

Trends in the Prevalence of
Hepatitis C and Hepatitis B
in Seattle Injection Drug Users,
18 – 30 years old, 1994-2004

Richard Burt, Hanne Thiede, Holly Hagan, Keith
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IDU Component of HCV and HBV Disease

- Hepatitis C – 8,000 – 10,000 deaths/year among all risk groups.
 - 45% of acute disease reported to CDC in recent IDU
- Hepatitis B - ~5,000 deaths/year among all risk groups
 - 18% reported acute disease in recent IDU

Study Population Recruitment

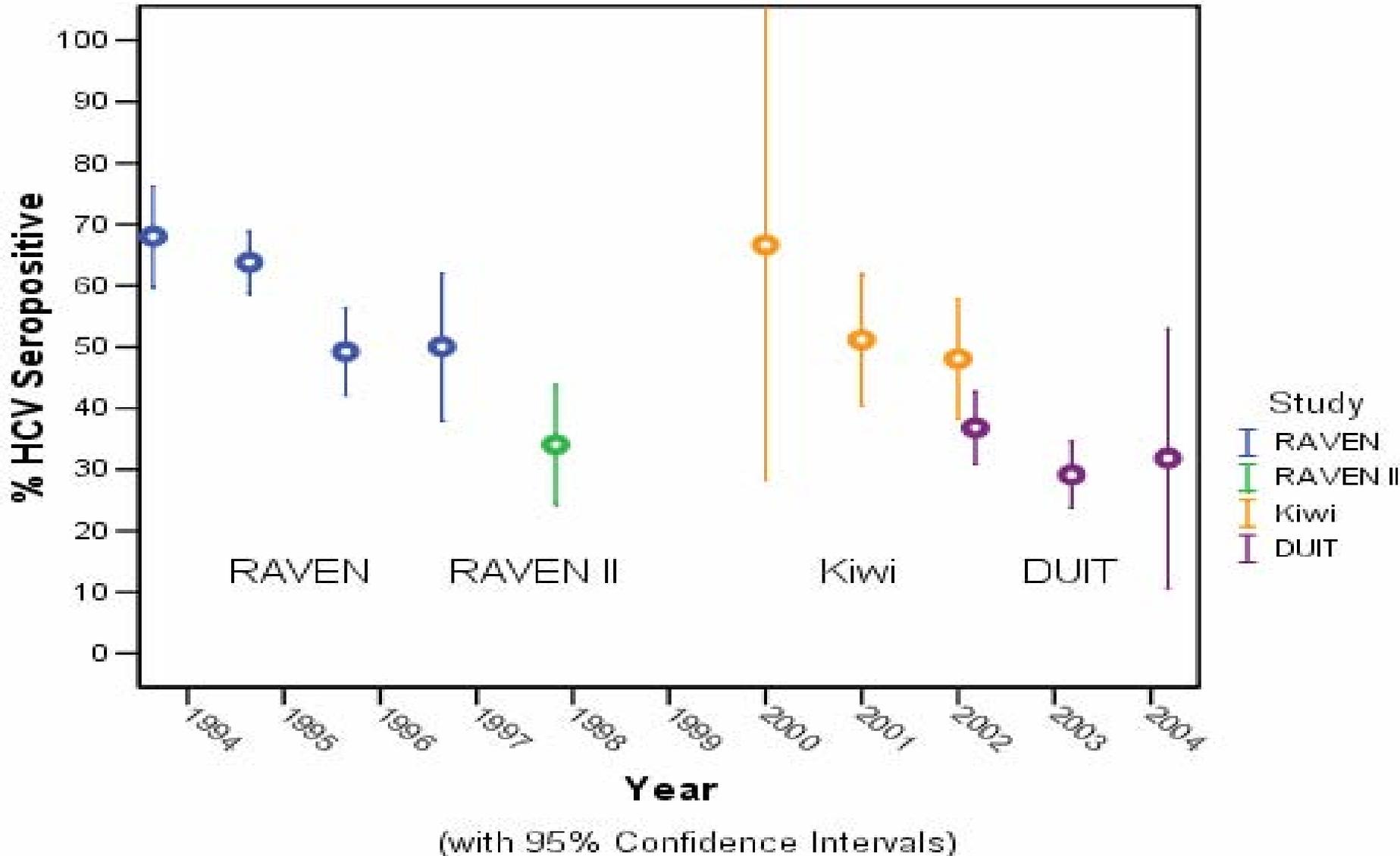
18 - 30 years old, injected last 6 months

