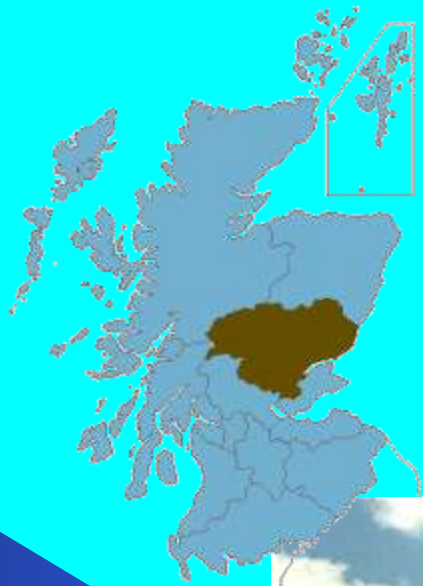
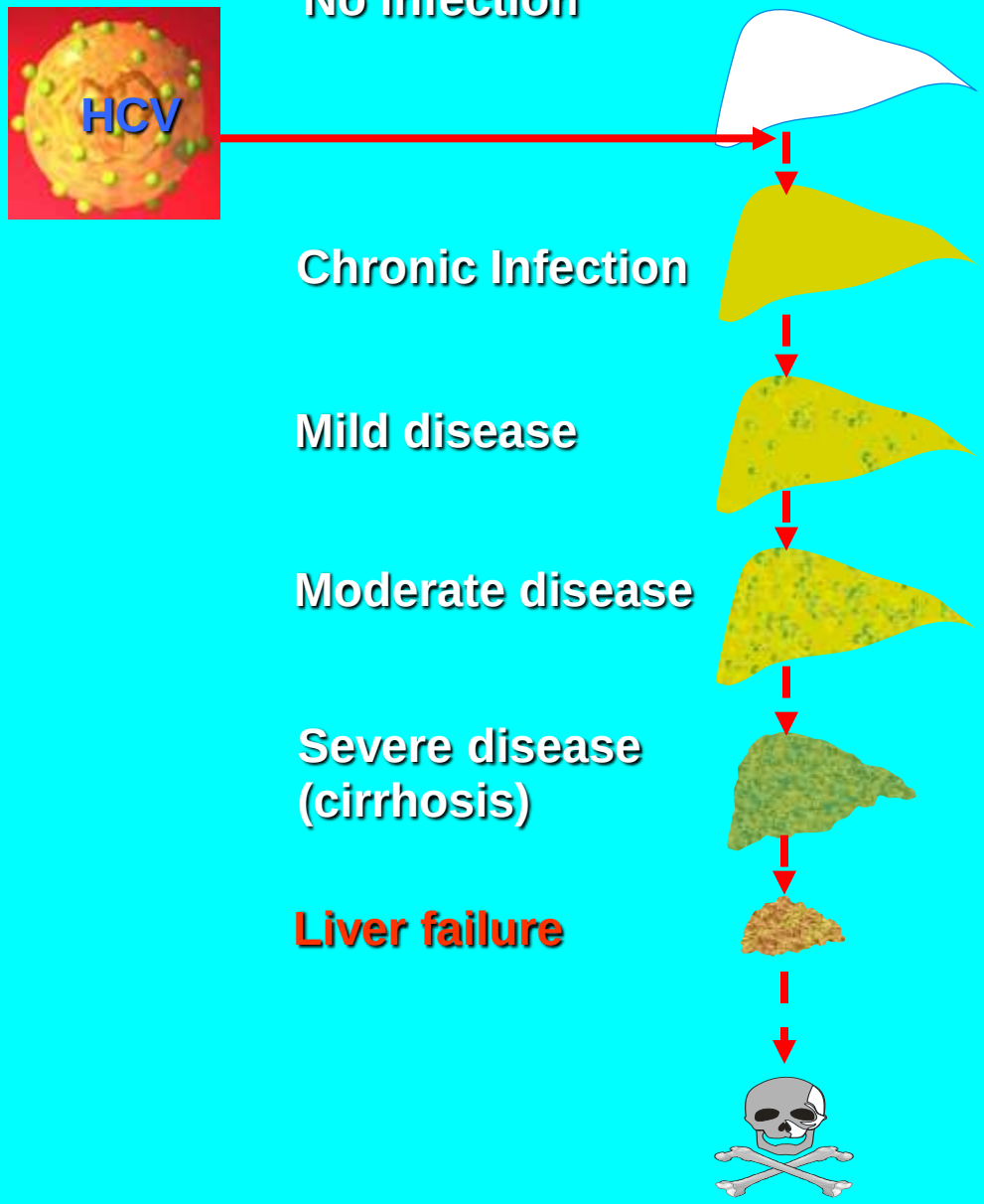
HCV in Scotland

