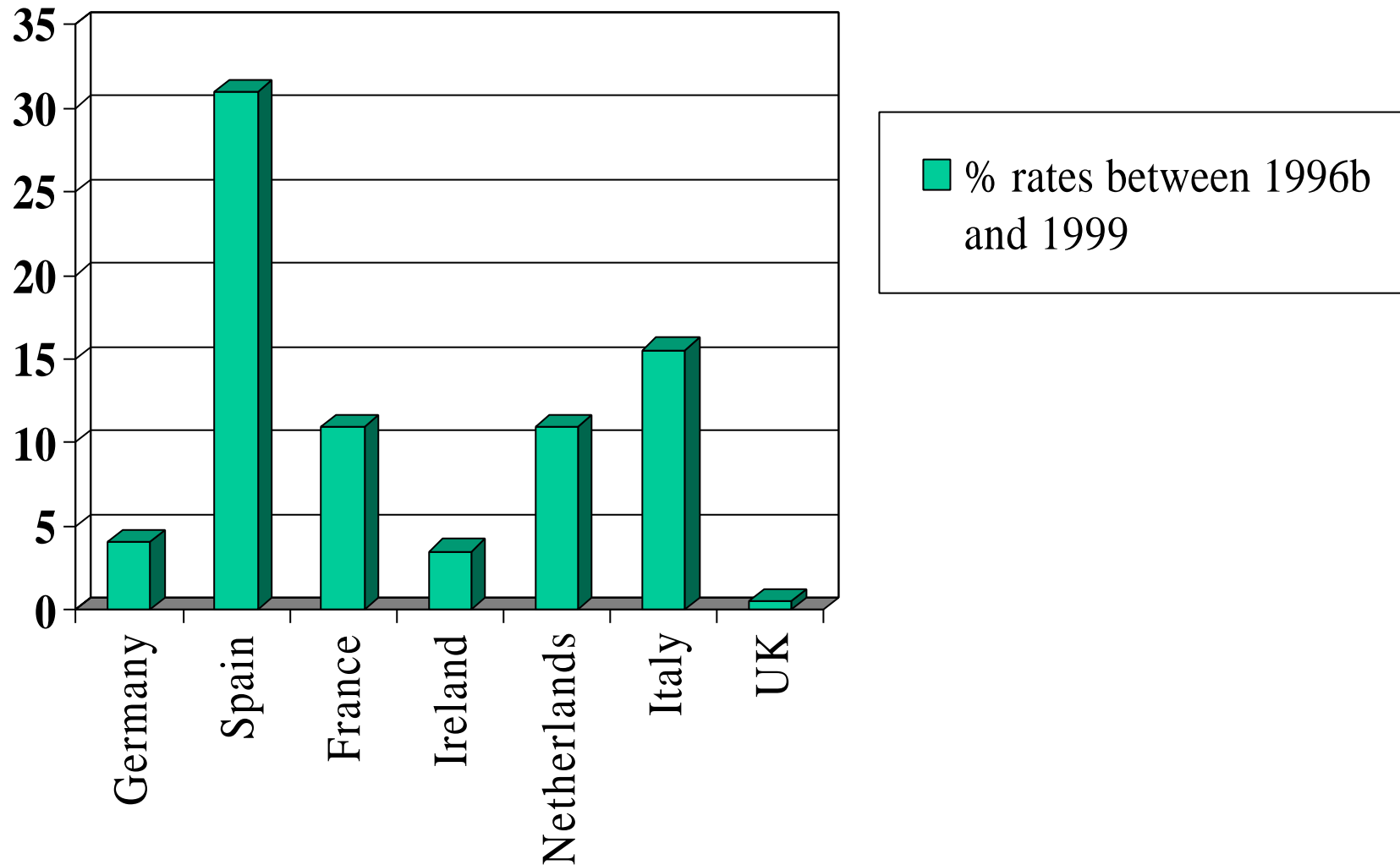


HIV in Injecting Drug Users

Dr David Hawkins

Chelsea and Westminster Hospital

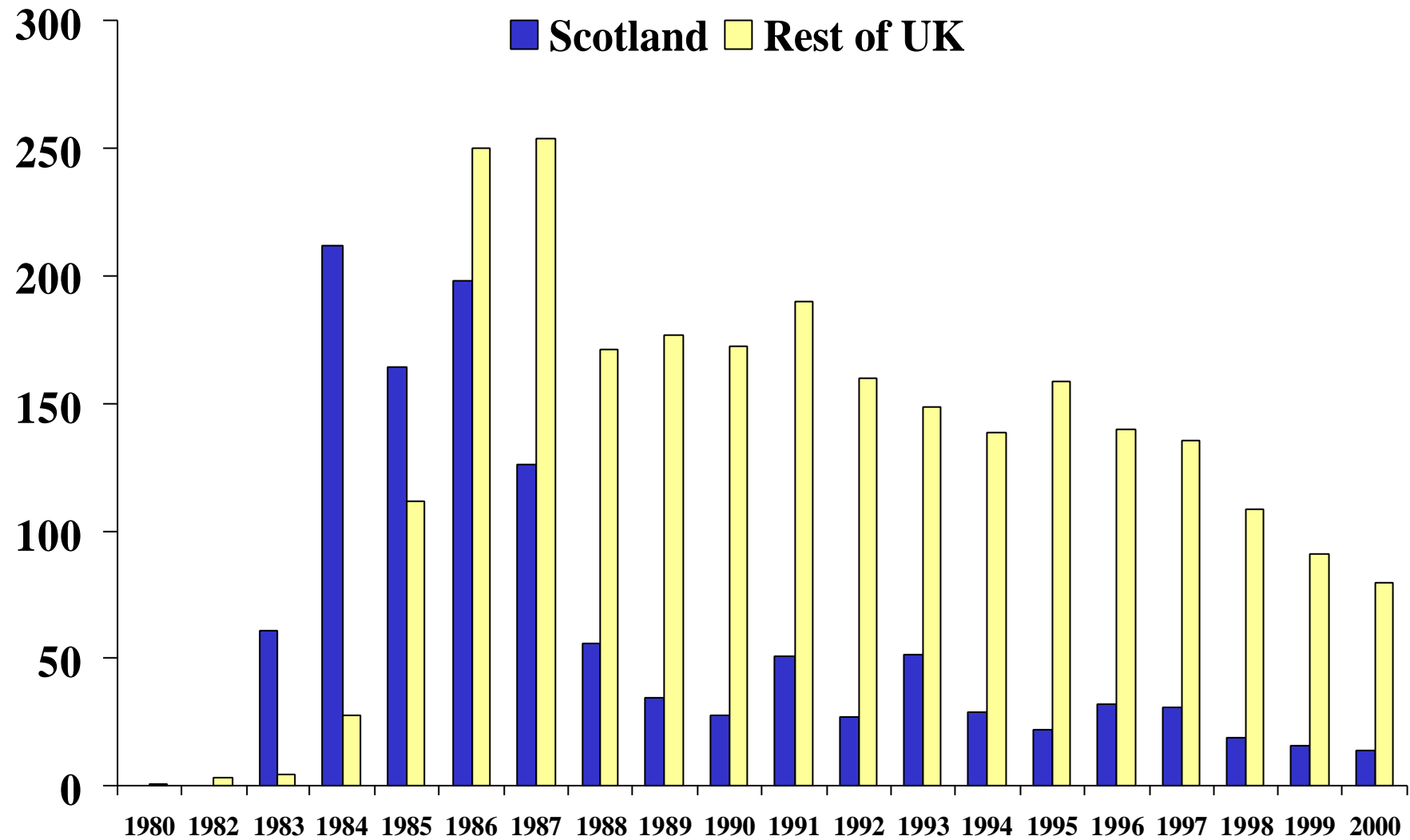
HIV rates among drug injectors in EU countries - EMCDDA (2000)



Education - Risk Reduction

- 1. Graded approach aimed at abstinence**
- 2. Acceptable intermediate goals**
 - sterilise**
 - stop share**
 - stop injecting**
- 3. Role of prescribing**
 - methadone**
 - injectables**
- 4. Problem of non-opiate drugs**
- 5. Sexual**

HIV diagnoses in injecting drug users by year of diagnoses for Scotland and the rest of the UK



Markers of behaviour which are associated with increased risk of HIV transmission