- RAVEN I
 - 6/1994 - 5/1997
 - 5 Methadone treatment centers, ADATSA, SOS, de-tox, Jail on drug charges
- RAVEN II
 - 3/1998 - 12/1998
 - 1 Methadone treatment center, Stonewall, De-tox, Jail on drug charges
 - Either: < 26, (or Hispanic, or Nat. Am., or never/new exch. User)
- Kiwi
 - 9/1998 - 12/2002
 - Arrested, any charge; at booking or Jail Health Clinic
 - Seattle only
- DUIT
 - 5/2002 - 1/2004
 - 15 – 30 years old
 - Community outreach
 - Coupon-based peer recruitment

Comparisons between Study Populations

	RAVEN	RAVEN II	Kiwi	DUIT	p-value
N	738	94	355	557	
Median Age	26	22	25	24	< .001
White	77%	78%	71%	72%	.01
Female	42%	51%	26%	29	<.001
Educ. > H.S.	26%	25%	19%	26%	.07
Median Yrs. inj.	6	2	5	6	< .001
Heroin	64%	88%	48%	64%	< .001
Amphetamines	11%	5%	27%	24%	< .001

Hepatitis C Seroprevalence Trends in Seattle IDU 18-30 years of age; 1994-2004



HBV Prevalence Trends within Individual Studies

<u>Study</u>	<u>p-value (trend)</u>
RAVEN	.001
Kiwi	.11
DUIT	.01

HCV Prevalence Trends

After Control for Potential Confounding

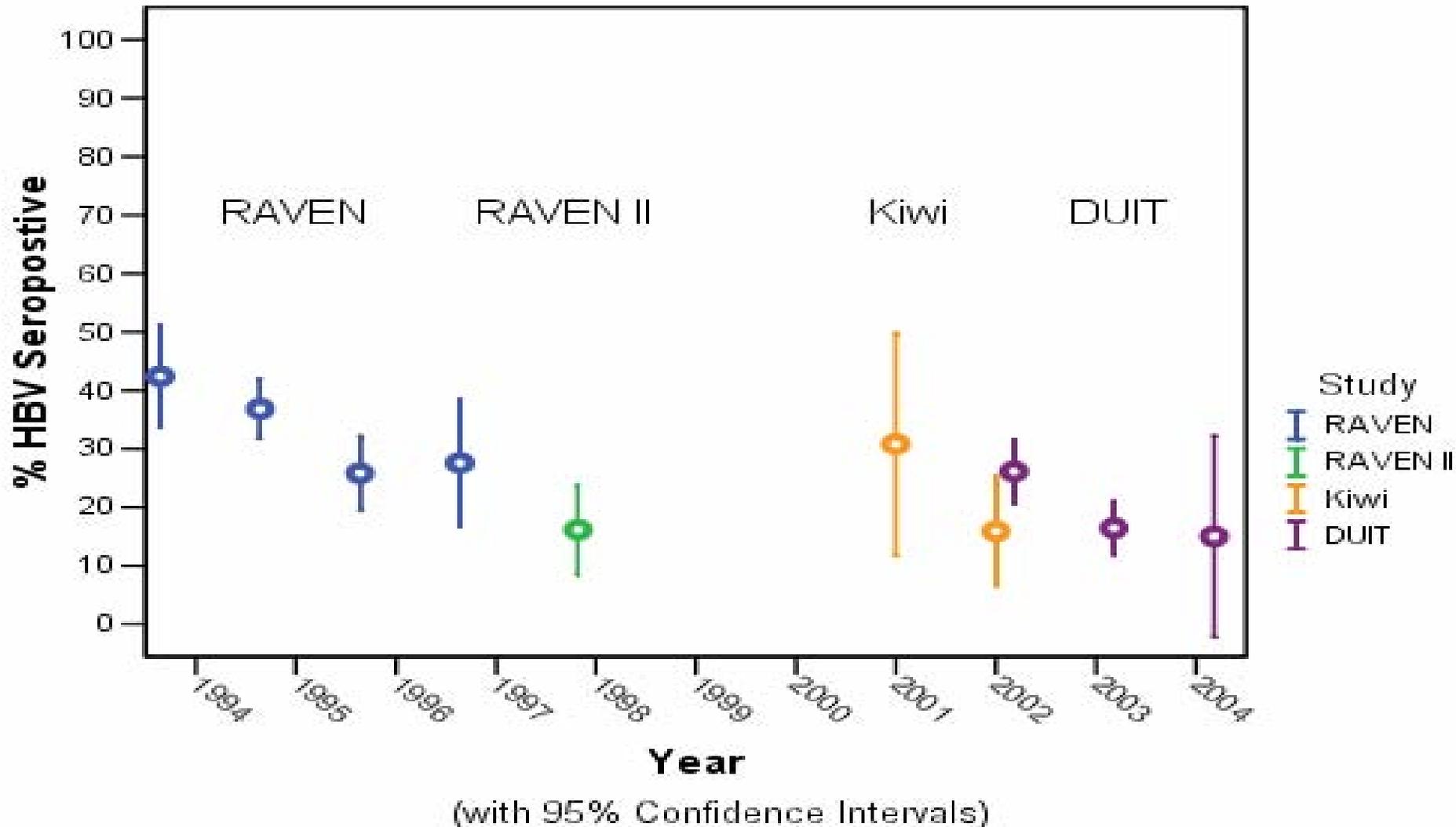
