

4th International Symposium on Hepatitis Care in Substance Users

Sydney Oct 7-9

**Interventions to Enhance Testing &
Diagnosis of HCV Infection among PWID**

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Disclosures: Honoraria from Abbvie, BMS, Gilead, Janssen, Merck

Global estimates of the Prevalence of HCV among PWID (Nelson, *et al.* Lancet 2011)






Global estimate: 10 million PWID with anti-HCV

W. Europe: 0.7M E. Europe: 2.3M

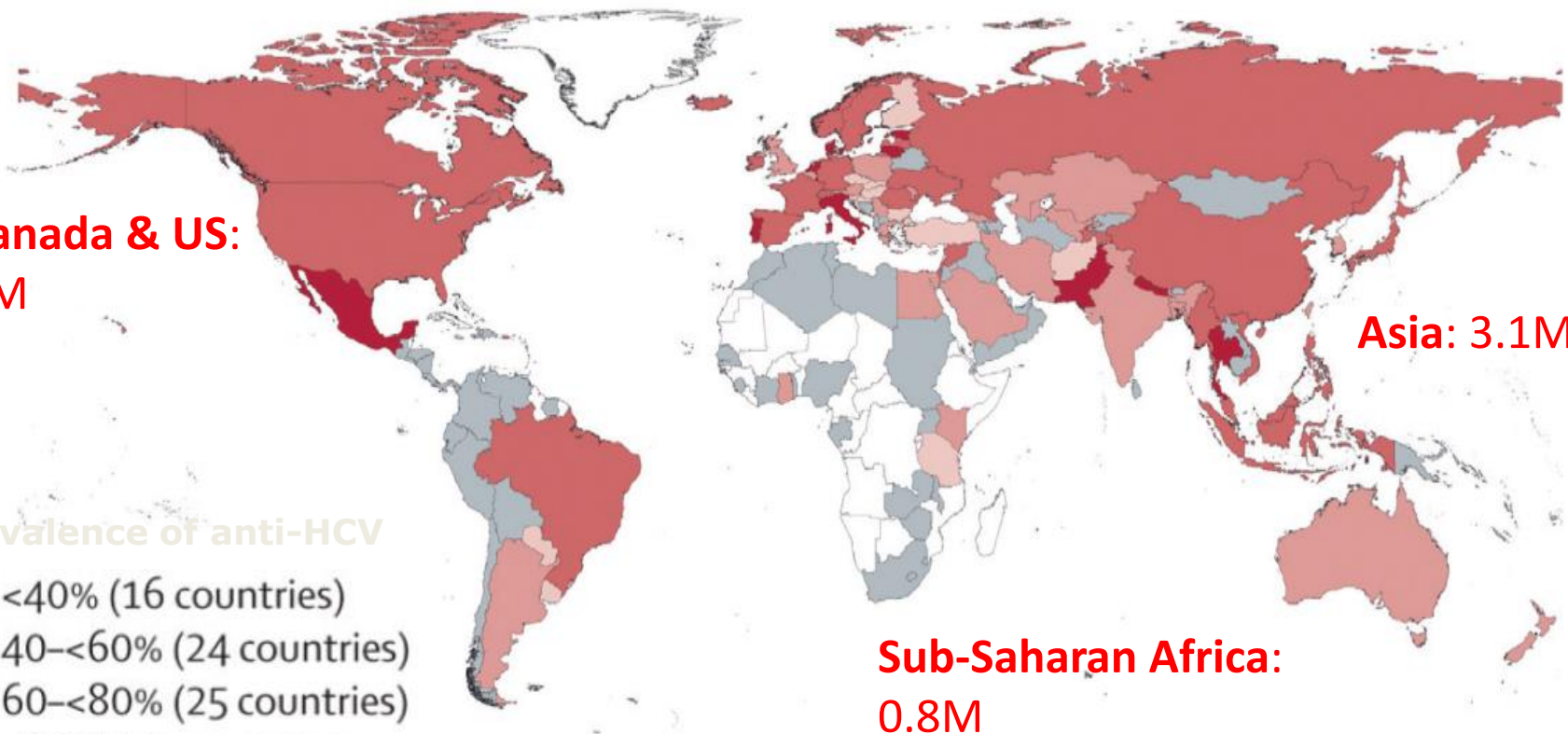
**Canada & US:
1M**

Asia: 3.1M

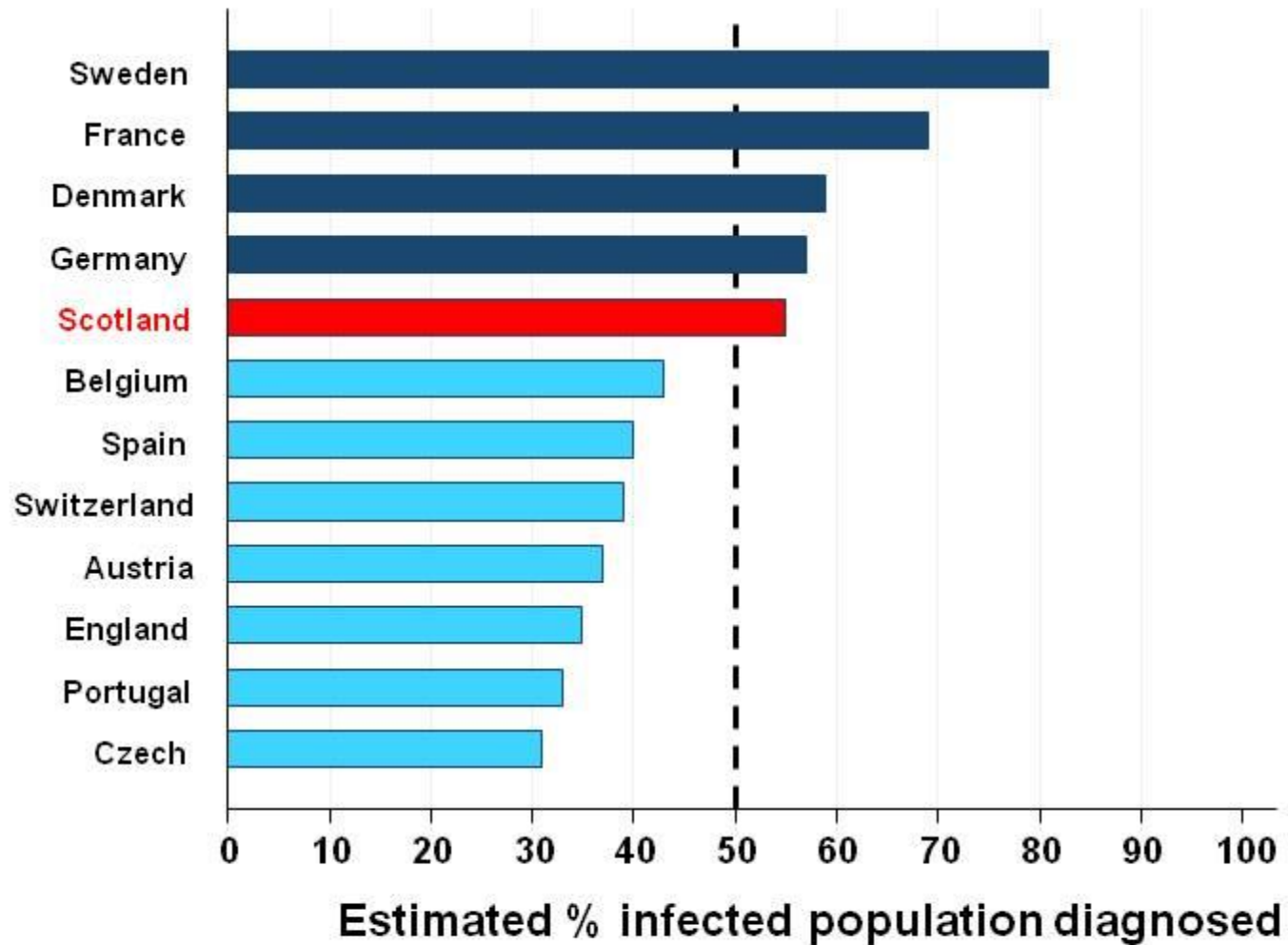
Prevalence of anti-HCV

-  <40% (16 countries)
-  40–<60% (24 countries)
-  60–<80% (25 countries)
-  ≥80% (12 countries)
-  No evidence of injecting drug use
-  No eligible report (74 countries)

**Sub-Saharan Africa:
0.8M**



How effective are we at diagnosing infection?



EASL Recommendations

Hepatitis C 2015

Treatment Prioritisation

HCV Disease	Treatment Recommendation
Liver Failure	Urgent
Cirrhosis/pre-cirrhosis	Prioritised
Significant Extrahepatic disease	Prioritised
Any + Active PWID and others who might transmit infection	Prioritised
Moderate liver fibrosis	Justified
No or mild liver disease	Individualised

