction strategies for people who inject drugs should be employed.²

Needle and syringe exchange programs (NSP) are known to be effective in reducing transmission of BBV, moreover they have been shown to be effective as a harm reduction strategy in some prison systems in Europe such as Spain, Germany, Switzerland and Moldova. Despite initial reservations, studies of these systems have shown no increase in drug use and no reports of syringes used as weapons.³

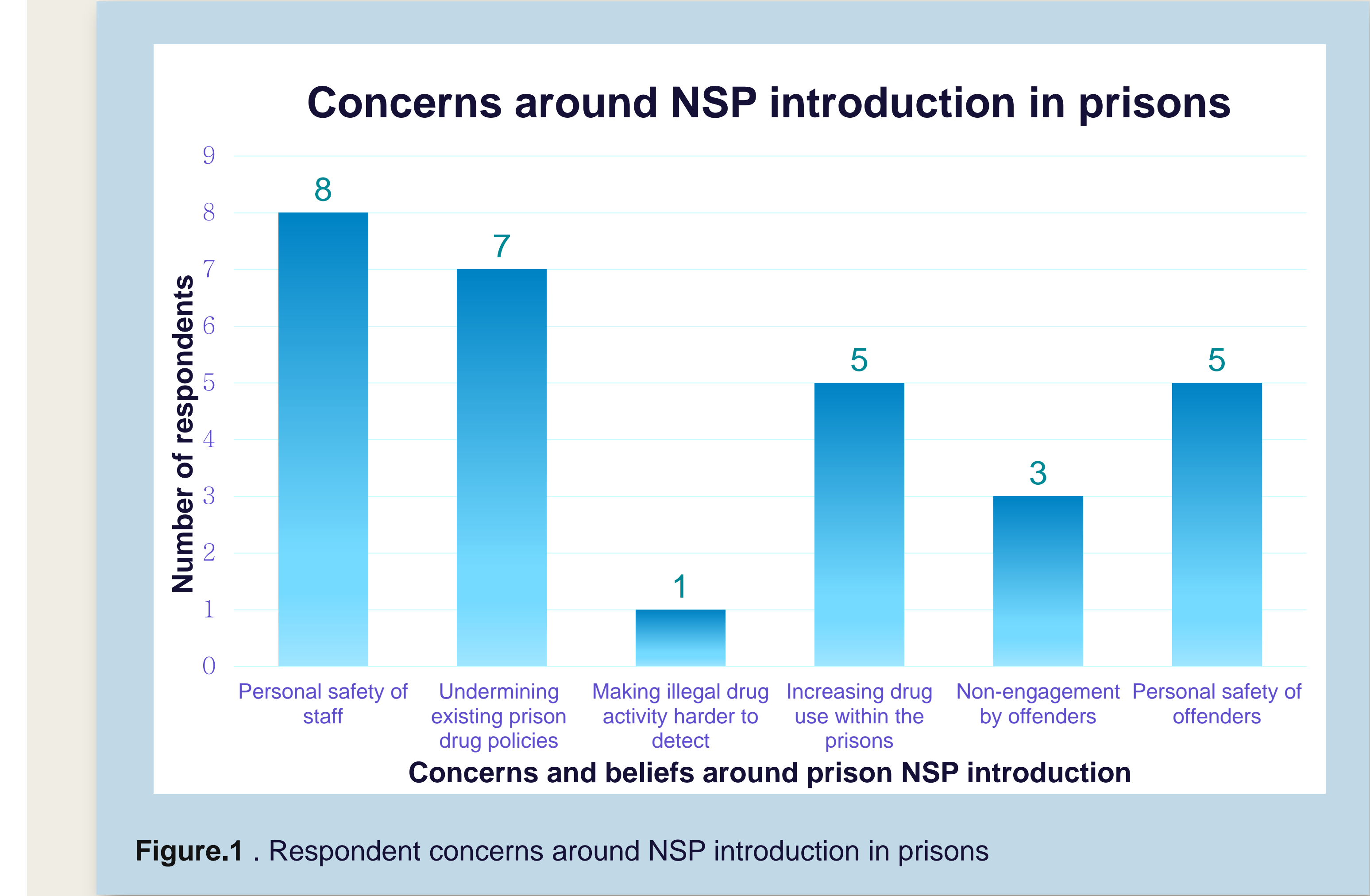
At present there are no NSPs operating within UK prisons. Previous attempts to implement NSPs in the prison context in other countries have been met with widespread resistance from prison staff, therefore it is expected that attempts to implement NSP in UK prisons will be met with similar barriers.⁴ We recently conducted a survey at the Public Health England event *Blood borne virus (BBV) opt-out testing in prisons: lessons learnt and looking ahead*. A questionnaire was administered to attendees surrounding the attitudes and behaviours to NSP in prisons.

