

# Hepatitis C in 2012

## Can we eradicate it?

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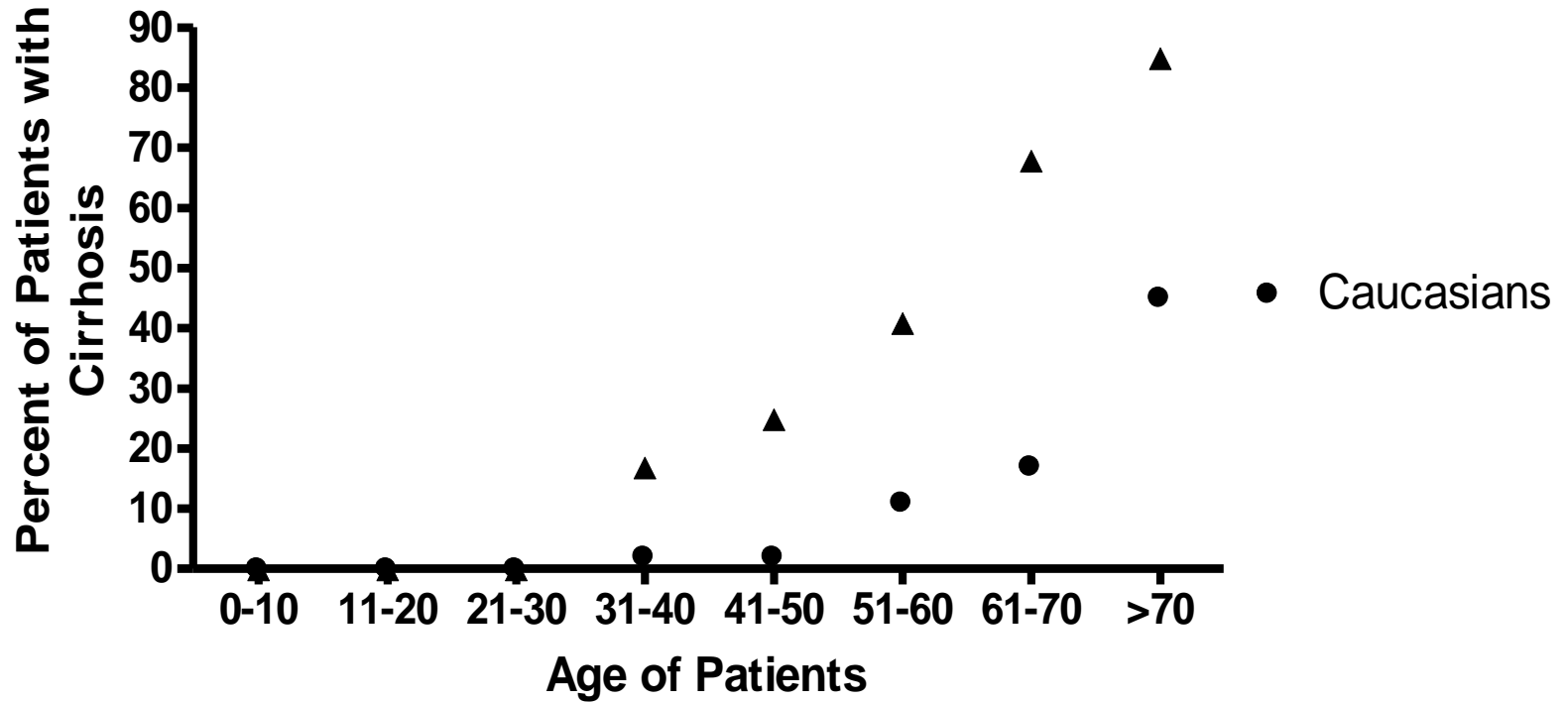
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- Why