GUIDELINES FOR THE SCREENING, CARE AND TREATMENT OF PERSONS WITH HEPATITIS C INFECTION

APRIL 2014

GUIDELINES

WHO Guidelines for the Screening, Care and Treatment of Persons with Hepatitis C Infection

- **Guidelines Development Group**
 - Chairs: Bryce Smith, Yngve Falck-Ytter
- **External Peer Review Group**
 - Chairs: Jude Byrne et al
- **Steering Committee**
 - Chairs: Stephan Wiktor et al
- **Temporary Advisors**
 - Margaret Hellard (Lead), Joe Doyle (Senior Reviewer), Sharon Hutchinson, Esther Aspinall, David Goldberg

Targeted Hepatitis C Antibody Testing Interventions: a Systematic Review & Meta-analysis (Aspinall et al Eu J Ep 2015) Eligibility Criteria

- Population** : H/O risk behaviours/exposure
- Intervention** : Targeted HCV Ab testing
- Comparison/control** : No intervention or just routine practice
- Outcomes** : Ab tests, Ab positive results, Specialist referrals, Treatment commencement, SVR.

Study Selection and Characteristics

Full text articles reviewed : 279

Studies eligible : 16

Outcome Indicator Completeness:

Tests : 16

Pos Results : 14

Referrals : 4

Treatment Commencement : 4

SVR : 2

Intervention Type

Practitioner-based targeting : 12

