



NATIONAL MICROBIOLOGY REFERENCE UNIT

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Approved Extract from
INFECTION SURVEILLANCE REPORT NO. 9

1998 - 2007

DATA AS AT 6 JULY 2008

This report is a tabular summary of the data submitted to the SNBTS NMRU Infection Surveillance system by 6 July 2008 about positive donations reported from 1 January 1998. All microbiology tested donations which were repeatedly reactive (including those confirmed positive) were isolated and discarded.

Although every effort has been made to avoid errors, data sets are subject to change on receipt of additional information.

The tables and figures should mirror that of the NBA/HPA CDSC system Infection Surveillance Reports (latest available to UK BTS personnel covers period October 1995 to December 2007).

Comments are invited to help develop a more informative report.

B C Dow
7 July 2008

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TABLE 1

Confirmed positive results detected in blood donors. Donations collected during 1998 to 2007. Note –Positive donations were not transfused.

	Infections in Blood Donors during 1998 - 2006					Infections in Blood Donors during 2007				
	HBV	HCV	HIV	HTLV*	TREP	HBV	HCV	HIV	HTLV	TREP
Donations with confirmed marker of infection	78	236	22	7	78	5	13	0	1	10
- per 100,000 donations tested	3.12	9.46	0.88	0.36	3.12	2.07	5.38	-	0.41	4.14
- Positive rate	31,956	10,561	113,299	274,099	31,956	48,270	18,565	-	241,351	24,135
donations from new donors	53	155	10	5	34	5	9	0	1	4
- per 100,000 donations tested	20.08	58.74	3.79	2.47	12.88	20.45	36.81	-	4.09	16.36
- Positive rate	4,978	1,702	26,384	40,478	7,760	4,889	2,716	-	24,445	6,111
donations from repeat donors	25	81	12	2	44	0	4	0	0	6
- per 100,000 donations tested	1.12	3.63	0.53	0.11	1.97	-	1.84	-	-	2.76
-Positive rate	89,149	27,515	185,727	858,150	50,653	-	54,226	-	-	36,151

*based on 2000-2001 retrospective testing

HBV = Hepatitis B virus (“serum hepatitis”)

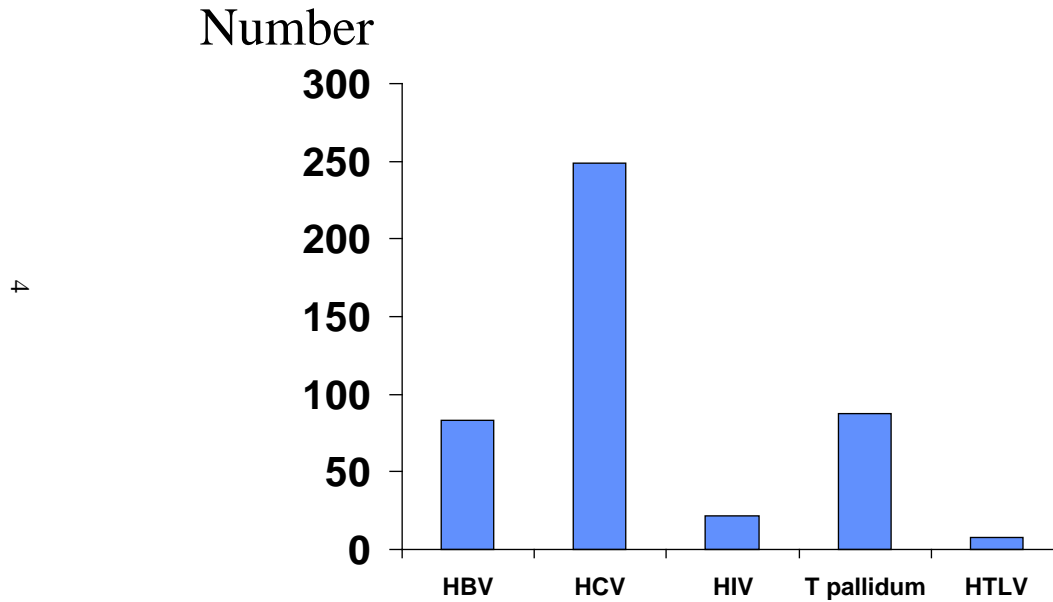
HCV = Hepatitis C virus

HIV = Human Immunodeficiency Virus

HTLV = Human T cell Lymphotropic Virus (associated with neurological complications and, very rarely, leukaemia)

TREP = Treponema Pallidum (Syphilis) test. The test detects past (treated) infection as well as (rare) current infection. There are also cross reactions with other bacteria.