are we bothered?
- What can we do?
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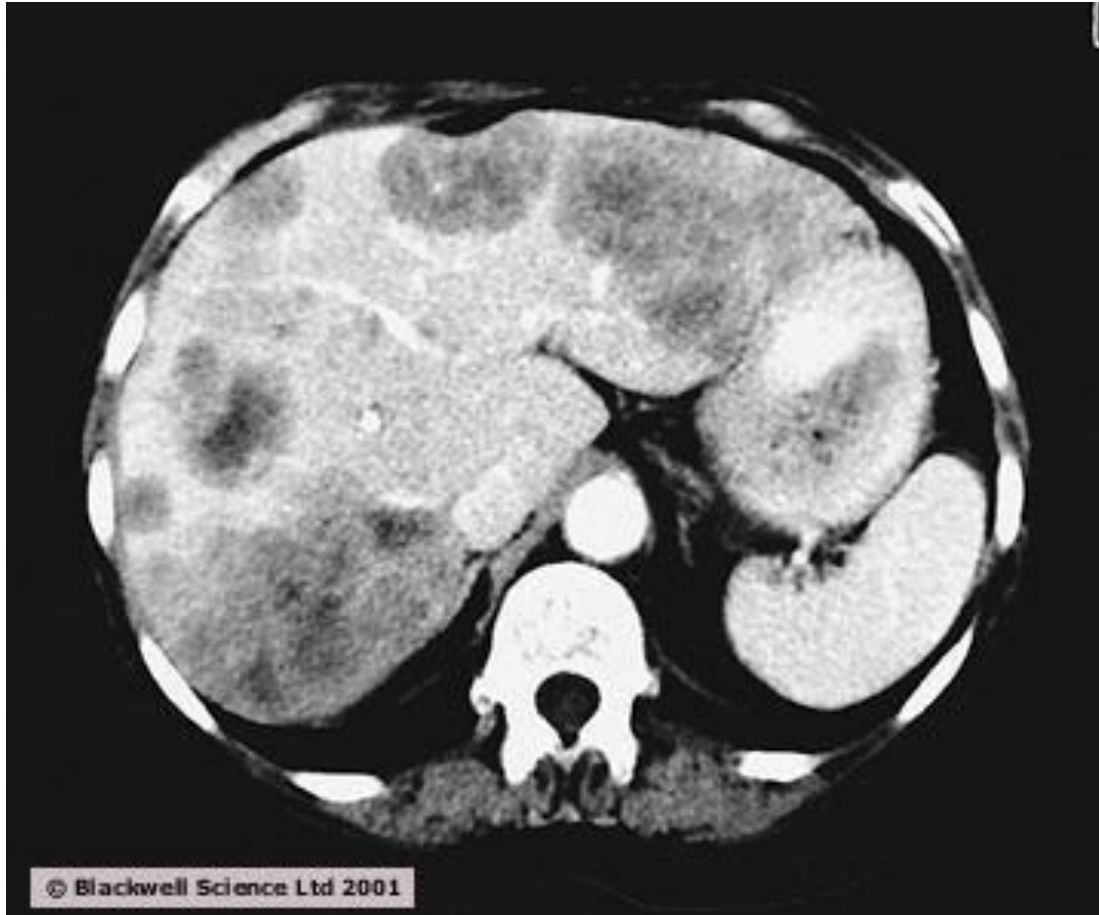
# HCV – What does it do?