Dr John F Dillon



Why did Scotland Launch an action plan

Burden of HCV disease among IDUs in Scotland, 2008

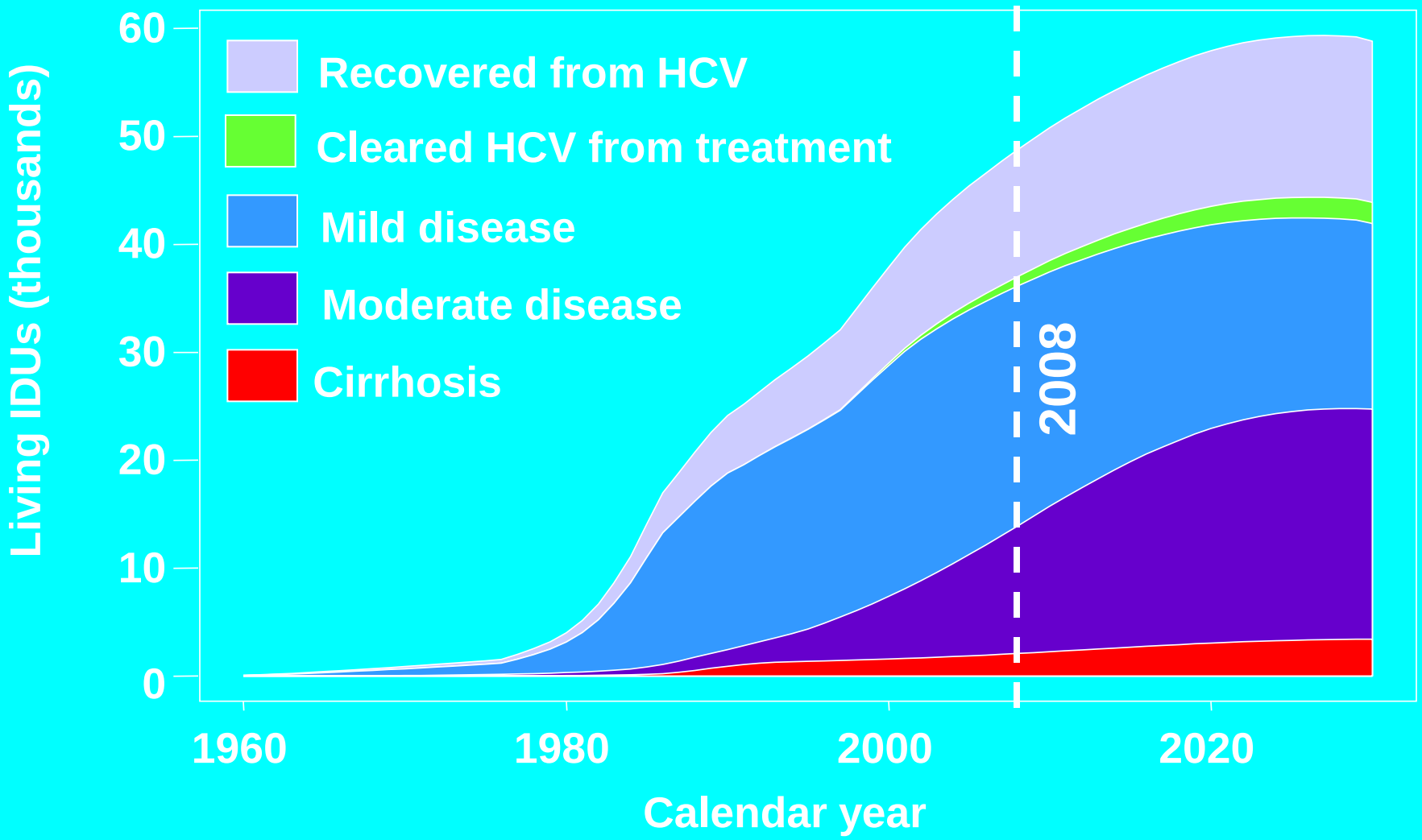


	All IDUs	Former IDUs
	35,700	28,400
	21,800	15,700
	11,900	10,800
	2,000	1,900

105 per year

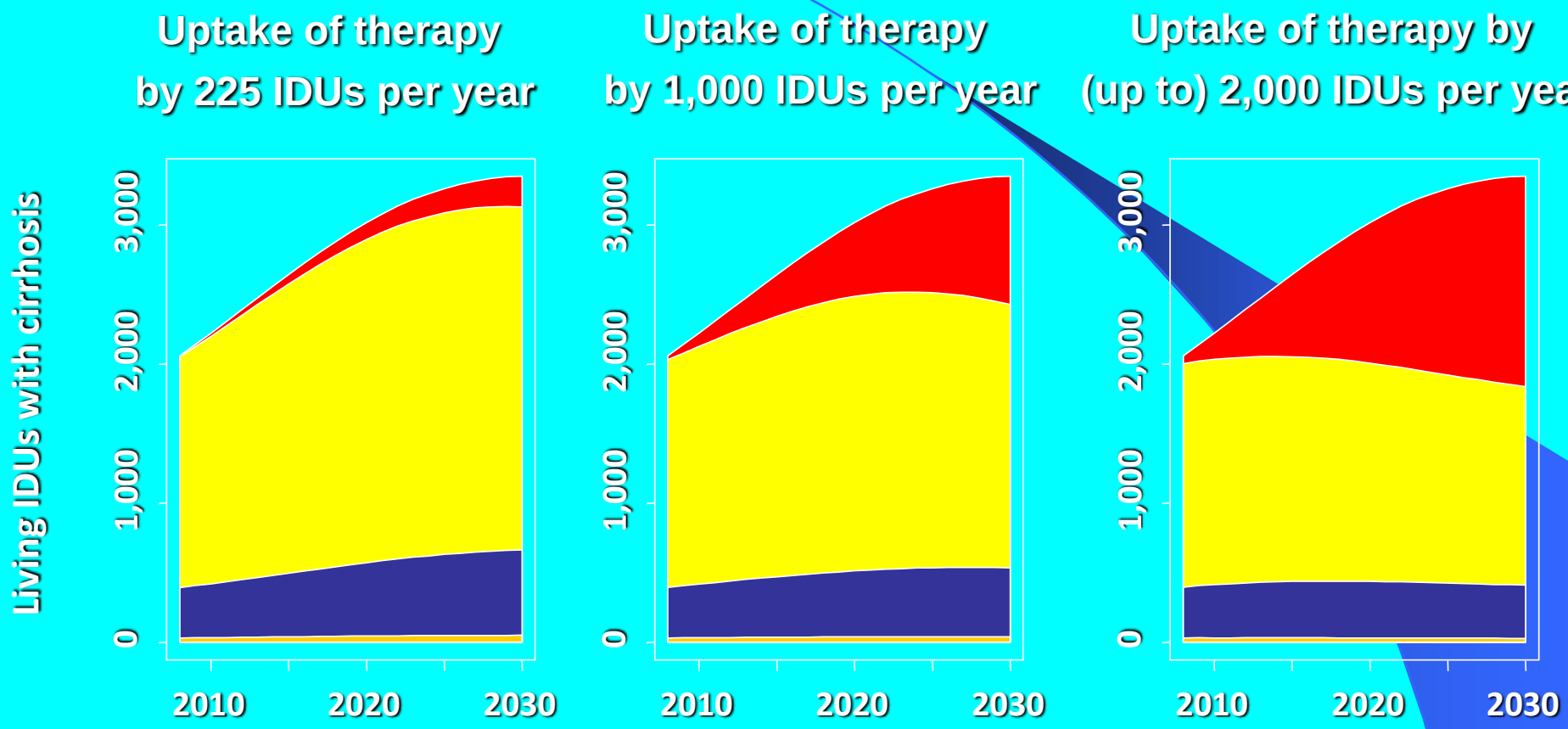
Hutchinson et al. Hepatology 2005

Modelled prevalent number of HCV infected IDUs in Scotland according to stage of HCV disease, 1960-2030



Hutchinson et al. Hepatology 2005

Modelled number of IDUs with cirrhosis in Scotland by different uptake rates of HCV antiviral therapy, 2008-2030



* Excludes those prevented from antiviral therapy prior to 2008

Health service costs & quality of life (QOL) associated with stages of chronic HCV disease, 2005

Stage		Annual cost/ patient	QOL
Mild disease	Undiagnosed	£0	0.82
	Diagnosed	£144	0.77
	During therapy	**	0.65
	SVR	**	0.82
Moderate disease	Undiagnosed	£0	0.72
	Diagnosed	£749	0.66
	During therapy	**	0.55
	SVR	**	0.72
Compensated cirrhosis	Undiagnosed	£0	0.60
	Diagnosed	£1,188	0.55
	During therapy	**	0.45
	SVR	**	0.62
Decompensated cirrhosis		£9,521	0.45
HCC		£8,485	0.45
Liver Transplant	Transplant costs	£28,533	-
	1st yr follow-up	£9,874	0.67
	2nd yr follow-up	£1,446	0.67
Treatment costs (Peg Interferon & Rib therapy & monitoring costs)		£8,781**	-

Cost-effectiveness analysis of increasing uptake of HCV antiviral therapy in Scotland