Year	N	% HCV +	Logistic Regression*	
			OR	(95% C.I.)
1994	144	67%	1.00	
1995	370	63%	.78	(.49 - 1.23)
1996	195	50%	.44	(.26 - .73)
1997	70	50%	.58	(.30 - 1.12)
1998	94	34%	.30	(.16 - .57)
1999	---	---	---	---
2000	10	60%	.95	(.22 - 4.13)
2001	90	51%	.67	(.36 - 1.25)
2002	374	39%	.34	(.21 - .54)
2003	202	27%	.20	(.12 - .34)
2004	22	32%	.29	(.10 - .83)

p(trend) < .001

*Controlled for: age, sex, education, years injecting, injection frequency, primary drug

Hepatitis B Seroprevalence Anti-body to HBV Core Antigen

Seattle IDU 18 - 30 Years of Age, 1994 - 2004



HCV Prevalence Trends within Individual Studies

<u>Study</u>	<u>p-value (trend)</u>
RAVEN	.02
Kiwi	.14
DUIT	.11

HBV Prevalence Trends

After Control for Potential Confounding

Year	N	% HBV +	Logistic Regression*	
			OR	(95% C.I.)
1994	125	42%	1.00	
1995	348	37%	.71	(.45 – 1.13)
1996	190	26%	.48	(.38 - .82)
1997	69	28%	.74	(.37 – 1.49)
1998	93	14%	.40	(.20 - .81)
1999	---	---	---	---
2000	---	---	---	---
2001	26	31%	.65	(.24 – 1.70)
2002	314	24%	.49	(.30 - .80)
2003	260	16%	.32	(.19 - .54)
2004	20	15%	.26	(.07 – 1.00)