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- East London 2005 – 30% of injectors with HCV had cirrhosis
- East London 2012 – new services for ascites and liver cancer

This virus is causing real problems

# HCV – why bother?

- The virus is spreading
- Up to 25% of new injectors are infected in the first year of drug use



# Incidence of hepatitis C



- Estimates of annual incidence in IDUs
  - Estimates of around 3-6% per year
  - However, was 42% in one London study
- Difficult to quantify
  - Main on-going transmission is in IDUs
- Estimates of the size of the current IDU population
  - 100,000-120,000
  - turnover / length of injecting uncertain
- could amount to 6,000 infections per year

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# The East London Model

- A new treatment model
- Blood Borne Virus (BBV) Nurse led
- Hub and spoke model
  - 3 central Specialist Addiction Units
  - 10 outreach clinics
- Monthly consultant led clinic in SAU to decide on treatment

# Demographics

		Overall	Current- injection drug users	%	Ex- injection drug users	%
Total		152	77	51	75	49
Average age of infection		23	23		22	
Average age of diagnosis		38	37		38	
Average age of treatment		40	40		41	
Sex	Male	121	63	82	58	77
	Female	31	14	18	17	23
HCV Genotype	1	68	30	39	38	51
	2	12	9	12	3	4
	3	70	37	48	33	44
	4	1	0	0	1	1
	5	1	1	1	0	0

# Treatment outcomes

	Overall	Current-injection drug users	%	Ex-injection drug users	%
Total	152	77	51	75	49
Compliant with treatment	118	61	79	57	76
End of treatment response (ETR)	105	54	70	51	68
Sustained viral response (SVR)	83	45	58	38	51
Non-responders	38	18	23	20	27
Relapsed after successful treatment	18	9	12	9	12
Partial response to treatment	1	1	1	0	0
Lost to follow up or outcome unknown	12	4	5	8	10
Reinfection	1	1	1	0	0
Death	5	3	4	2	3

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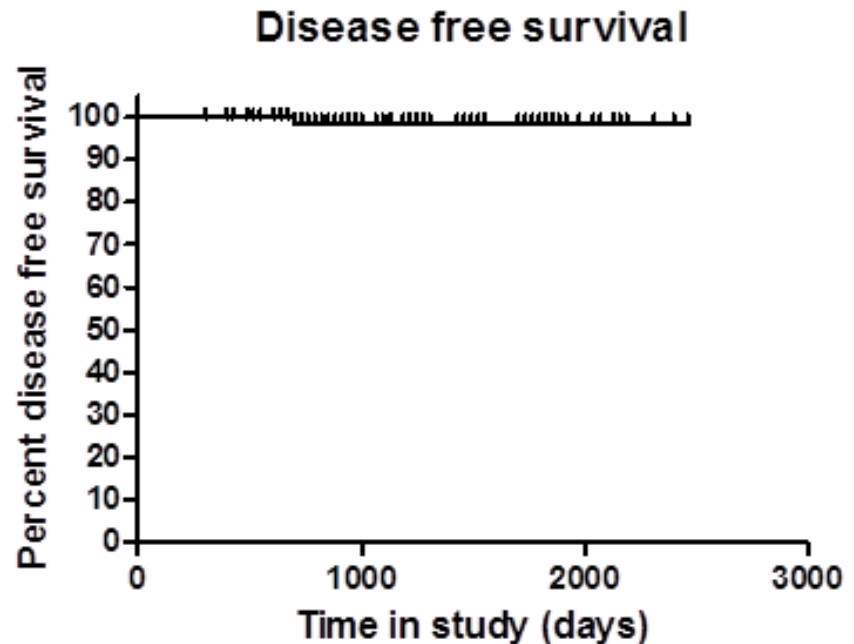


# Mortality

- 5 known deaths:
  - 21, 24, 31, 34 and 48 months after treatment finished
- Cause:
  - 1 suicide, 1 septicaemia, 3 unknown
- No deaths in patients who responded to treatment

# Disease free survival

- 55% (N=83) of patients achieved SVR
- 54% (N = 45) had repeat HCV RNA testing after completion of treatment
- One reinfection occurred 14 months after completed treatment