METHODS

A questionnaire was given to all conference attendees, which included representatives from UK prisons, NHS England Health and Justice Commissioners, Public Health England Health and Justice and wider health partners. Questionnaires were completed anonymously and returned on the day of the event.

RESULTS

- 91% (31/34) respondents knew NSP are recommended as part of harm reduction strategies compared to 9% (3/34) who did not.
- 12% (4/33) respondents said their prison had considered NSP introduction in the past, 42% (14/33) said they had not, and 45% (15/33) were unsure.
- 77% (23/30) respondents would consider introducing a NSP in their prison, 20% (6/30) would not and 1 respondent was unsure.



- Respondents cited pharmacy as the most preferred option for syringe/needle distribution, and hand to hand by prison staff as the least preferable. There was little difference in preference between 'Hand to hand by trained peers (prisoners)', 'Dispensing machine', 'Hand to hand by external staff', which ranked 2nd, 3rd and 4th respectively.
- Substance misuse staff were also raised by many respondents as a good option for needle/syringe distribution

DISCUSSION AND CONCLUSIONS

To our knowledge this is the first survey of UK prison healthcare staff with respect to the provision of NSP as a harm reduction strategy in Prison. These results provide some preliminary evidence surrounding attitudes of staff and perceived barriers and enablers to introduction of NSP in UK prisons. Respondents mostly knew that NSP are recommended as a harm reduction measure by senior health authorities, however very few reported that their institution had considered the introduction of NSP within the prison environment.

The main perceived barriers both past and present to NSP in prisons were staff concerns around safety, offender concerns around safety, concerns around undermining existing drug policy in prison and the risk of increasing drug usage in prisons. Suggestions to overcoming these barriers tended to fall into the following subject areas:

- Education and training
- Robust programme monitoring
- Policy level change
- A cultural shift surrounding how drug use in prison is viewed
- Involving prison officers and Governors in service development from the start

Respondents selected pharmacy and peer distribution as the most desirable methods of operation for NSP if introduced into local prisons. Other suggestions included making use of existing teams/structures within the prison such as substance misuse services. Respondents also raised the need to address safe disposal at programme outset as a matter of priority.

Most respondents were willing to consider introduction of NSP in their local prison, however they acknowledge that there will be significant barriers to their implementation and acceptance. Addressing these barriers at an early stage, will be key to consideration of NSP within prisons. Opposition from prison staff (non-healthcare) was perceived to be one of the most important barriers to overcome, in line with previous literature surrounding prison NSP introduction.⁵⁻⁶ Engaging with prison the Health and Justice Service Governors and prison officers at the earliest stage⁶ would allow commissioners to understand both what an acceptable model could look like, and how best to challenge existing preconceptions of risk with prison NSP.

Following these results local discussions are being held in Surrey to explore the feasibility of a local NSP pilot (compliant with National Prison policies)

QUESTIONNAIRE CONTENT

Questions posed were as follows:

- 1) Do you know NSP are recommended as part of harm reduction strategies by WHO, ECDC and other national and international public health agencies?
 - 2) To the best of your knowledge, has your prison ever considered implementing a NSP?
 - 3) Would you consider introducing a NSP in your prison?
- Options for answering Q2 and Q3 included: Concerns it will undermine existing drug policies within the prison, concerns it will make illegal drug activity harder to detect, concerns it will increase drug use within the prisons, concerns offenders will not engage with the programme, staff concerns around personal safety, offender concerns around personal safety, cost, something else
- 4) If NSPs were offered in prisons, what do you think would be the best method for providing sterile syringes/needles to offenders? (Answer options: Hand to hand by Prison staff, Hand to hand by trained peers, Hand to hand by external staff, Dispensing machine, Pharmacy)
 - 5) Are there any other methods you would suggest for providing sterile syringes/needles to offenders?
 - 6) Look back at the barriers you listed in Q2 and Q3. Taking one of the barriers to NSP you consider most significant, what could be done to overcome it?