**Figure 1: Confirmed positive tests detected in Scottish blood donors.
Donations collected from 1/1/98 to 31/12/07. All positive donations discarded.**



HBV = Hepatitis B virus ("serum hepatitis")

HCV = Hepatitis C virus

HIV = Human Immunodeficiency Virus

HTLV = Human T cell Lymphotropic Virus (associated with neurological complications and, very rarely, leukaemia)

TREP = Treponema Pallidum (Syphilis) test. The test detects past (treated) infection as well as (rare) current infection. There are also cross reactions with other bacteria.

TABLE 2

Exposure categories of positive blood donors: Donations collected 1998 – 2007 (HTLV data only 2000-2007)

	1998-2007				
Positive Microbiological marker					
How infection was probably acquired	HBsAg	HCV	HIV	Treponema pallidum	HTLV
Injecting drug use	1(1%)	58 (28%)	0	0	0
Sex between men	0	0	10 (45%)	1 (1%)	0
Sex between men & women with one or more partner(s) who:-					
Is or was an injecting drug user	0	28 (13%)	0	0	0
exposure to high risk partner(s)	5 (7%)	4 (2%)	4 (18%)	3 (4%)	0
exposure abroad	3 (4%)	3 (1%)	2 (9%)	9 (14%)	0
exposure in the UK	0	1 (1%)	2 (9%)	11 (17%)	0
incomplete information	0	4 (2%)	1 (4%)	3 (4%)	0
Blood factor treatment	0	0	0	0	0
Blood/tissue/organ recipient	3 (4%)	31 (14%)	0	0	0
Occupational exposure to blood	1 (1%)	8 (4%)	0	0	0
Other known exposure.	8 (11%)	28 (13%)	1 (4%)	0	1 (16%)
Unknown	51 (72%)	76 (36%)	6 (27%)	30 (46%)	5 (83%)
?Vaccine (unproven)	1 (1%)	0	0	0	0
History of syphilis admitted	0	0	0	9 (14%)	0
Total	70	207	22	64	6

TABLE 3: HCV positive blood donations: Scotland
 Donations collected since anti-HCV testing commenced on 01/09/91 to 31/12/07

	New donors			Repeat donors ¹			Total		
	HCV infected	Donations tested	Rate per 100,000	HCV infected	Donations tested	Rate per 100,000	HCV infected	Donations tested	Rate per 100,000
1991 Sep-Dec	33	12,935	255.12	66	96,646	68.29	99	109,581	90.34
1992	55	34,879	157.69	102	297,946	34.23	157	332,825	47.17
1993	30	31,149	96.31	60	281,053	21.35	90	312,202	28.83
1994	25	29,396	85.05	39	283,313	13.77	64	312,709	20.47
1995	49	29,778	164.55	20	274,952	7.27	69	304,730	22.64
1996	34	29,905	113.69	19	270,782	7.02	53	300,687	17.63
1997	40	29,968	133.48	20	263,700	7.58	60	293,668	20.43
1998	27	28,667	94.18	16	256,438	6.23	43	285,105	15.08
1999	26	32,785	79.30	15	255,994	5.85	41	288,779	14.19
2000	19	33,414	56.86	12	249,023	4.81	31	282,437	10.97
2001	17	28,844	58.93	5	252,187	1.98	22	281,031	7.82
2002	13	29,062	44.73	13	247,159	5.25	26	276,221	9.41
2003	12	28,449	42.18	11	249,605	4.40	23	278,054	8.27
2004	19	31,765	59.81	7	258,944	2.70	26	290,709	8.94
2005	12	26,456	45.35	0	235,449	0	12	261,905	4.58
2006	10	24,404	40.97	2	223,934	0.89	12	248,338	4.83
2007	9	24,445	36.81	4	216,906	1.84	13	241,351	5.38
Total	430	486,301	88.42	411	4,214,031	9.75	841	4,700,332	17.89

¹Including repeat donors newly tested for HCV infection

HCV Nucleic acid testing (NAT) was introduced in July 1999 and has detected one anti-HCV serological negative donation in around 1.7 million donations.