Media/Information-based targeting : 4

Study Characteristics

Population :

PWID	:	4
At risk of PWID	:	5
Any Risk Factor	:	6
High prevalence country risk	:	1

Country of Study

UK	4
US	4
France	4
Netherlands	2
Ireland	1
Australia	1

Year of Publication

2000-06	:	2
2007-12	:	14

Study Characteristics: Target Population “ At Risk of PWID”

Author	Country	Design	Population	Intervention
Anderson	UK	Non-Randomised CT	V deprived area, 30-54 GP attendees	Counsellor based in General Practice
Lacey	Australia	Before & After	Psychiatric In-patients	Leaflet & Research Assistant
Litwin	US	Before & After	Primary Care clinics in deprived area	“Ask about Risk” sticker on case notes
Sahajian	France	Cluster RCT	Homeless in hostels	Group info seminars & referral to H. Centre

Study Characteristics: Target Population “PWID”

Author	Country	Design	Population	Intervention
Cullen	Ireland	Cluster RCT	Methadone (GP)	Liaison Support Nurse
Cullen	UK	Non-Randomised CT	PWID 30-54 (GP)	GPs paid and trained
Helsper	Netherlands	Before & After	“Hard” Drug Users	Training of addiction professionals & meetings for HDU
Hickman	UK	Cluster RCT	Current PWID, attending drug clinics & prisoners	Specialist nurses & DBS