34 surveys were returned at the end of the event. Surveys were completed by individuals involved with prison healthcare from many different perspectives including: prison heads of healthcare, nurses and pharmacists within prisons, hospital consultants, public health professionals and health and justice commissioners.

Q) What could be done to overcome barriers to NSP introduction? (anonymous free text answers)

“Education and robust management of the programme”

“Move to consider IVDU as a health rather than a discipline/criminal issue.”

“National level evidence based policy discussion.”

“Culture change more than physical/operational change. Attitudes towards IV drug use change to become more "accepting" as method of choice and to do so safely with clean needles, programme for BBV testing and support network”

“Involvement of the prison officers union and governors”

“I believe education around NSP will not increase the use of drugs. HMPPS will be difficult to convince of the advantages of NSP”

“More awareness and openness with all PO’s, prisoners, staff and health care staff as it is still kept quiet”

“Staff safety - strict controlled NSP, Educate staff to potential risk but not a significant risk to safety. Good monitoring of the programme”

“[Address] Prison staff perception that this will increase drug use and self harm/overdose ”

Figure.2 . Respondent quotes suggesting how to overcome barriers to prison NSP introduction

ACKNOWLEDGEMENTS

We are grateful to Dr Eamonn O'Moore and Dr Maciej Czachorowski for commenting on the questionnaire content, and allowing the questionnaire to be distributed and completed at the PHE blood borne virus event.

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Improving Access to Hepatitis C (HCV) Treatment in Leeds Drug Treatment Services - A Review of Treatment Uptake

Catherine Wigglesworth and Tracey Stirrup - Clinical Nurse Specialists

Viral Hepatitis Service, Leeds Teaching Hospitals NHS Trust and West Yorkshire ODN

Introduction

In 2005, an estimated 160,000 people in England were thought to be living with chronic HCV infection,¹ and injecting drug use continues to be the most important risk factor². The Yorkshire and Humber Annual report on HCV 2015, identified that the region has the second highest rate of infection after the London regions with Leeds having the highest burden of disease³.

Treatment for Hepatitis C has evolved substantially over the last 24 months following approval of therapy with oral direct acting antivirals (DAAs) becoming standard care. Availability of the newer oral therapies has revolutionised both the treatment and management of HCV offering higher cure rates with minimal side-effects and shorter treatment lengths. The introduction of oral therapies has also allowed a review of how services are offered to individuals with HCV.

Public Health England report 2017, "Hepatitis C in England" recommends that services work to 'improve the availability, access and uptake of approved hepatitis C treatments in primary and secondary care, drug treatment services, prisons and other settings; and to drive innovative approaches to outreach and patient support. Further to this it discusses the need to "simplify referral pathways, improve availability to access and increase up take of approved treatments"⁴. With these recommendations in mind, the Viral Hepatitis Service (VHS) based at Leeds Teaching Hospitals NHS Trust (LTHT) have reviewed and implemented changes to their service provision. This poster highlights the issues of care delivery, the number accessing treatment and the improvements in compliance achieved.

Review of Current HCV Service - Leeds Teaching Hospital

The service is based at St. James's University Hospital (SJUH), part of LTHT and has been providing a hospital based HCV treatment service since 1998 in the Yorkshire region.

Data indicated that on average the service receives 550 HCV referrals per year, are from General Practitioners (GP), Drug Treatment services and Secondary care from the Leeds, Dewsbury and Wakefield areas.

Reviewing clinic attendance showed that on average 40% of patients failed to attend (DNA) their first appointment at the hospital. Exploratory work was undertaken to review why this was so high.

Factors why patients failed to attend are listed below

- ◆ Fear and stigma of attending hospital
- ◆ Lack of money for bus fares
- ◆ Fear of treatment
- ◆ Belief that a cure could not be achieved

The factors identified offered the opportunity to review how the service could be delivered in alternative locations.