Figure 3 HCV positive discarded blood donations: Scotland
 Donations collected between 1/9/91 and 31/12/07

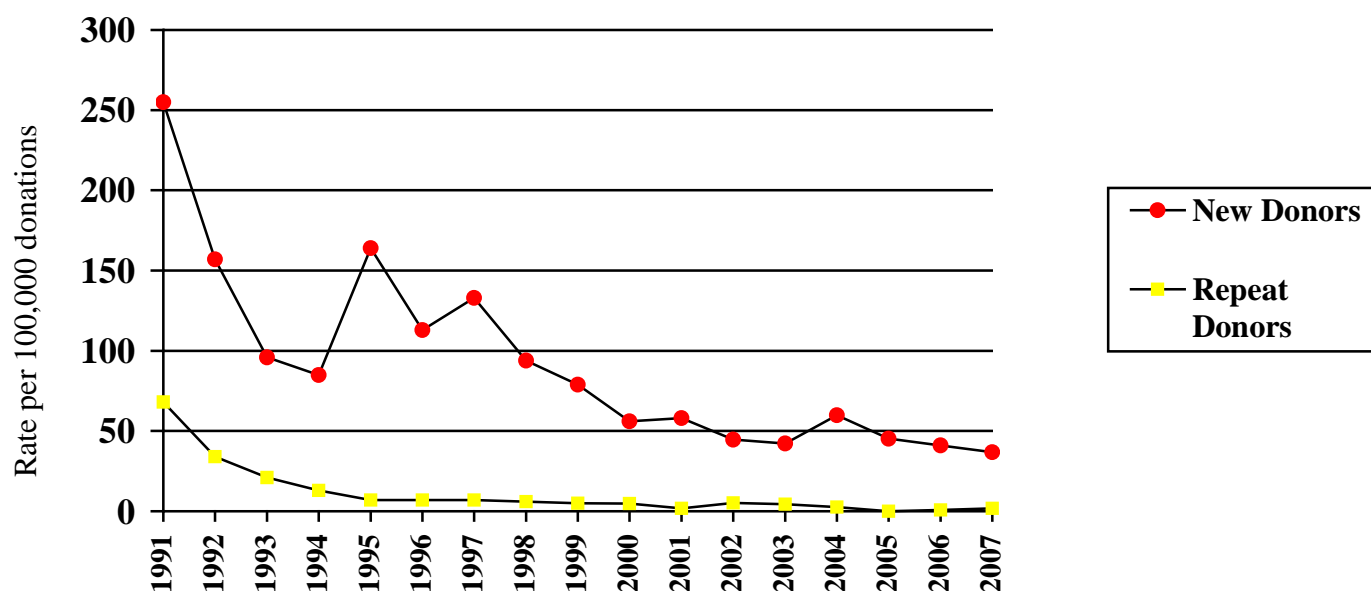


TABLE 4: HIV positive blood donations: Scotland
 Donations collected since anti-HIV testing commenced on 01.10.85 to 31.12.07

	New donors			Repeat donors			Total		
	HIV infected	Donations tested	Rate per 100,000	HIV infected	Donations tested	Rate per 100,000	HIV infected	Donations tested	Rate per 100,000
1985 Oct-Dec	2	9595*	20.8	2	57,760*	3.46	4	67,355	5.94
1986	6	47,301	12.70	8	285,172	2.80	14	332,473	4.34
1987	6	40,957	14.50	4	259,742	1.53	10	300,699	3.32
1988	1	40,731	2.43	2	272,217	0.73	3	312,948	0.96
1989	4	42,788	9.35	5	278,183	1.79	9	320,971	2.80
1990	2	41,994	4.75	2	290,242	0.69	4	332,236	1.20
1991	2	52,117	3.83	1	306,242	0.32	3	358,359	0.84
1992	1	34,879	2.86	4	297,946	1.34	5	332,825	1.50
1993	2	31,149	6.26	4	281,053	1.42	6	312,202	1.92
1994	2	29,396	6.80	2	283,313	0.70	4	312,709	1.28
1995	1	29,778	3.35	0	274,952	0.00	1	304,730	0.33
1996	1	29,905	3.34	3	270,782	1.10	4	300,687	1.33
1997	1	29,968	3.33	2	263,700	0.75	3	293,668	1.02
1998	0	28,667	0.00	3	256,438	1.16	3	285,105	1.05
1999	1	32,785	3.05	1	255,994	0.39	2	288,779	0.69
2000	0	33,414	0.00	0	249,023	0.00	0	282,437	0.00
2001	1	28,844	3.46	0	252,187	0.00	1	281,031	0.35
2002	2	29,062	6.88	5	247,159	2.02	7	276,221	2.53
2003	2	28,449	7.03	1	249,605	0.40	3	278,054	1.07
2004	0	31,765	0.00	1	258,944	0.38	1	290,709	0.34
2005	3	26,456	11.33	1	235,449	0.42	4	261,905	1.52
2006	1	24,404	4.09	0	223,934	0.00	1	248,338	0.40
2007	0	24,445	0.00	0	216,906	0.00	0	241,351	0.00
Total	41	748,849	5.47	51	5,866,943	0.86	92	6,615,792	1.39