Entire IDU population	IDU cohort:	Cumulative cost* (2008-2070)		
Uptake of antiviral therapy by former IDUs		Management/ Monitoring of HCV disease	HCV antiviral therapy	Total
N per year	Cumulative number during 2008-2070 (% of 35,000)			
0	0	£276 million	£0	£276 million
225	5,100 (15%)	£263 million	£26 million	£289 million
1,000	21,300 (61%)	£220 million	£112 million	£332 million
2,000	29,100 (83%)	£185 million	£177 million	£362 million

* Discounted at 3.5%

Cost-effectiveness analysis of increasing uptake of HCV antiviral therapy in Scotland

Entire IDU population	IDU cohort:	Incremental Cost* (2008-2070)	Incremental gain in QALYS* (2008-2070)	Incremental Cost Effectiveness Ratio** (£/ QALY)
Uptake of antiviral therapy by former IDUs				
N per year	Cumulative number during 2008-2070 (% of 35,000)			
225	5,100 (15%)	£13 million	1,700	£7,800
1,000	21,300 (61%)	£43 million	5,800	£7,500
2,000	29,100 (83%)	£30 million	5,800	£5,100

** Defined as additional cost per additional gain in quality adjusted life year (QALY) for a given scenario compared to the next less effective scenario

* Discounted at 3.5%

Summary Results

- Current uptake of antiviral therapy will have limited impact on severe HCV-related liver disease in the future

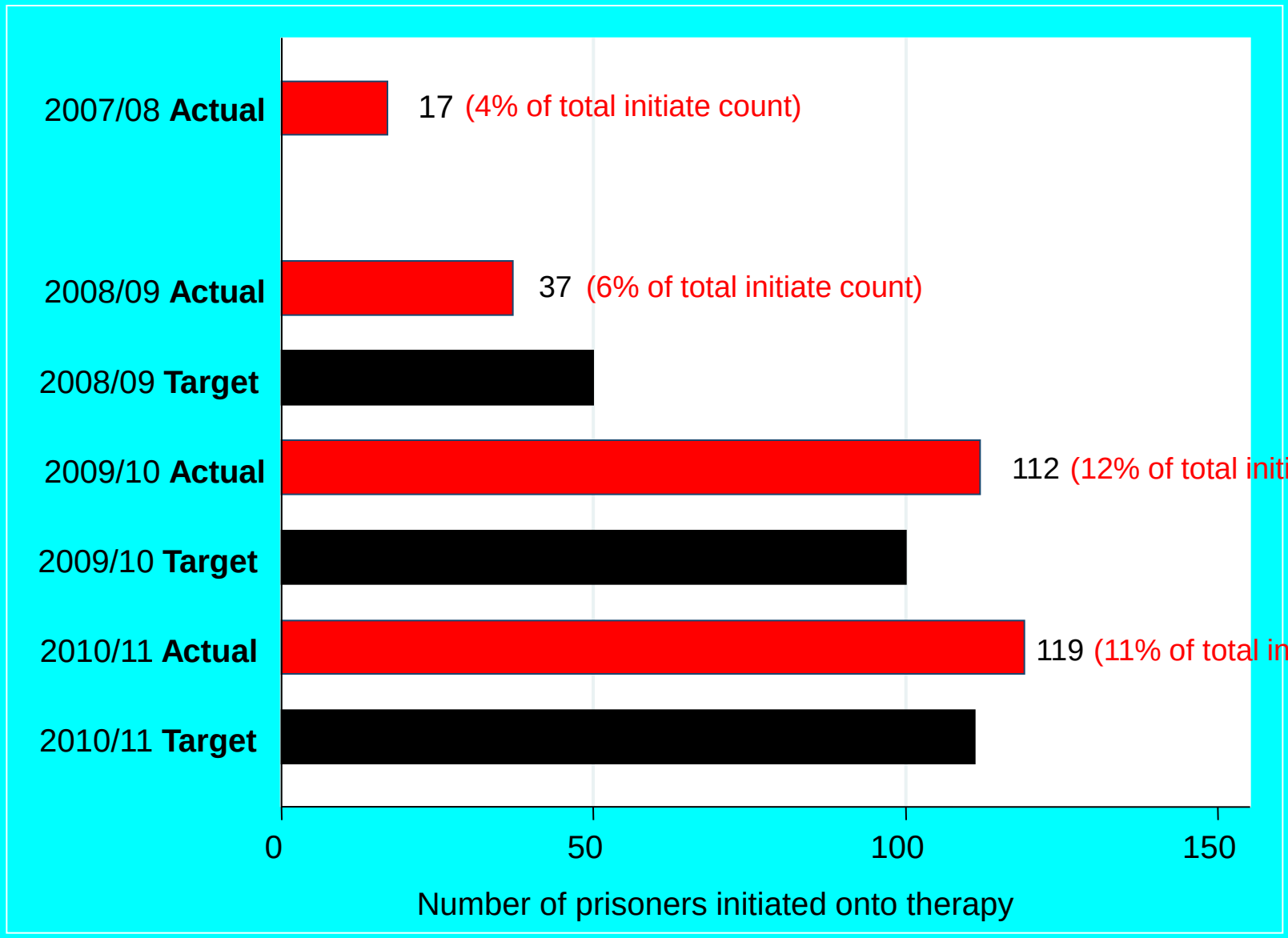
- Uptake of therapy by 1,000-2,000 persons per year will potentially prevent 500-1,000 liver failures during 2008-2030