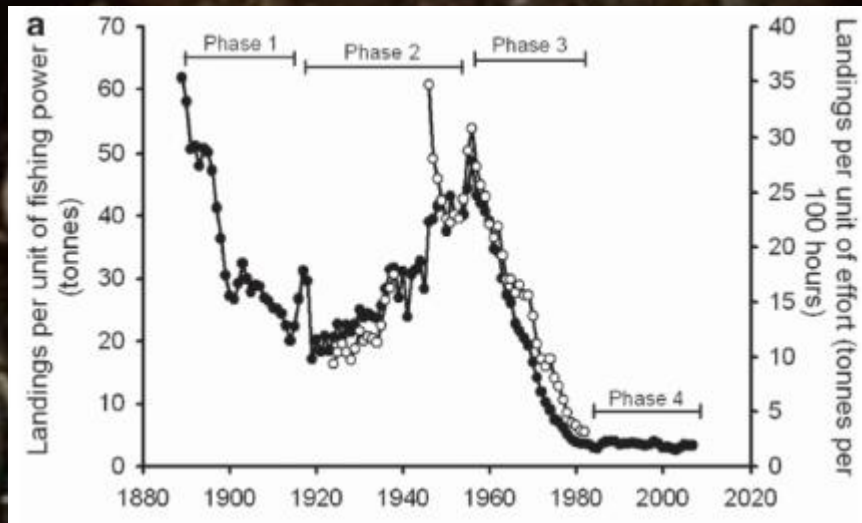
# HCV in Injectors

- Therapy CAN be given
- People can be cured (and stay cured)

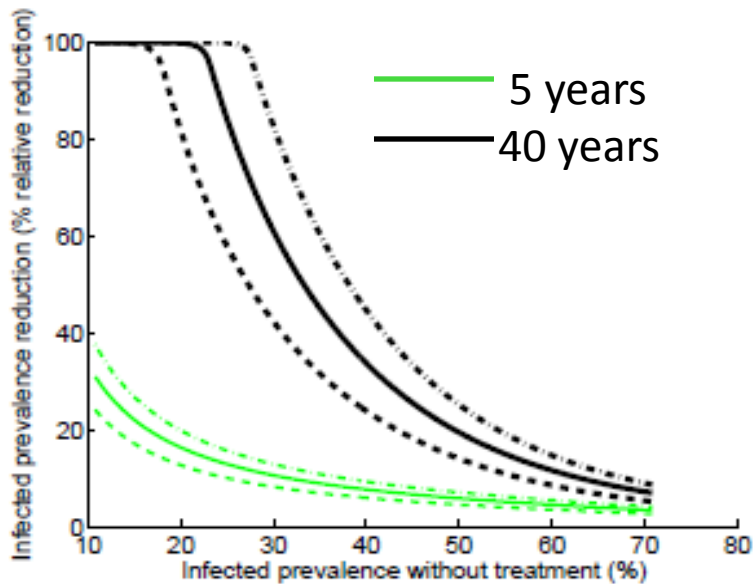
# HCV in Injectors

- Therapy CAN be given
- People can be cured (and stay cured)
- **This could eliminate HCV!!!**

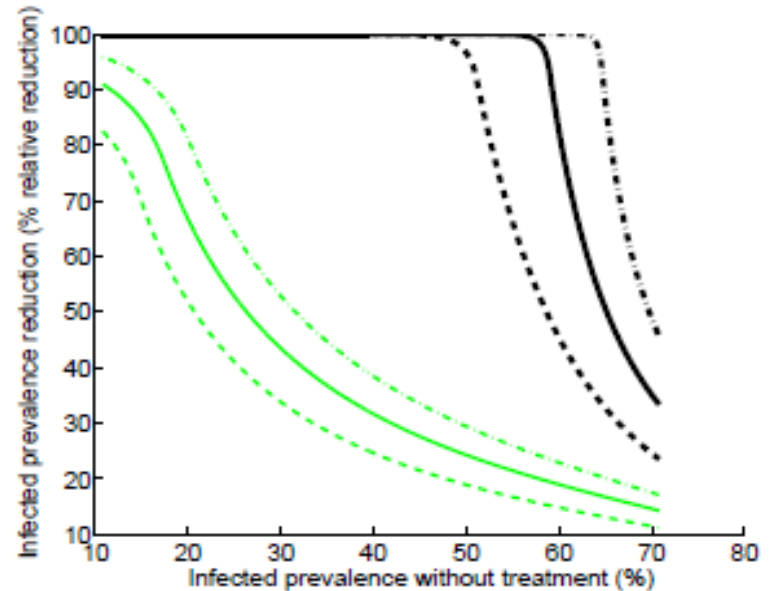
# What would happen if we treated all our injectors?