Action Undertaken

In order to plan alternative services, the team collated post code data from the Hospital database for all patients who had failed to engage with the hospital service. From this the team were able to identify the post code areas with the highest DNA number and cross-referenced this with access to the Forward Leeds services (GP shared-care x10 and Hub centres x3).

Forward Leeds and GP surgeries were also approached to identify from their records, HCV positive patients.

Access to rooms was agreed for the VHS to provide a service offering phlebotomy or dry blood spot tests, liver fibroscan® and access to treatment delivered by the Clinical Nurse Specialists (CNS), in a location that patients felt comfortable to attend instead of the hospital where the service was traditionally based.

Prescriptions would be issued and collected by the CNS or delivered to a local pharmacy for collection by the patient, reducing a further potential barrier to treatment.

Also agreed:

- ◆ Referral pathway simplified - referrals sent directly to the Viral Hepatitis Nurse Specialists (VHNS) email.
- ◆ Patients contacted directly by the CNS and first appointment agreed.
- ◆ Recovery Co-ordinators and GP's have direct access to the CNS team on a weekly basis to discuss other referrals.

Time line for Implementation

- ◆ February 2017 - CNS weekly HCV Referral to Treatment clinic at Armley Park Court, LS12, (Forward Leeds hub)
- ◆ August 2017 - CNS weekly HCV Referral to Treatment clinic at Lingwell Croft GP surgery, LS 10 (Forward Leeds Shared Care).

Results

Data following on from the implementation of the new services indicated a DNA rate of 40% over 6 months at Armley Park Court with 13 individuals completing treatment between February and November 2017.

At the Lingwell Croft GP surgery, 7 individuals completed treatment between August and November 2017; the DNA rate fell to 21%

Conclusion

- ◆ Communication and collaboration with both services has improved in identifying patients with HCV that are ready to engage with treatment services.
- ◆ Comments from patients, who have attended the clinics, stated they would not have travelled to the hospital for treatment. This reflects that patients are more likely to attend an environment that they are familiar and comfortable with.
- ◆ Twenty patients have completed treatment for HCV through this service delivery model. It is unlikely they would have accessed treatment through the more traditional hospital model of care, as none had previously attended the hospital despite referral.
- ◆ The DNA rate at Armley Park Court was the same as the hospital. The CNS clinic currently does not run alongside OST (Opiate Substitute Therapy) appointments. When questioned patients prioritised the OST appointment over the CNS appointment.
- ◆ Both the CNS team and Armley Park Court agree attendance can be improved if HCV treatment appointments are combined at the same time as OST appointments.
- ◆ The approach to offer HCV treatment to patients considered to be "harder to reach" and under-served, in venues that are nearer to them and they feel comfortable to attend, a success.

What Next

- ◆ The VHS have agreed two more clinics in GP shared care practices in LS9 and LS11 for January 2018 and another clinic at Forward Leeds, Kirkgate for March 2018.
- ◆ The VHS also plan to have a HCV treatment service in the Dewsbury and Huddersfield Drug Treatment services - February 2018.
- ◆ For the Wakefield and Castleford area, the VHS by January 2018 will have 4 HCV treatment clinics based in GP surgeries.

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- 3 Public Health England 2015 -Annual Review of Epidemiology of Hepatitis C Infection in Yorkshire and Humber (2015 data)
- 4 Public Health England -Hepatitis C in England 2017 report- Working to eliminate hepatitis C as a major public health threat.

Acknowledgements - Dr S Coles

Sharing strategies to achieve elimination targets

Experience from the Leicester ODN

Best Practice for ODN’s Stakeholder Meeting January 2018

Rhona Kirkham and Martin Wiselka on behalf of the Leicester Operational delivery Network

Dept of Infection, University Hospitals of Leicester NHS Trust.