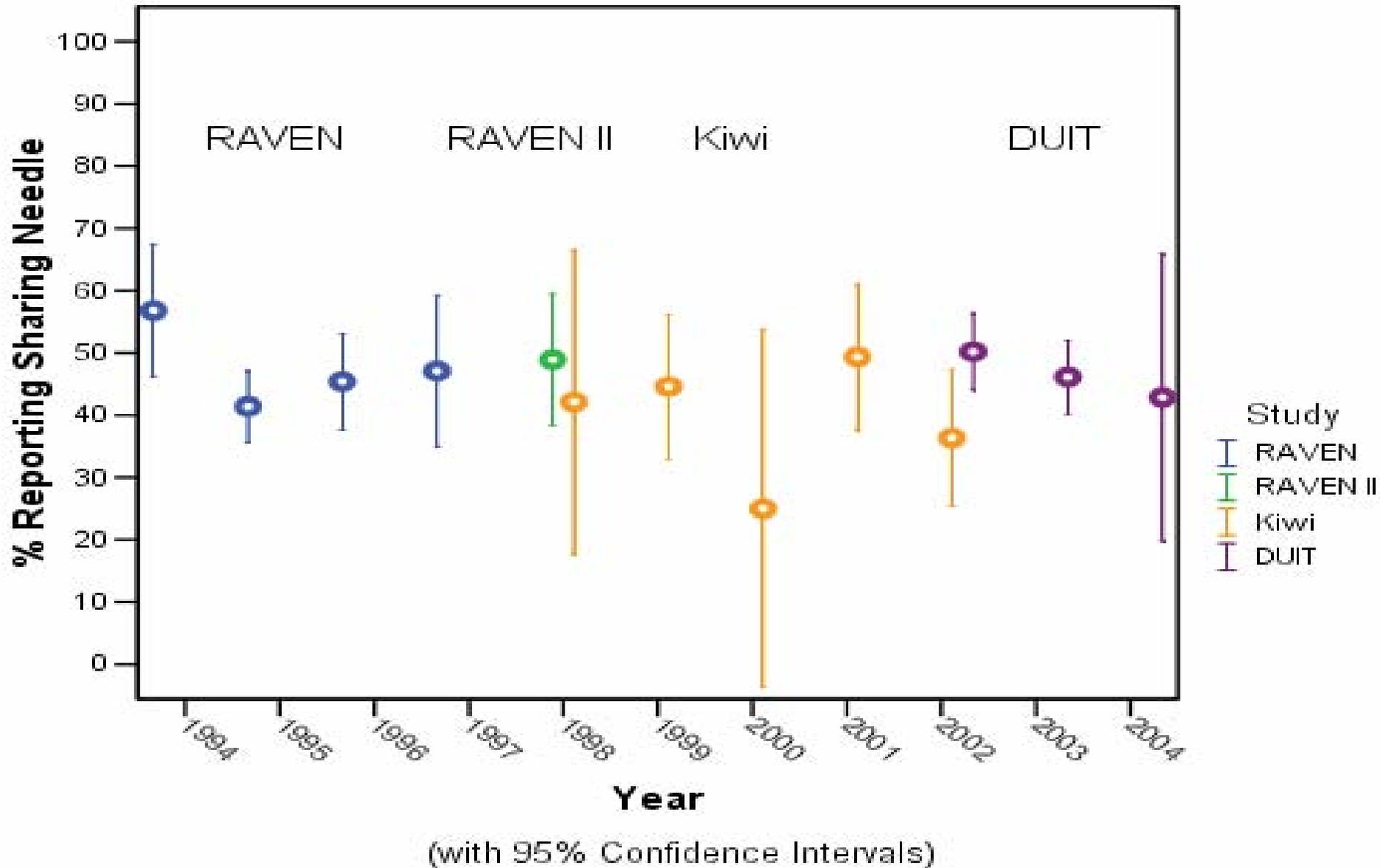
p(trend) < .001

*Controlled for: age, sex, years injecting, injection frequency, recent male-to-male sex