* estimate

HIV Nucleic acid testing was introduced at the end of 2002 to improve the detection of window period donations in the early acute stage of infection.

Fig 4 HIV positive discarded blood donations: Scotland
 Donations collected between 1/10/85 and 31/12/07

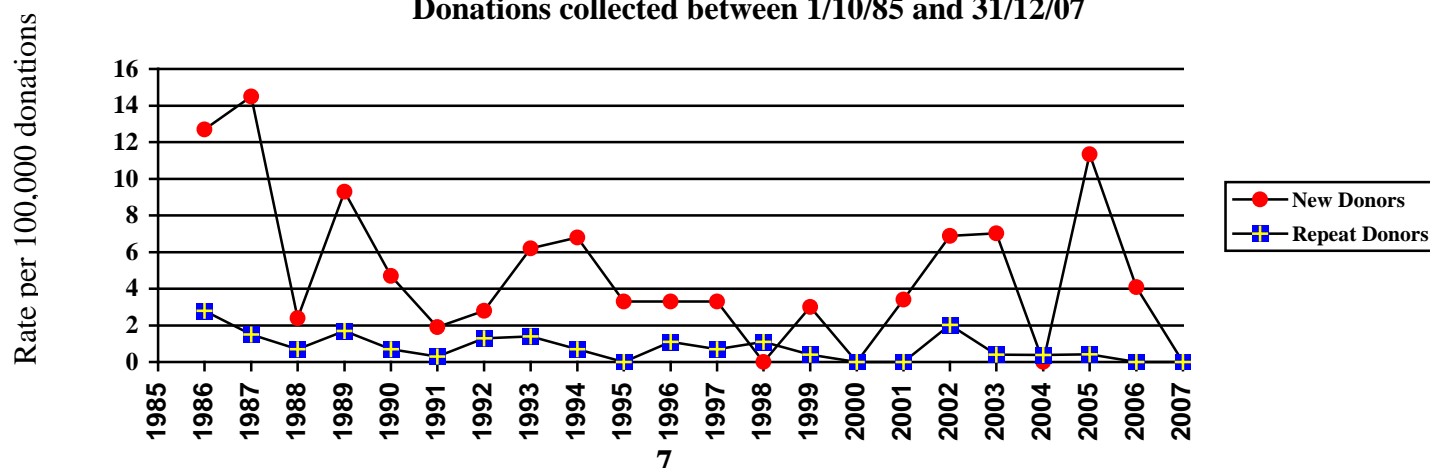


TABLE 5:
HBsAg positive blood donations: Scotland
Donations collected from 01.01.91 to 31.12.07

	New donors			Repeat donors			Total		
	HBsAg infected	Donations tested	Rate per 100,000	HBsAg infected	Donations tested	Rate per 100,000	HBsAg infected	Donations tested	Rate per 100,000
1991	9	52,117	17	7	306,242	2.28	16	358,359	4.46
1992	12	34,879	34	2	297,946	0.67	14	332,825	4.20
1993	14	31,149	45	2	281,053	0.71	16	312,202	5.12
1994	12	29,396	40	2	283,313	0.70	14	312,709	4.47
1995	5	29,778	17	1	274,952	0.36	6	304,730	1.96
1996	12	29,905	40	2	270,782	0.73	14	300,687	4.65
1997	5	29,968	16	4	263,700	1.51	9	293,668	3.06
1998	8	28,667	28	4	256,438	1.55	12	285,105	4.20
1999	5	32,785	15	6	255,994	2.34	11	288,779	3.81
2000	10	33,414	29	1	249,023	0.40	11	282,437	3.89
2001	5	28,844	17	1	252,187	0.39	6	281,031	2.13
2002	3	29,062	10	3	247,159	1.21	6	276,221	2.17
2003	6	28,449	21	2	249,605	0.80	8	278,054	2.87
2004	9	31,765	28	4	258,944	1.54	13	290,709	4.47
2005	2	26,456	7	3	235,449	1.27	5	261,905	1.90
2006	5	24,404	20	1	223,934	0.44	6	248,338	2.41
2007	5	24,445	20	0	216,906	0.00	5	241,351	2.07
Total	127	525,483	24	45	4,423,627	1.01	172	4,949,110	3.47

HBsAg blood donation screening has been in place since 1971.