Pooled effect of Interventions on Outcomes

Outcome	*Studies	Effect size	(95% CI)
Tested	16	2.9	(2.0-4.2)
HCV positive	14	1.7	(1.3-2.2)
Specialist Referral*	1	3.0	(1.8-5.0)
Attendance at Specialist*	1	3.7	(1.9-7.0)
Commenced Treatment	4	3.2	(1.1-10.0)
SVR	2	1.4	(0.3-7.1)

*Analysis restricted to one study

HCV Ab Positive Cases Detected by Study Type

Study Type	Studies	Effect size	(95% CI)
Media/Information Studies	4	1.3	(1.0-1.6)
Practitioner Based Studies	10	2.2	(1.4-3.5)
PWID	3	3.1	(1.4-7.1)
At risk of PWID	5	1.8	(0.9-3.6)
All HCV Risk Groups	6	1.3	(1.1-1.6)
All	14	1.7	(1.3-2.2)

Studies with Treatment Commencement Outcomes

Author	Study arm	Eligible	Accepted	HCV positive	HCV Pos RR	Attended specialist	Treated
Anderson 2009 ¹ (Scotland)	Targeting people aged 30–54 at GP practices	584	117	15	24 (1.5-406)	11	2
	Routine practice	458	0	0		-	-
Lewis 2012 ² (England)	Targeting patients of South Asian ethnicity at GP practices	1163	229	5	11 (0.6-194)	5	2
	Routine practice	1134	17	0		-	-
Cullen 2012 ³ (Scotland)	Targeting PWID aged 30-54 at GP practices	485	105	74	10 (5-21)	22	4
	Routine practice	528	36	8		2	2
Cullen 2006 ⁴ (Ireland)	Targeting PWID using GP methadone services	104	51	73	1.6 (1.2-2.0)	37	5
	Routine practice	92	25	41		9	1

1. Anderson et al, Scottish Medical Journal, 2009

2. Lewis et al, EASL Conference, 2012

3. Cullen et al, Journal of Public Health, 2012

4. Cullen et al, British Journal of General Practice, 2006

WHO Recommendation Stemming from the Systematic Review & Meta-Analysis

- “...interventions are effective in increasing uptake of testing, identifying HCV infected individuals & referring them to care. However the approaches...were different...Therefore the GD Group could not recommend a specific intervention to increase the uptake of HCV testing.”
- “ The GD Group recommended testing individuals belonging to populations of known high prevalence”
 - i.e. targeted & general population screening using bespoke approaches (depending on the problem, resources & existing services)
- Knowing status trumps any potential disbenefit



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journal homepage: www.elsevier.com/locate/drugpo



Review

The effect of introducing point-of-care or dried blood spot analysis on the uptake of hepatitis C virus testing in high-risk populations: A systematic review of the literature

Josh T. Coats^{*}, John F. Dillon

Medical Research Institute, University of Dundee, Ninewells Hospital and Medical School, Dundee DD1 9SY, UK

The effect of introducing PoC or DBS analysis on the uptake of HCV testing in high-risk populations: a systematic review.

Eligibility Criteria

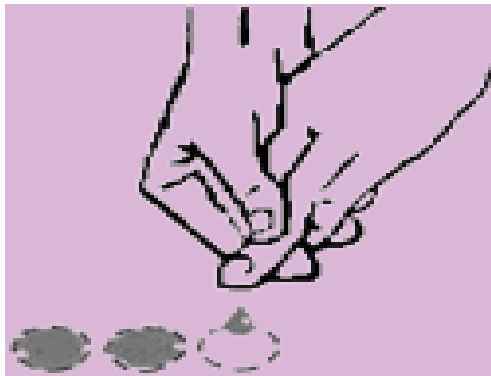
Population	:	All PWID
Intervention	:	DBS or PoC
Comparison/Control	:	non-DBS/PoC in context of routine practice
Outcomes	:	Ab tests Ab positive results