Kettering General Hospital Foundation Trust, Northampton General Hospital, NHS Trust

INTRODUCTION

- Oral therapy with directly acting antiviral agents (DAA's) has now allowed hepatitis C to be treated effectively with a course of tablets lasting 8-12 weeks in most cases.
- In England treatment is delivered through the Operational Delivery Networks (ODN's), with approximately 10,000 patients receiving treatment during 2016/17.
- Many ODN’s have now treated everyone on their waiting list and are finding it increasingly challenging to achieve their monthly run-rates.
- In order to increase the number of patients who are successfully treated it is now necessary to engage with groups of patients that are considered “hard to reach”, including chaotic intravenous drug users and those who have failed to attend clinics or who are lost to follow up.
- These patients will need to be treated to achieve the elimination target.

The Leicester ODN comprises of three major centres (Leicester, Kettering and Northampton) covering a population of around 2 million people. During 2017 the Leicester ODN set up pilot studies to investigate the feasibility and success of engaging with two groups of patients

1. Setting up an additional outreach clinic at the Turning Point Drug treatment centre in Leicester City centre
2. To invite patients who were known to have hepatitis C on the virology laboratory database, but had not been referred or failed to attend for previous clinic appts.



RESULTS

Turning Point clinic

Month to month referrals

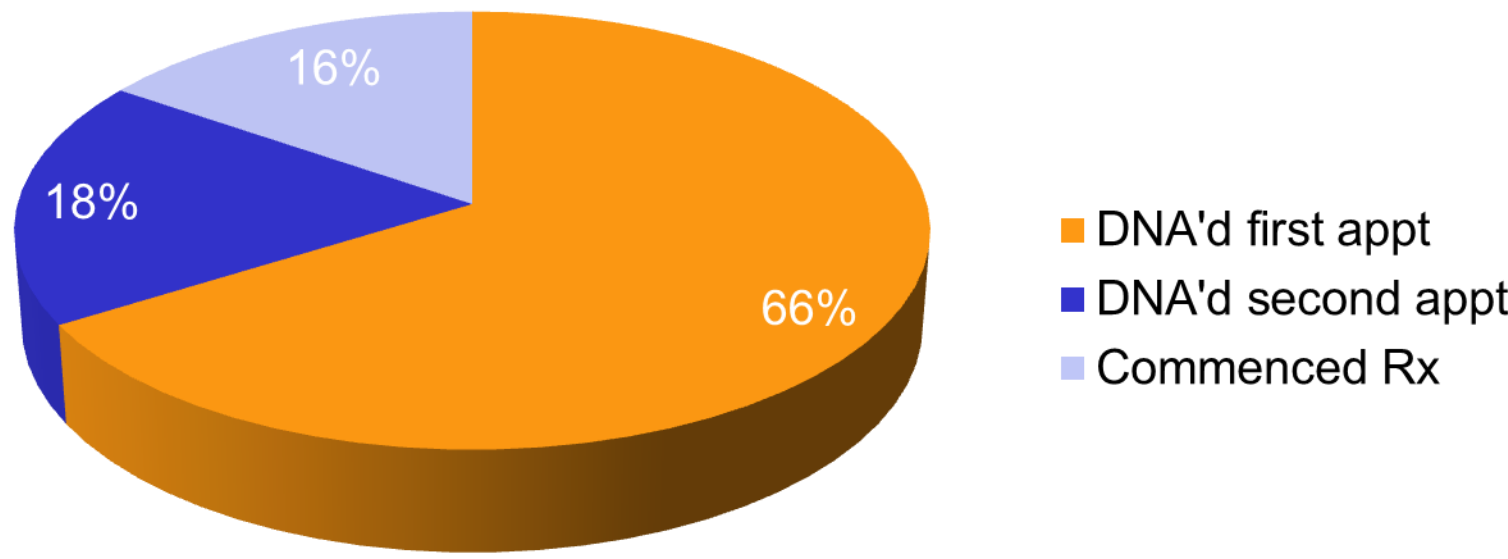
Month (2017)	Patient Referrals
Pre-July	32
July	12
August	2
September	10
October	4
November	10
December	1
TOTAL	71

DNA rate

47 (66%) of the 71 patients referred failed to attend for their first appointment.
13 (54%) of the 24 patients who attended their first appointment failed to attend for a second appointment

Treatment

11 (16%) of the 71 patients referred have commenced treatment.
8 have completed treatment and are awaiting 3-month HCV–RNA results
3 are currently still on treatment.