# Modelling HCV in treated injectors – what can therapy achieve?



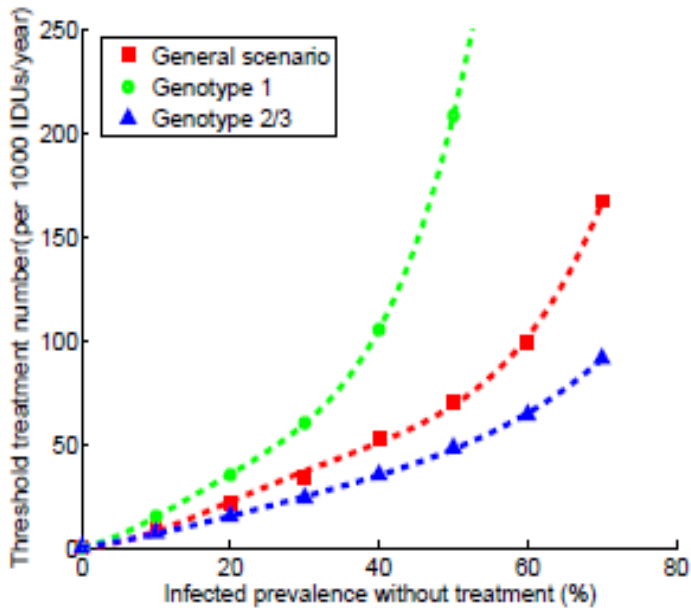
(a)  $\Phi = 10$



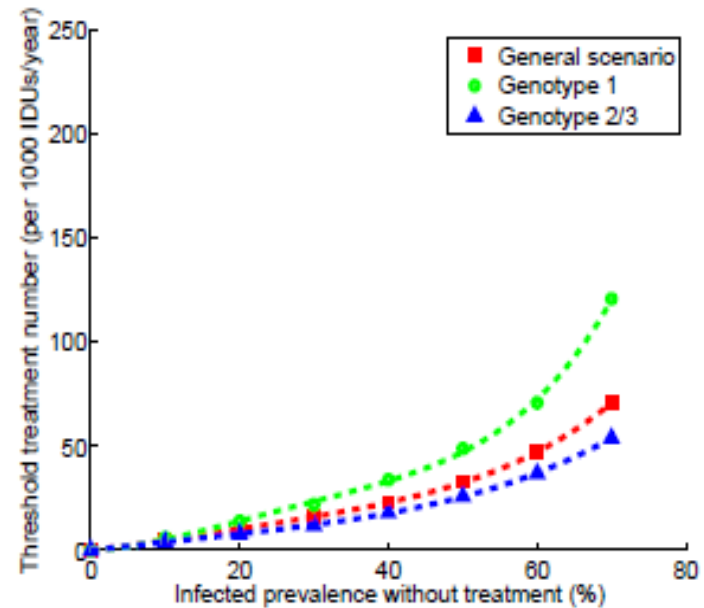
(b)  $\Phi = 40$

Number treated per year per 1000

# Modelling HCV in treated injectors – How many do we need to treat to stop the virus spreading ?



(a) 20 years



(b) 40 years

# HCV Models

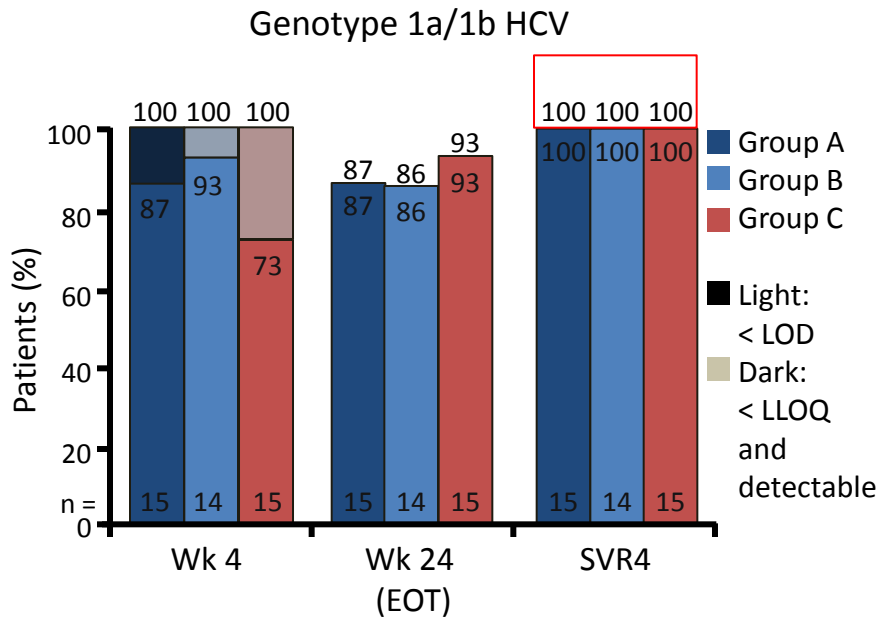
- If we treat a few patients every year the virus will eventually go away



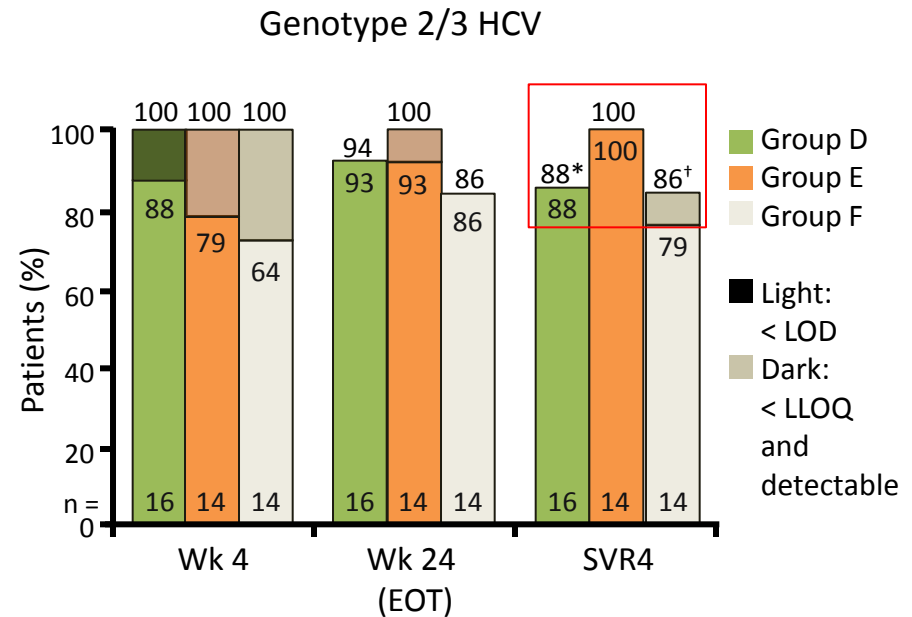
# HCV Models

- If we treat a few patients every year the virus will eventually go away
- New and better treatments are coming

# Daclatasvir + GS-7977 ± RBV: Efficacy Analysis According to Genotype



mITT analysis, bars not reaching 100% after Wk 4 reflect missing values.



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\*1 patient required addition of pegIFN-alfa/RBV (tx intensification), 1 patient with relapse at posttreatment Wk 4

<sup>†</sup>2 patients lost to follow-up (following Wk 12 and 24 visits).

# Eradicating HCV in injectors

- We can eradicate this virus!

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# Eradicating HCV

To eradicate HCV we will need

- Political support
- Funding
- Staying power!

# Towards the end of HCV

- If we do nothing the HCV epidemic in our cities will get a lot worse (both in terms of numbers and disease)
- Effective therapies are available and better ones are coming
- We can eliminate this virus – we really can!