Time Trends in HCV and HBV Risk Behaviors

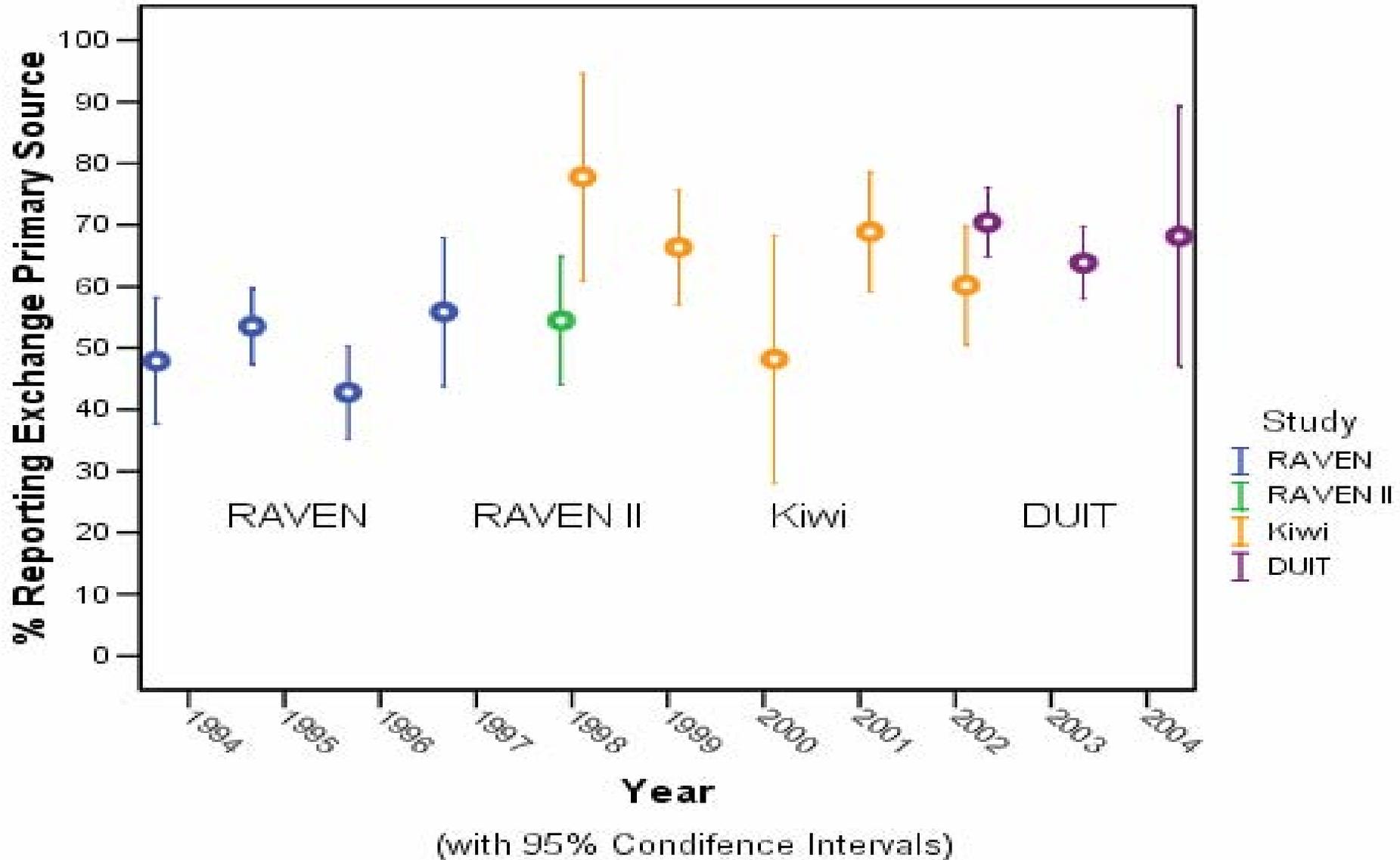
Any Recent Injection with a Used Needle