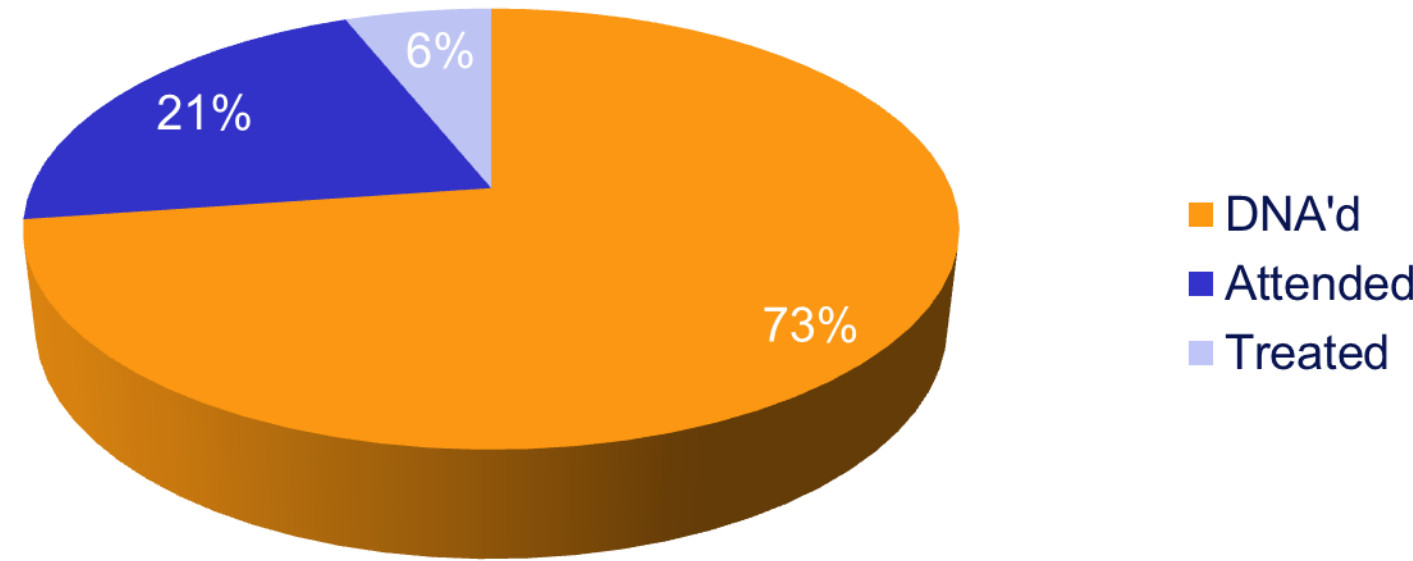


Virology Look-back exercise

33 appointment letters were sent out
24 (73%) patients did not attend
9 (27%) patients attended the clinic appointment

Of these 9 patients

4 had spontaneously cleared the virus
1 patient had been treated elsewhere with an SVR
2 commenced treatment (6% of those invited)



DISCUSSION AND CONCLUSIONS

- Outreach clinics and case-finding exercises can identify some hard to reach patients
- DNA rates remain very high
- Difficulties should not be under-estimated
- Novel approaches eg financial incentives should be considered

METHODS

Turning Point clinic

- In July 2017 a fortnightly outreach clinic was set up at the Turning Point drug treatment centre in Leicester City Centre.
- The clinic is staffed by a hepatitis C specialist nurse, offering a “one stop” clinical assessment including blood tests, fibroscan and advice on treatment .
- Staff at Turning Point were advised that they could refer clients with hepatitis C directly to the specialist nurse and immediate direct referrals could be made if patients attending the drug treatment wished to call in to the clinic.
- The outcome of the clinic was assessed after 6 months.



Virology look-back exercise

- Data on positive hepatitis C tests were obtained from the local virology laboratory for the period between 2014-17.
- Patients who were known to have a positive PCR test, but had not engaged with secondary healthcare (ie had not been referred or had failed to attend clinic appts) were invited to attend an out-patient nurse led clinic based at the Leicester Royal Infirmary, for further assessment.
- Approval for the study was obtained from local commissioners, General Practitioners and hospital management.
- The outcome of the pilot look-back exercise was assessed.