	Data source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<i>Homosexual males</i>											
Homosexually acquired gonorrhoea: No. of cases	KC60* data: England & Wales						1351	1687	1780	1682	1831
HIV positive GUM clinic attenders (Number with acute STIs~)	UA data: 15 clinics in England & Wales	All HIV positives			557	597	596	515	471	404	^
		Acute STIs			(129)	(129)	(163)	(148)	(155)	(134)	^
		% with acute STIs			23%	22%	27%	29%	33%	33%	
		All Undiagnosed HIV infections			140	186	217	174	167	142	^
		Acute STIs			(48)	(71)	(105)	(87)	(80)	(68)	^
		% with acute STIs			34%	38%	48%	50%	48%	48%	
<i>Heterosexuals</i>											
Heterosexually acquired gonorrhoea: No. of cases	KC60 data: England						8611	10242	10682	10819	13741
HIV positive GUM clinic attenders (Number with acute STIs)	England & Wales	HIV positives			163	239	278	338	282	221	^
		Acute STIs			(39)	(59)	(71)	(80)	(77)	(65)	^
		% with acute STIs			24%	25%	26%	24%	27%	29%	
<i>IDUs</i>											
Prevalence of anti-HBc in IDUs who started injecting in last 3 years	England & Wales – UA programme	21%	7%	16%	13%	10%	5%	7%	3%	5%	5%
Acute HepB in IDUs. all lab reports	England & Wales	84	58	63	108	102	146	163	189	250	226^^
Direct sharing of needles and/or syringes in past month	England & Wales – UA programme					17%	17%	18%	17%	32%	33%