- Increasing uptake of HCV antiviral therapy in Scotland to 1,000-2,000 persons per year leads to gains in QALYs that justify the additional cost of treatment

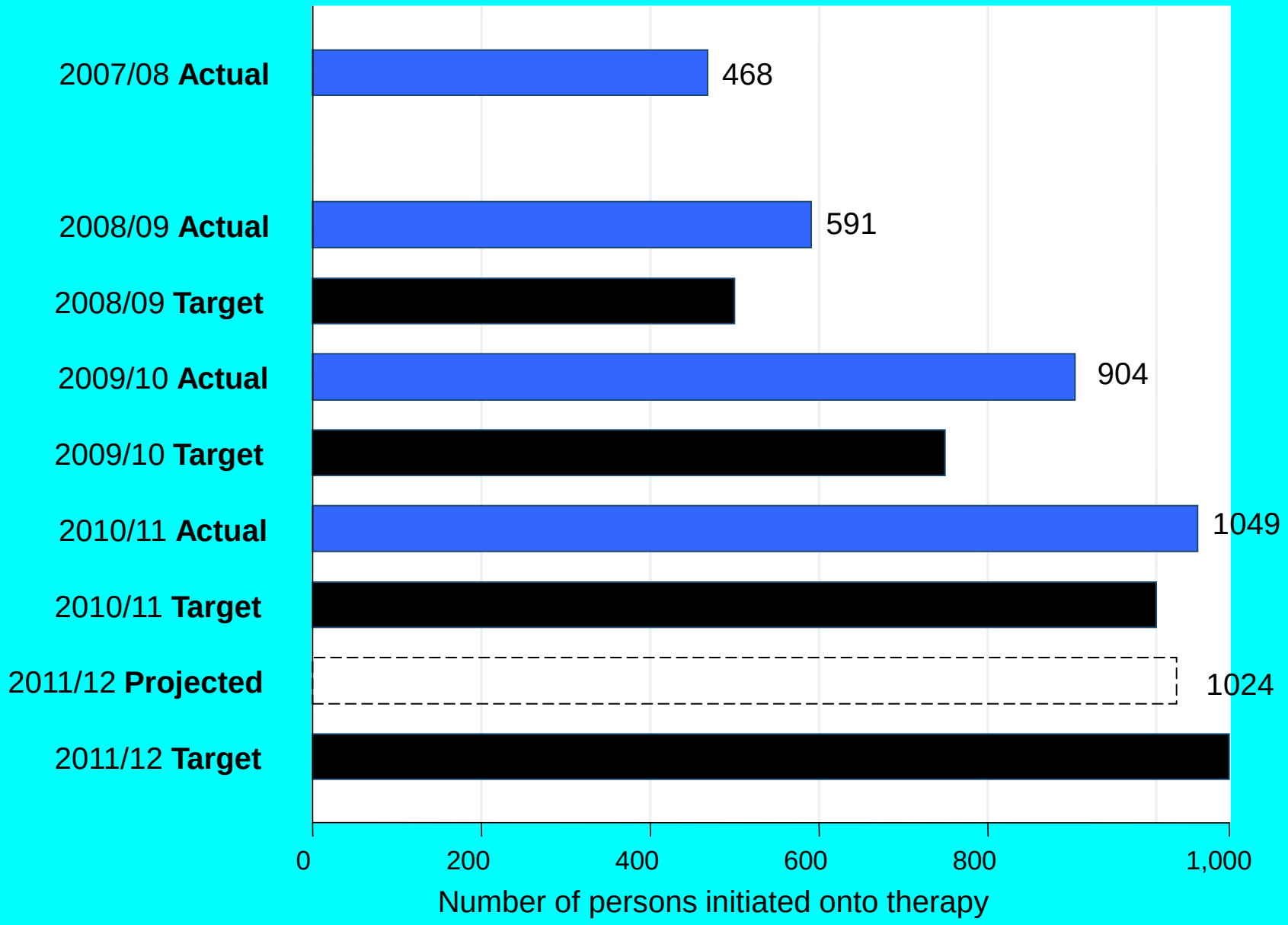
How did we organise it

- Health boards
- Clinical Leads and executive leads
- Networks
- Audit
- And reporting