Seattle IDU 18 - 30 Years of Age; 1994-2004



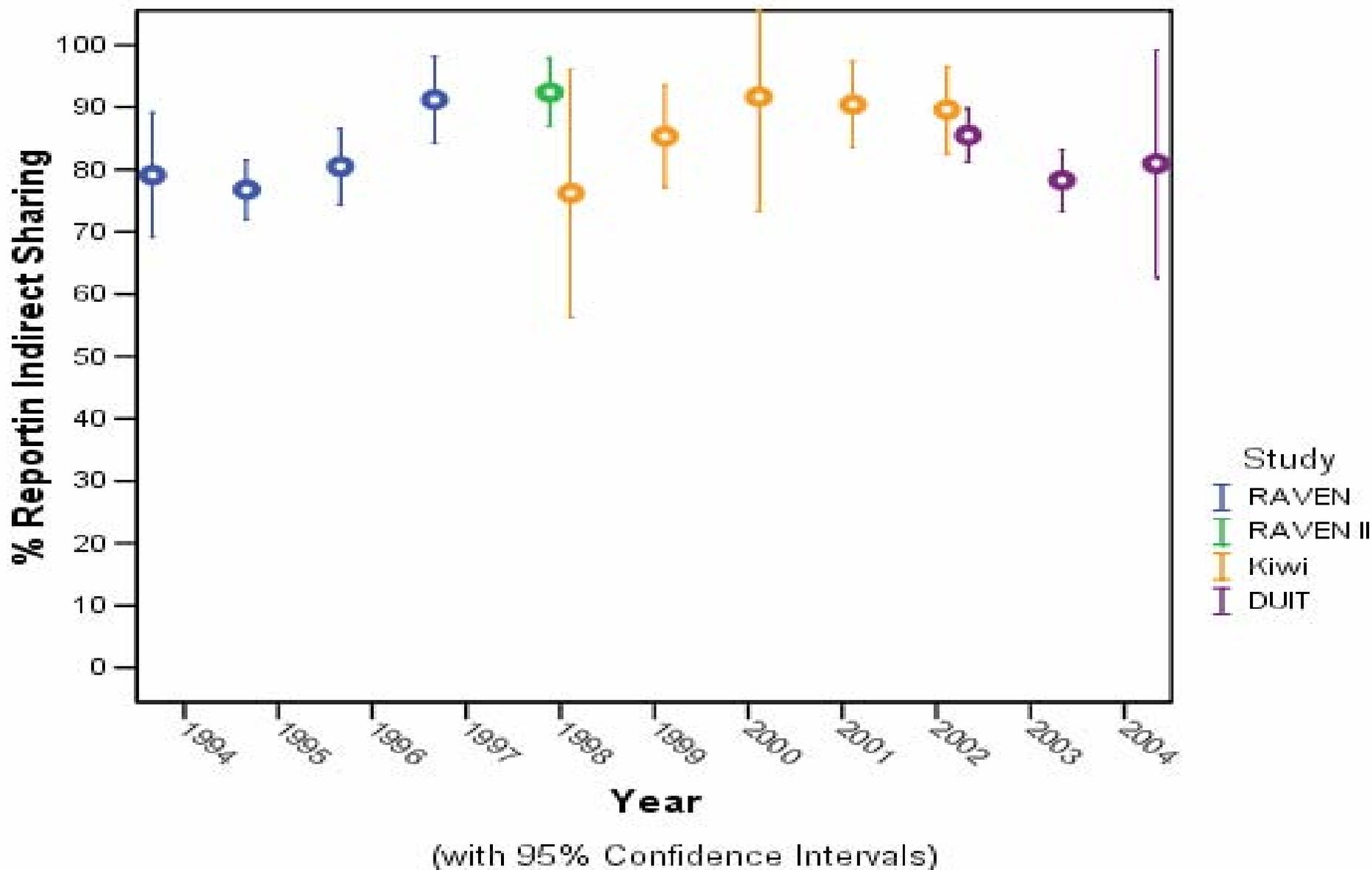
Trends in Needle Exchange as Primary Needle Source