DBS/PoC Systematic Review Findings

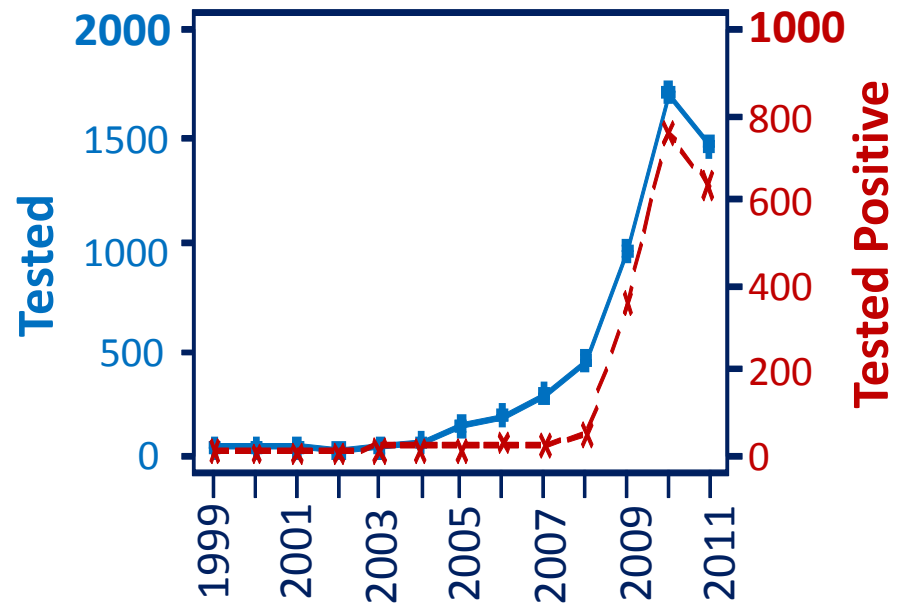
- 6 DBS & 0 PoC studies met eligibility criteria
- All UK
- Published 2008-14
- All DBS in drug clinic, prison settings
- 2 cluster RCT, 2 cohort, 1 ecological & 1 audit
- All DBS interventions associated with other interventions e.g. staff training
- All except 1 study demonstrated increase in testing (effect size: from 6-fold to 1`4.5%)
- Conclusion: the DBS approach may increase HCV testing uptake in high risk populations.

Scotland: DBS in Drug Services

Dried Blood Spot Testing
(introduced into specialist drug services in Scotland during 2009)