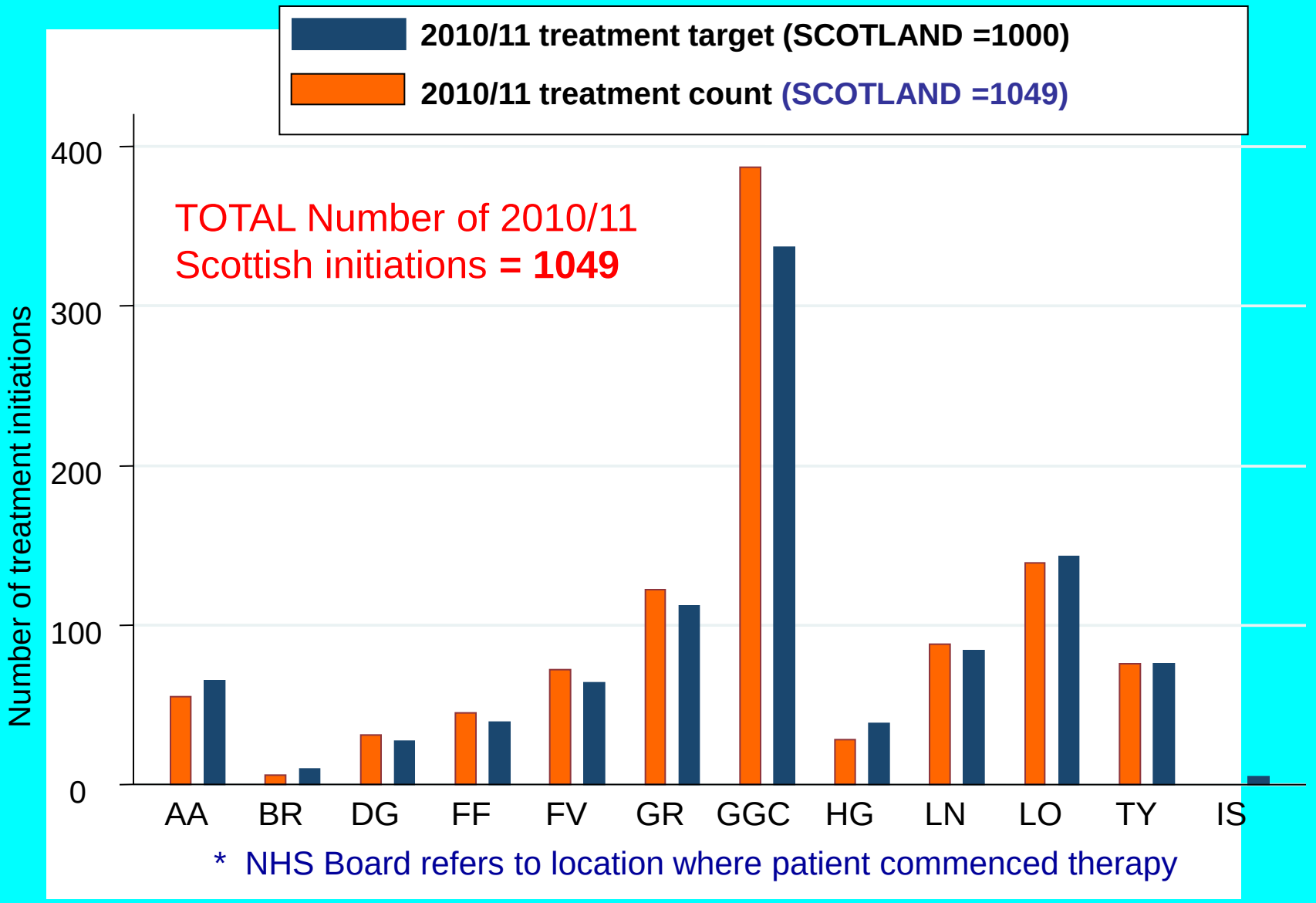
Number of prisoners initiated on HCV antiviral therapy in Scotland, 2008/09-20010/11



Number of persons initiated on HCV antiviral therapy in Scotland, 2008/09-2011/12