Seattle IDU 18-30 years of age; 1994-2004



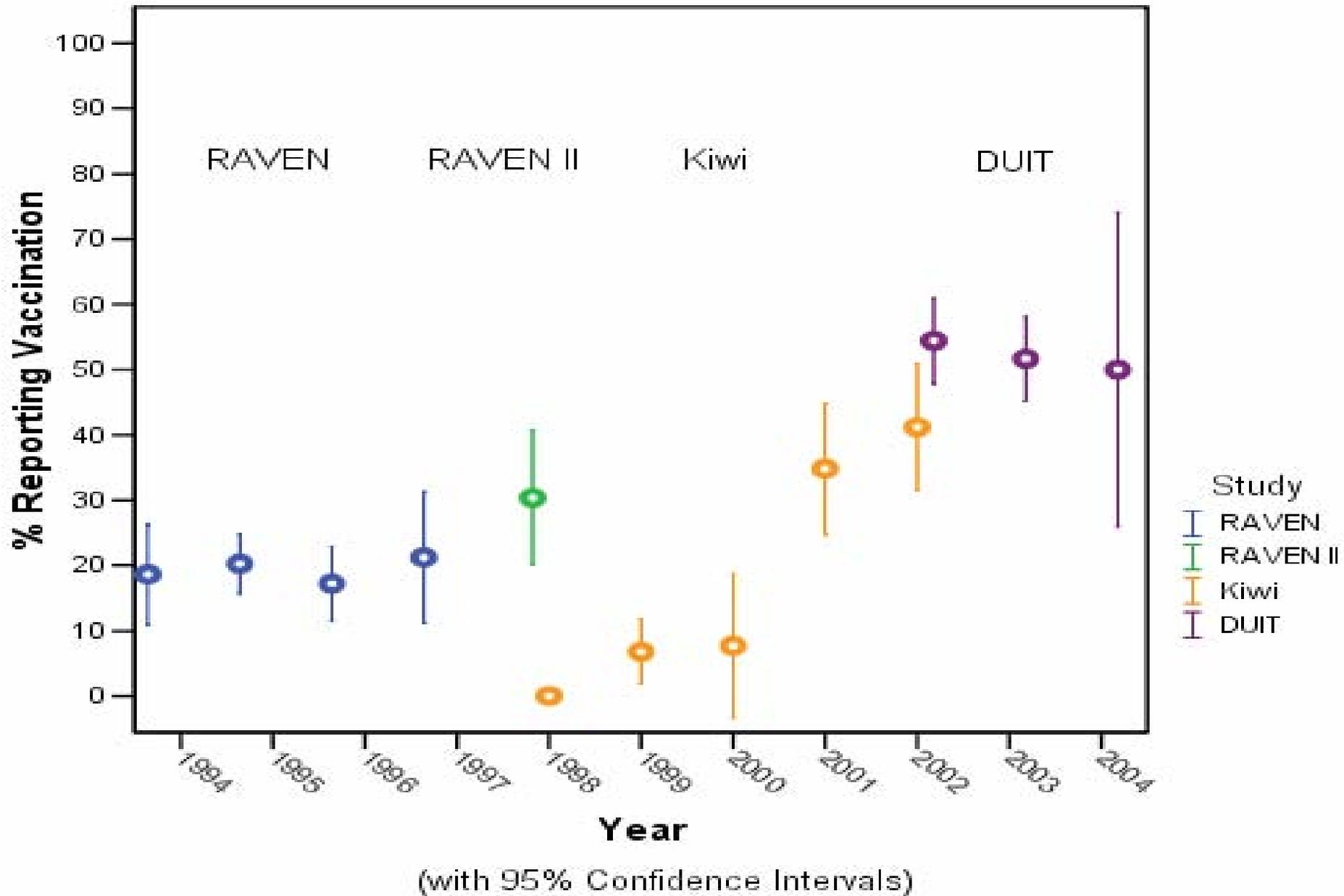
Any Sharing of Cookers or Cottons or Backloading