* statutory returns from GUM clinics

~ STI - sexually transmitted infection

^ data not available

^^ incomplete data due to reporting delay

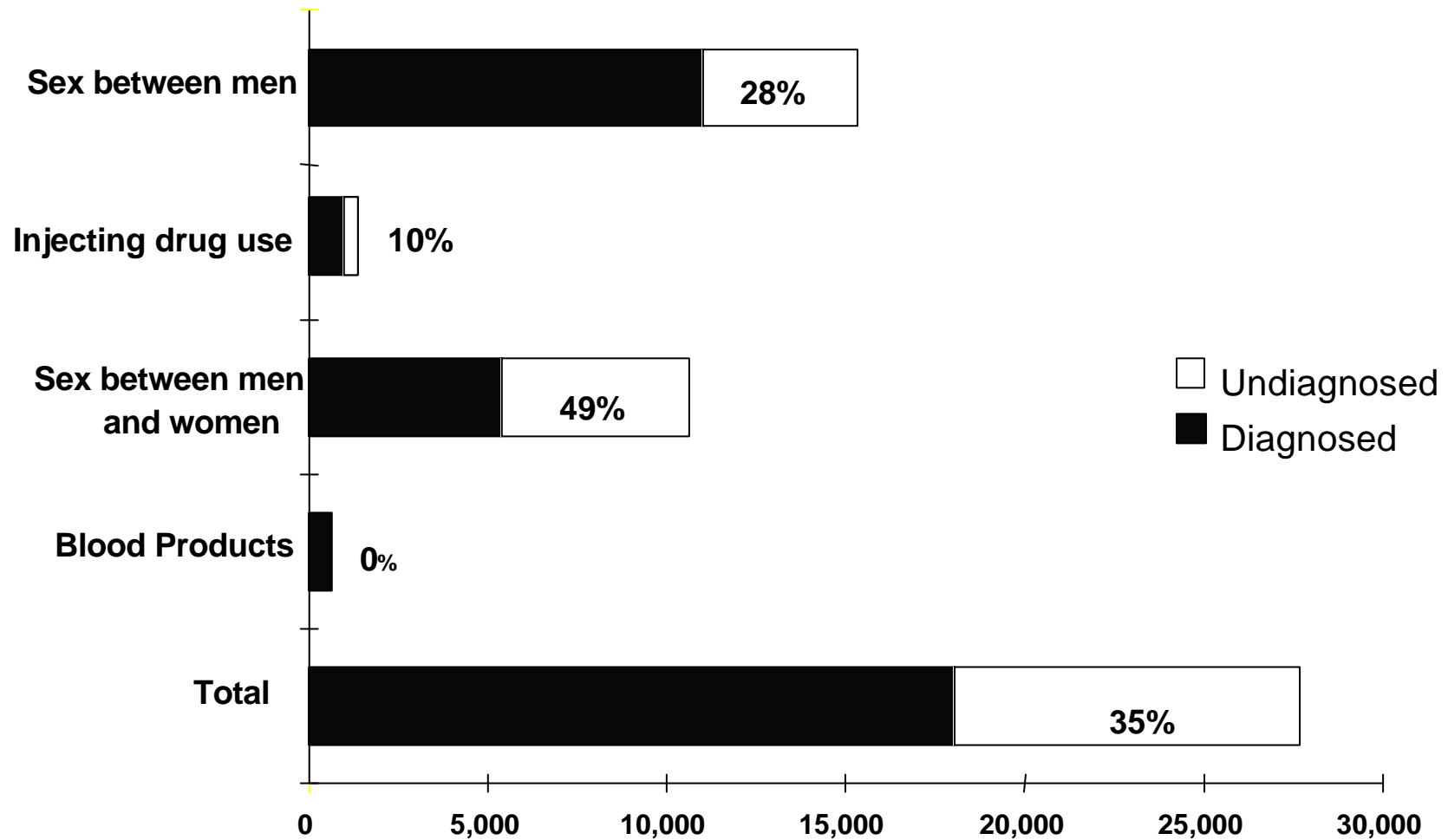
Injecting Drug Users

- ◆ **Increased Equipment Sharing**
- ◆ **Increased Reports of acute Hepatitis B**
- ◆ **No Evidence of increase in HIV transmission**

Year of diagnosis and exposure sub-category for HIV infections probably acquired through heterosexual intercourse by year of diagnosis and exposure sub-category: UK data

How HIV infection was probably acquired	Year of diagnosis															
	1985 or earlier	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Exposure to "high risk" partner(s)																
ie. to partners presumed infected through:																
Sexual intercourse between men	5	8	19	19	17	13	13	22	25	21	15	11	11	11	8	10
Injecting drug use	11	25	29	29	41	41	50	54	54	46	48	42	58	52	27	23
Blood factor treatment (eg. For haemophilia)	13	7	5	8	9	9	5	9	2	2	3	8	1	1	1	0
Blood/tissue (eg. Transfusion)	1	2	0	1	2	1	0	3	4	0	2	3	5	3	4	1
Exposure to presumed heterosexually infected partner(s):																
Exposure abroad - no evidence of high risk partner. Exposed in:																
Africa	40	83	127	134	213	374	448	525	503	530	559	553	639	736	956	1193
Latin America/Caribbean	0	4	4	2	7	11	12	22	25	27	13	24	29	32	62	50
Asia	0	1	3	4	9	5	17	26	28	18	36	43	49	74	68	93
North America	1	2	9	5	8	6	10	14	16	9	8	8	9	15	7	5
Europe	1	6	8	12	12	24	23	37	35	36	42	41	48	43	46	29
Australasia	0	0	0	2	1	1	1	1	2	0	2	1	2	4	6	1
country(ies) not known	3	7	11	1	0	3	1	1	1	2	6	9	4	18	0	0
Exposure in the UK to partner(s) presumed infected:																
outside Europe	2	3	8	9	12	14	16	25	17	37	50	41	75	80	85	90
in Europe	3	6	6	10	20	24	42	31	48	57	47	34	52	40	45	30
Partner(s) exposure category undetermined																
Investigation continuing/closed	1	2	7	5	8	9	8	10	5	6	18	14	22	41	69	221
Total	81	156	236	241	359	535	646	780	765	791	849	832	1004	1150	1384	1746

Estimated prevalent HIV infection in adults in England and Wales - at end 1998



Clinical Aspects of HIV/AIDS in Injecting Drug Users

Do they have the same rate and incidence of progression?

Do they have the same range of illnesses?

Does continued drug use (oral or iv) push them to AIDS?

What is their compliance with monitoring and treatment?

(ART, anti TB, PCP prophylaxis)

Non AIDS HIV Related Deaths in Injecting Drug Users

New York (1980 - 1986)

10 fold increase in TB deaths (3 to 30)

29 fold increase in endocarditis deaths (2 to 58)

56 fold increase in non-PCP pneumonia deaths (3 to 169)

Degree of underestimated of HIV related disease?

Stoneburner et al 1988

Serious Infection in Injecting Drug Users

- ◆ **Endocarditis**
- ◆ **Bacterial pneumonia and sepsis**
- ◆ **Abscesses and cellulitis**