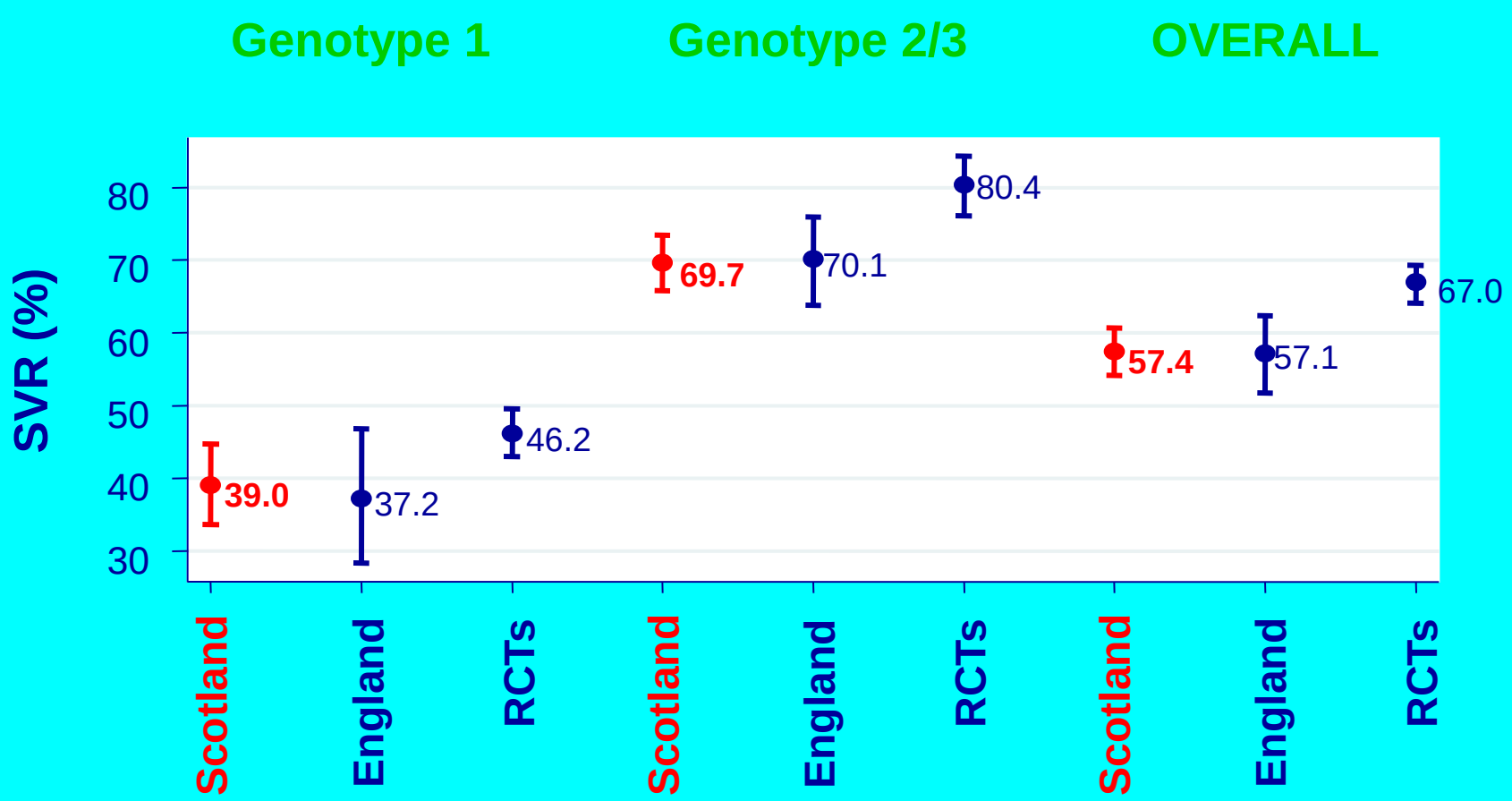


2010/11 HCV treatment counts, & targets, by NHS Board*



Are we making difference

SVR rates by genotype among patients from Scotland (initiated 2000-2007), England (Trent1) and published RCTs2-4



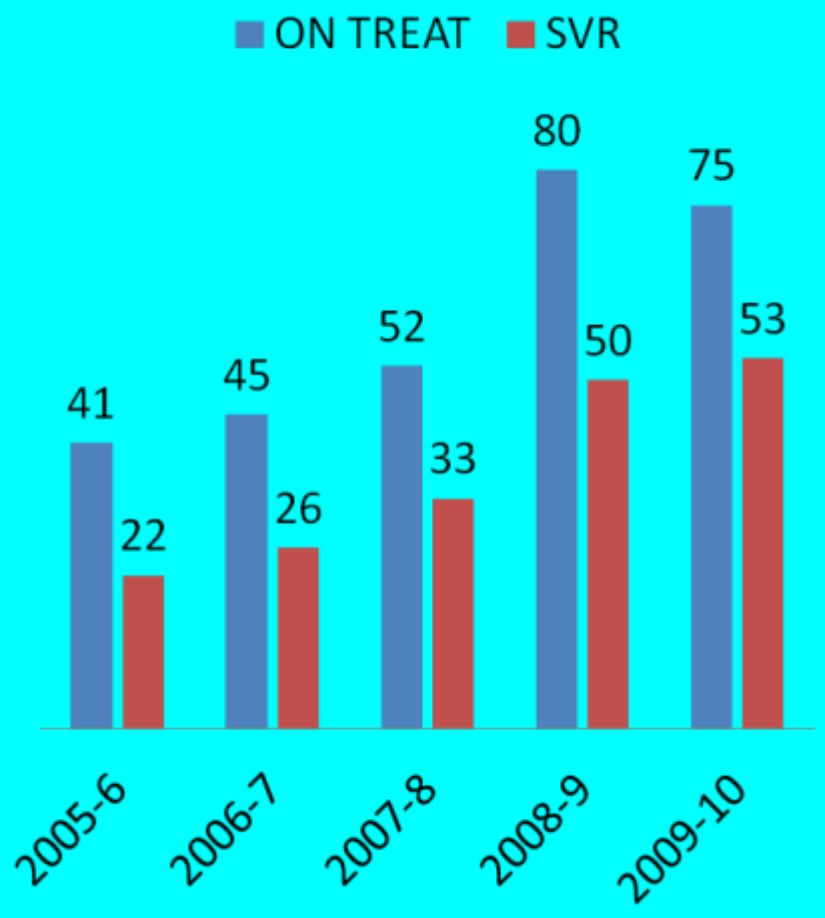
1. Thomson et al. J Viral Hepat, 2008. 15(4): p. 271-8.