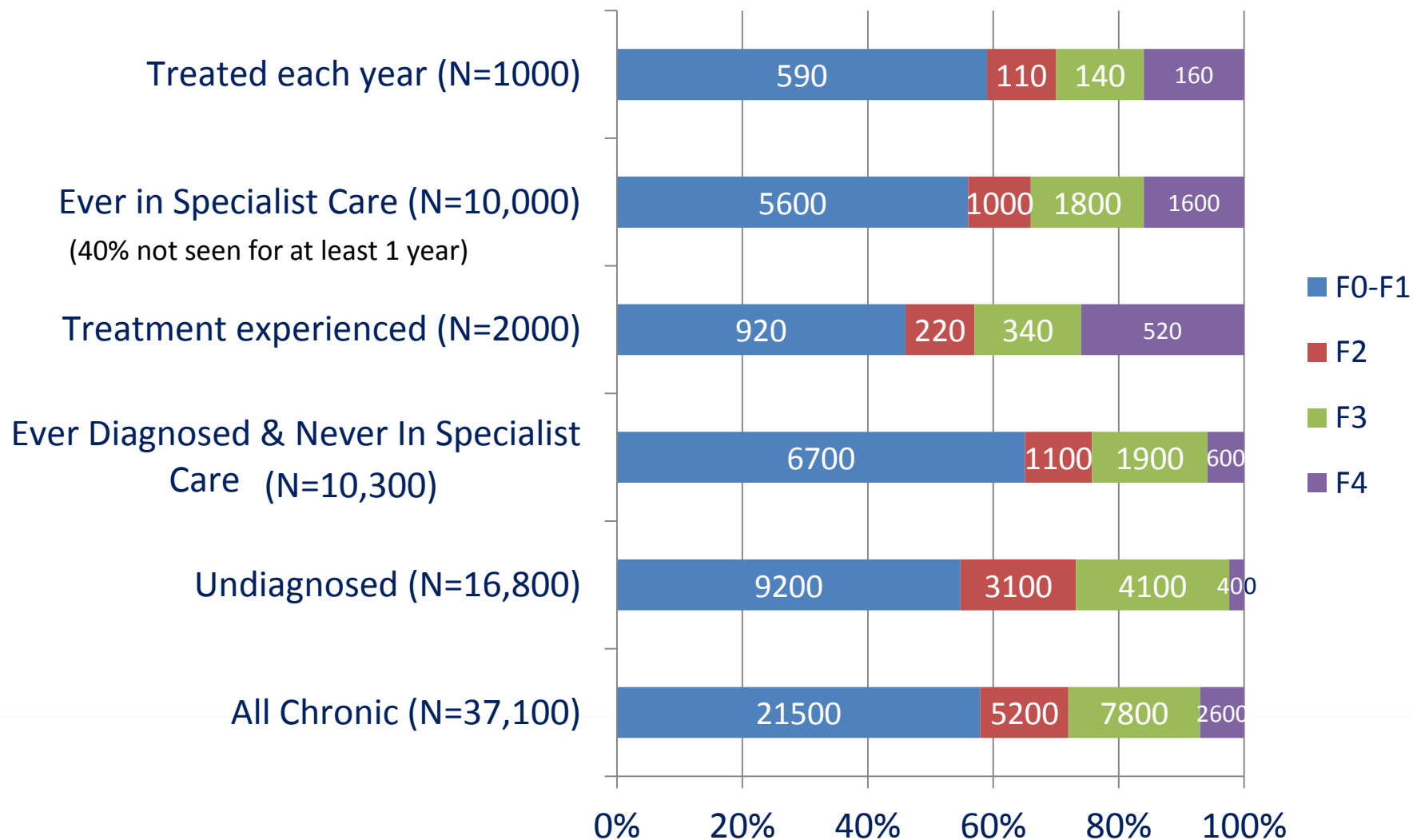
Annual number of people tested for HCV in specialist drug services across Scotland's 4 largest NHS Boards



Drug services referred 16% of new HCV diagnoses in Scotland during 2009-13 (compared to <1% during 2003-08)

Estimates of HCV chronic population by disease stage

Estimates for Scotland, 2013





Research paper

Liver disease knowledge and acceptability of non-invasive liver fibrosis assessment among people who inject drugs in the drug and alcohol setting: The LiveRLife Study

A.D. Marshall^{a,*}, M. Micallef^a, A. Erratt^a, J. Telenta^b, C. Treloar^c, H. Everingham^d, S.C. Jones^b, N. Bath^d, D. How-Chow^e, J. Byrne^f, P. Harvey^g, A. Dunlop^{h,i}, M. Jauncey^f, P. Read^{a,j}, T. Collie^k, G.J. Dore^a, J. Grebely^a

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Conclusion

- **Intervention works! And the more investment and targeting ,the better.**
- **DBS testing highly acceptable.**
- **No intervention panacea exists but ?incentivisation**
- **Targeting current & former PWID is straightforward but requires effort & resources**
- **Non or very limited intervention for PWID is unjustifiable – but need to get best value for money**
- **New therapies render the existing evidence base less meaningful ...and their high cost means prioritisation, while undesirable, is a reality.**
- **It's not just about diagnosis – but also “rediagnosis”**