Severity and prognosis worse in those HIV positive

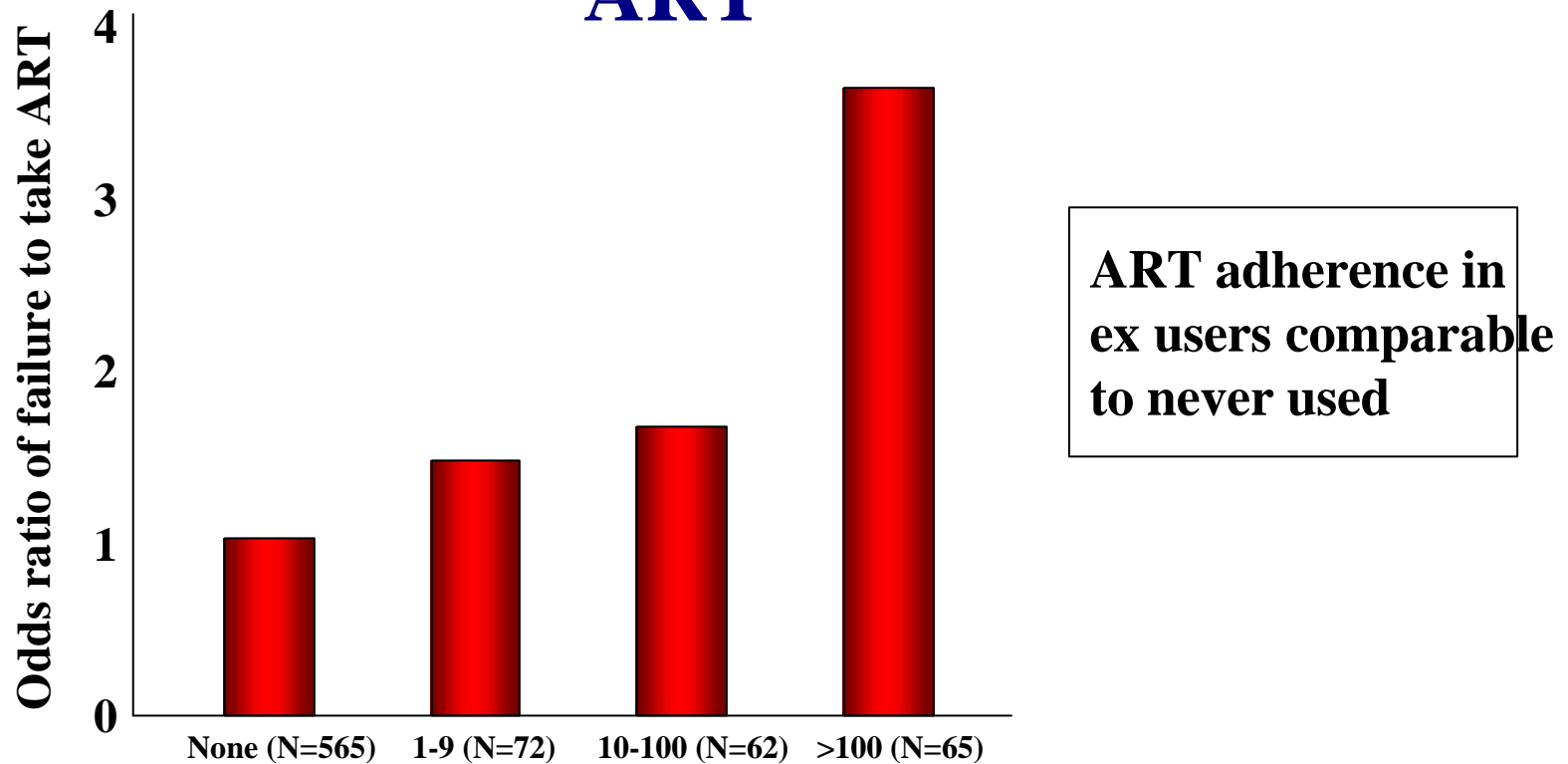
Association Between Active IDU and Progression of HIV Infection

- ◆ **10 studies reviewed by Phillips et al., AIDS 1994;8:385-386**
- ◆ **2/10 - risk of AIDS**
- ◆ **Potential sources of bias**
 - **ceasing of active drug when ill**
 - **confounding effect of lifestyle**
- ◆ **Conclusion: Large adverse effect unlikely**

Antiretroviral Therapy in Illicit Drug Using Populations

- ◆ **Access to ART by IUDs**
- ◆ **Adherence issues**
- ◆ **Importance of drug interaction**
- ◆ **Case history**
- ◆ **Management strategy**

Continued Heroin and/or Cocaine Use Increases Likelihood of Failure to Take ART



Number of days on which drugs were used in previous 6 months

Lucas et al. J AIDS 2001;251-259

Improving ART Adherence in IDUs

- ◆ **Shared care with statutory agencies
DDUs and primary care**
- ◆ **Methadone maintenance**
- ◆ **Once daily treated eg DDI, 3TC, NVP
(Slomo)**
- ◆ **DOT eg DART (Mulcahy)**
- ◆ **Incarceration eg Fischl (100% BLD)
caveat UK prison experience (Taylor))**