2. Hadziyannis et al. Ann Intern Med, 2004. 140(5): p. 346-55.

3. Manns et al. Lancet, 2001. 358(9286): p. 958-65.

4. Fried et al. N Engl J Med, 2002. 347(13): p. 975-82.

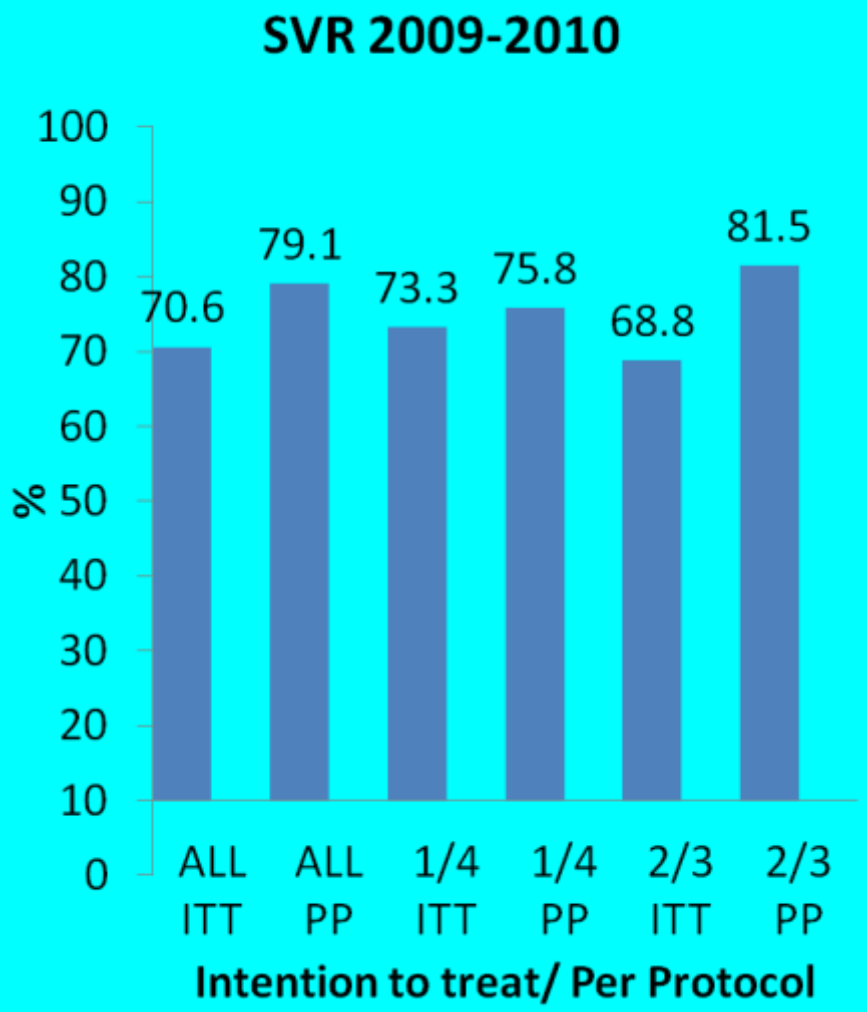
HCV treatment 2005-2010 a single centre experience



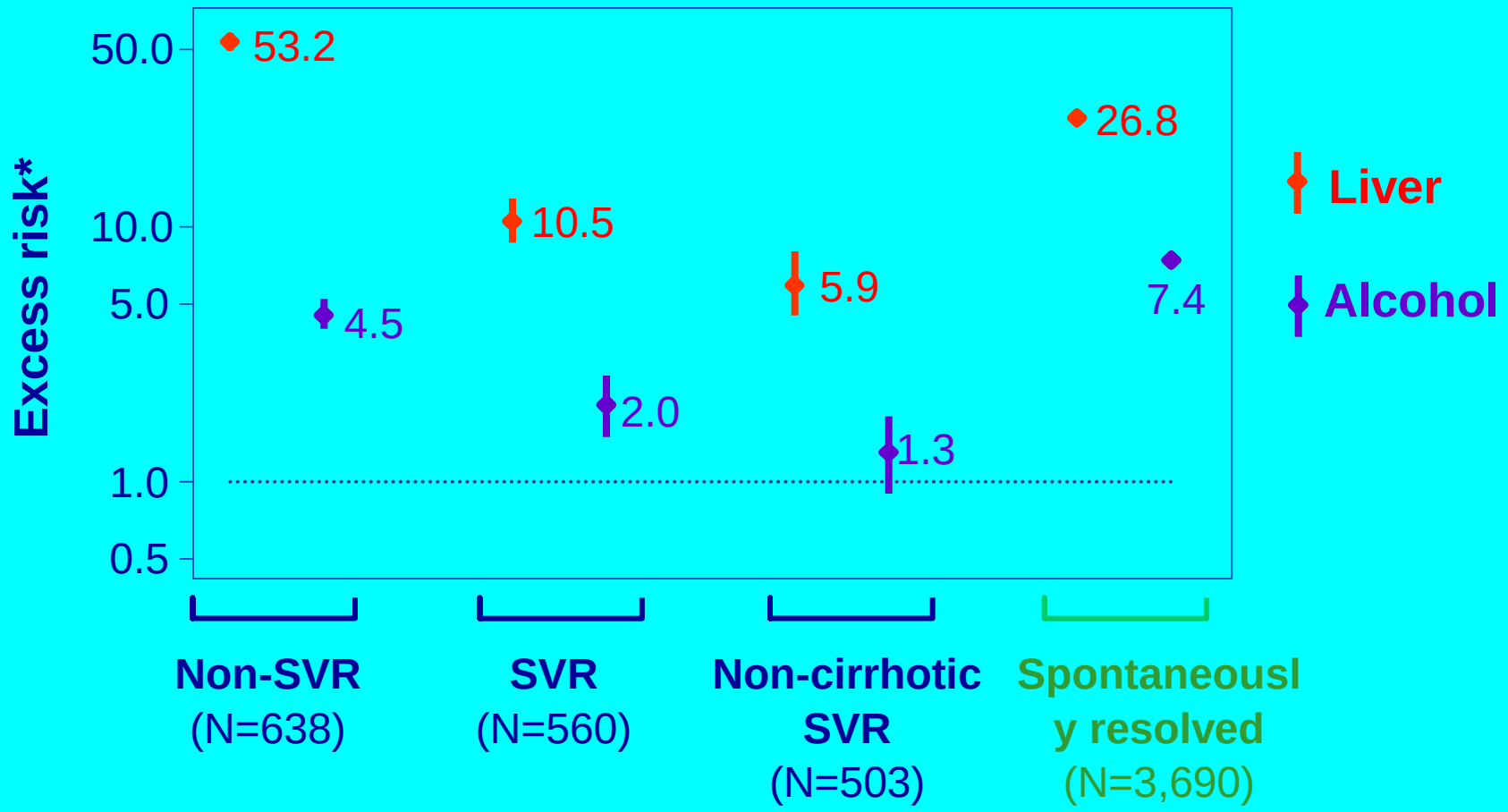
- 2005-6 SVR = 53.6%
- 2006-7 SVR = 57.2%
- 2007-8 SVR = 63.4%
- 2008-9 SVR = 63.5%
- 2009-10 SVR =70.6%