Acknowledgements

All the staff working in the Leicester ODN
Management and staff at Turning Point Leicester
Dr Julian Tang and staff at the virology laboratory
Gilead Pharmaceuticals for supporting the outreach specialist clinic

Enhanced HCV Detection and Treatment in Vulnerable Adults Through Community Clinics in Homeless Hostels: VALID (Vulnerable Adults Liver Disease) Study

Ahmed Hashim¹, Tim Worthley², Stephen Bremner¹, Lucia Macken¹, Guruprasad P. Aithal³, Sumita Verma¹
¹ Brighton & Sussex Medical School, ² The Arch Homeless (previously Brighton Homeless) Healthcare ³ Nottingham Digestive Diseases Biomedical Research Unit

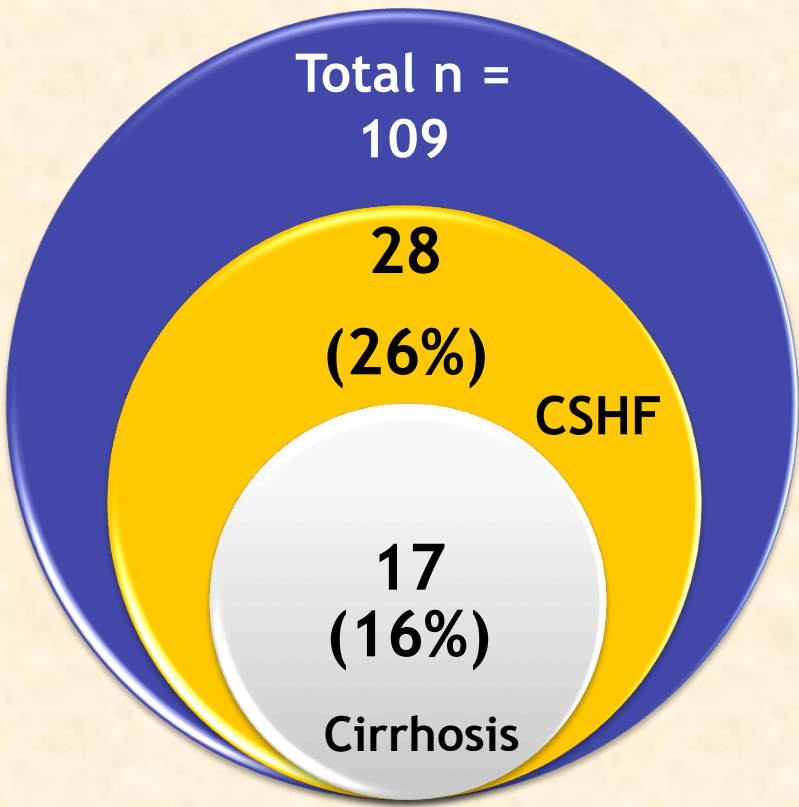
Introduction and Aims

Homeless adults, a disenfranchised and stigmatised cohort, are at risk of chronic liver disease (CLD) as have high prevalence of alcohol/substance misuse. However, this vulnerable group do not engage with hospital services. Our aim was to assess feasibility of a community based liver service that caters to vulnerable adults

Methods

In October 2015 a new liver service was set up at two homeless hostels/primary care practice that caters to homeless. Consecutive adults aged ≥ 40 yrs enrolled and offered: Alcohol (AUDIT questionnaire) and substance misuse assessment, blood borne viruses (BBV) testing, mobile Transient Elastography (TE) and targeted treatment. Clinically significant hepatic fibrosis (CSHF) defined as liver stiffness measurement (LSM) ≥ 8 kPa and cirrhosis LSM ≥ 12 kPa.