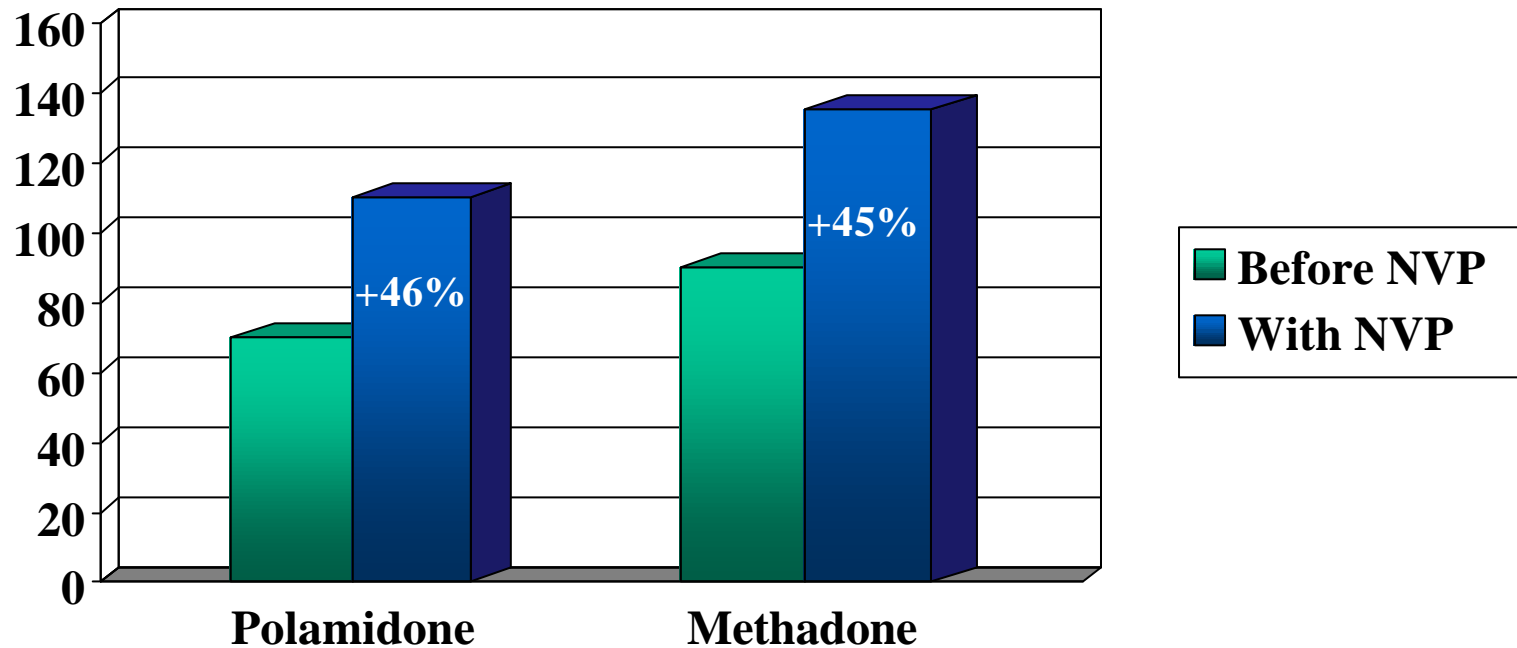
IDUs

Predictable opiate interactions

- ◆ **NVP** - **Methadone levels**
withdrawal symptoms Abs 372
- ◆ **RIT** **Meperidine auc** - **67% in**
HIV-Abs 373

Slomo

**Mean adjustment made to patients'
Methadone/Polamidone dosage (due to induction of
CYP-3A4 by nevirapine)**



Staszewski et al

Effect of Ritonavir on Ecstasy (MDMA) Levels

Ritonavir inhibits CYP2D6

⊕ - MDMA level 2 - 3 X

3 - 10% Cauc. Pop. Poor metabolisers

⊕ - MDMA level 5 - 10 X

Conclusions

Management Strategy for ART in Drug Users

- ◆ **Starting criteria as per any other patients**
- ◆ **Stress**
 - **importance of abstinence or stable drug use**
- ◆ **Modifications to 'optimal' therapy may be required**
 - **treatment of OIs particularly MTB**
 - **low CD4 and chaotic drug use**
- ◆ **Drug - drug interactions may be unpredictable**
 - **implications**