Treatment outcomes

	All	Gen 1/4	Gen 2/3
Commenced treatment	75	30	45
Sustained viral response	53	22	31
Died after treatment	1	0	1
Incomplete treatment	3	1	2
Non responder	4	3	1
End treatment negative /relapser	6	2	4
Incomplete treatment/relapser	4	2	2
End treatment negative/LTFU	4	0	4



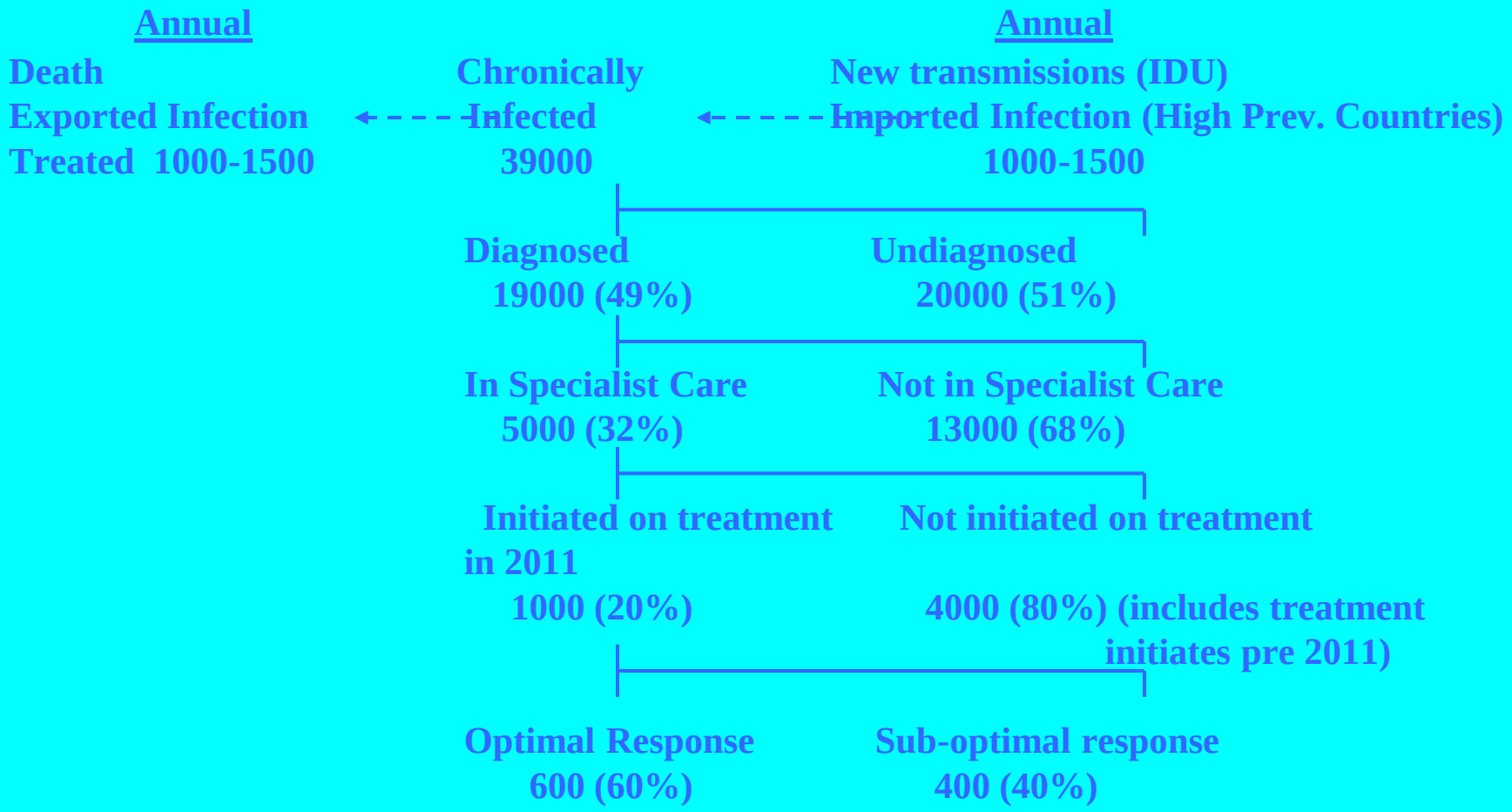
Excess risk of a liver and an alcohol related hospital episode post treatment (in SVR & non-SVR patients) AND post diagnosis (in spontaneously resolved patients), compared to the general population



* Age, sex & year standardised

Innes et al. Hepatology, 2011.

HCV Landscape: Scotland 2011 Estimates



Where are we now

- Scotland world leading for delivery of HCV care
- Treatment targets will slowly rise
- HCV will become core health board business
- HCV infection continues
- 50% of our epidemic patients now identified
- Many still need to be brought into treatment
- The window of opportunity is closing

The Treatment Revolution has begun

A major jump forward in SVR for many patients

- A new set of complexities to deal with
- A significant increase in treatment cost
- A new set of opportunities
- How do we continue to delivery the aims of the action plan in this new environment?

Dried Blood spot test

- Conventional testing with elution step
- HCV ab, HIV ab
- HCV-PCR & HBsAg
- Works where venepuncture difficult