Seattle IDU 18 - 30 Years of Age; 1994-2004



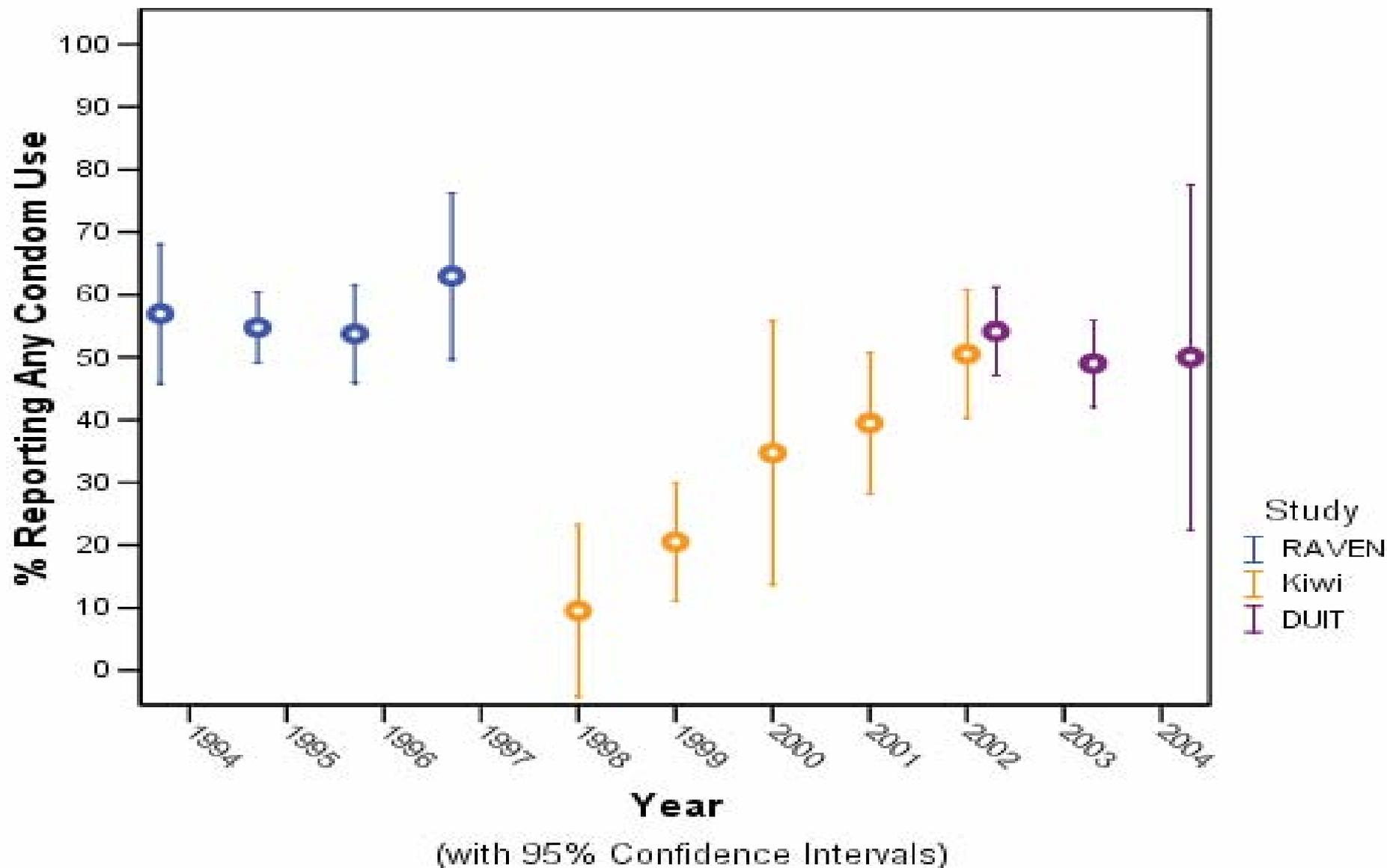
Self-Reported Hepatitis B Vaccination Rates

Seattle IDU 18 - 30 Years of Age, 1994 - 2004



Trends In Condom Use

In Sexually Active Seattle IDU, 18-30 years of age; 1994-2004



Overview

- Hepatitis C virus prevalence in young Seattle IDU declined by half between 1994 and 2004.
 - Trend can be seen within individual studies.
 - Trend persists after control for potential confounders.
- Hepatitis B virus seroprevalence in the same population showed a similar pattern.

Risk Behavior Trends may Partially Explain the Declines in Prevalence

- Documentation of reductions in injection equipment sharing are scant
- Needle exchange use has increased
- HBV vaccination levels have risen.
- Condom use levels have risen but remain modest.

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