Fig 1: Prevalence of liver fibrosis



Results (n=109)

Age (yrs)	49 + 8.5 (80% men)
Unstable Housing	73 (67%)
Injecting drug use	85 (78%)
Alcohol use	70 (64%)
Psychiatric illness	75 (69%)
Service uptake	109/111 (98%)
Positive HCV antibody	48 (44%)
Accepted HCV PCR	47/48 (98%)
Positive HCV PCR	37/47 (77%)
GT 1/3	54%/38%
Suitable for HCV treatment	19/37 (51%)
LSM > 8kPa	28 (26%)
Cirrhosis (LSM > 12 kPa)	17 (16%)
Commenced HCV treatment	14/19 (74%)
On going IDU	5/14 (36%)
On going non-injecting drug use	12/14 (86%)
On going alcohol	2/14 (14%)
LSM > 12 kPa	4/14 (28%)
GT 1/3	71%/21%
GLE/PIB	1
SOF/VEL	4
ELB/GRZ +/- RBV	3
Trial (STOP HCV-1)	2
Abbvie 3D +/- RBV	4
SVR	10 (71%)
Treatment ongoing	4
Treatment compliance	13 (93%)

Conclusions

- ◆ In a cohort of vulnerable adults AUDIT score ≥ 20 is an independent predictor of CSHF.
- ◆ In contrast to a common perception that this group do not engage with health services, 98% accepted the community liver service with 93% being compliant with DAA therapy.

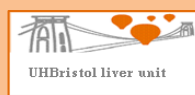
- AUDIT score ≥ 20 was the only independent predictor of CSHF (OR: 4.62, 95% CI:1.62-13.16, p = 0.004)

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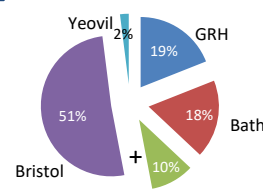
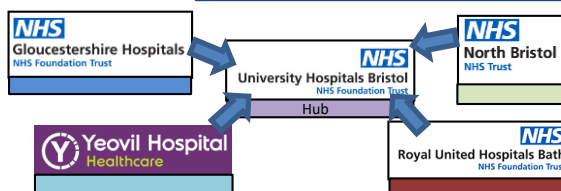
Bristol and Severn HCV ODN



Our network

- ODN Lead Dr Fiona Gordon
University Hospitals Bristol
- ODN Deputy Lead Dr Coral Hollywood
Gloucestershire Royal Infirmary
- ODN Project Manager Julie Marshall
- Network Co-Ordinator Jenifer Phillips

Our network NHS trusts



5-year plan aims

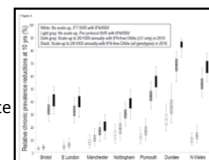
- Baseline assessment of key areas in the ODN for enhanced HCV screening/assessment and access to treatment
- Increase access to non-invasive measures of fibrosis (ie Fibroscan)
- Plan novel treatment provision for difficult-to-reach groups
- Review progress of 5y plan aims at each 6-monthly ODN meeting and revise priorities accordingly

Screening and assessment

- Gloucester (rural) and RUH Bath populations as those in greatest need of increased screening resources - focal deprivation in Wiltshire with high HCV-related mortality (PHE data) and Forest of Dean (SnoMed data analysis)
- Increase screening of SE Asians via antenatal service in Gloucester needed
- Fibroscanner required for Yeovil (from NHSE 2017V)
- Homeless in Bristol need assessment liver disease; high pick-up via mobile assessment project 2016

Treatment

- Baseline assessment 2015
Low levels of PWID treated in Bristol (N Marti n et al*)
PHE HCV in SW identifies high incidence in Bristol (70 reports/100,000) x2 England rate
- Bristol identified as centre for pilot outreach community treatment service as greatest need.



*N. K. Martin, M Hickman et al; HCV treatment rates and sustained viral response among people who inject drugs in seven UK sites: real world results and modelling of treatment impact. J Viral Hepatitis 2015;22:399-408.



Challenges



The Homeless Health Service
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Outcomes achieved for 2017-18

- ODN Community Engagement officer and ODN Pharmacist in post
- Local drug service have a portable FibroScanner with trained staff.
- HCV Action supported ODN meeting to aid outreach service planning.
- Peer mentors from drug support agency will improve patient engagement.
- GPs and nurses in Homeless Health Service offered to host clinic and take bloods.
- Directly Observed Therapy pilot starting March 2018 supported by Boots.