Figure 5 HBsAg positive discarded blood donations: Scotland
Donations collected between 1.1.91 and 31.12.07

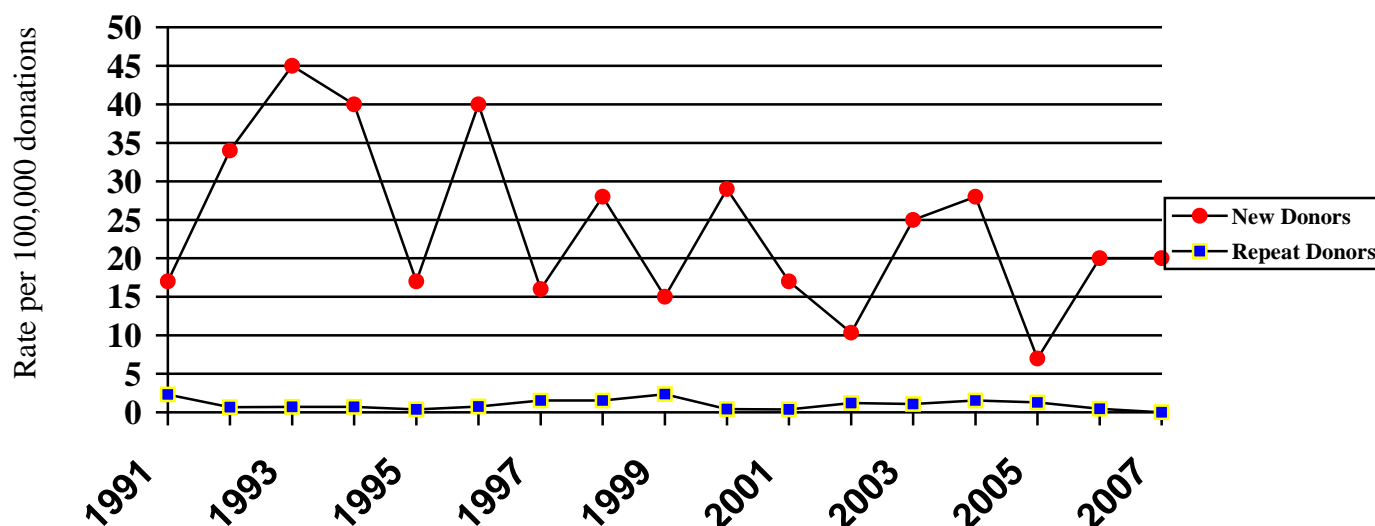


TABLE 6
Treponema antibody positive blood donations: Scotland

Donations collected from 01.01.98 to 31.12.07

	New donors			Repeat donors			Total		
	Treponema Antibody	Donations Tested	Rate per 100,000	Treponema Antibody	Donations Tested	Rate per 100,000	Treponema Antibody	Donations Tested	Rate per 100,000
1998	7	28,667	24	8	256,438	3.1	15	285,105	5.2
1999	5	32,785	15	11	255,994	4.2	16	288,779	5.5
2000	5	33,414	14	7	249,023	2.8	12	282,437	4.2
2001	4	28,844	13	7	252,187	2.7	11	281,031	3.9
2002	2	29,062	6.9	2	247,159	0.8	4	276,221	1.4
2003	2	28,449	7.0	3	249,605	1.2	5	278,054	1.8
2004	2	31,765	6.29	1	258,944	0.38	3	290,709	1.03
2005	2	26,456	7.55	1	235,449	0.42	3	261,905	1.14
2006	5	24,404	20.48	4	223,934	1.78	9	248,338	3.62
2007	4	24,445	16.36	6	216,906	2.76	10	241,351	4.14
Total	38	288,291	13.18	50	2,445,639	2.04	88	2,733,930	3.21

Figure 6 T pallidum antibody positive blood donations: Scotland.
Donations collected between 1/1/98 and 31/12/07

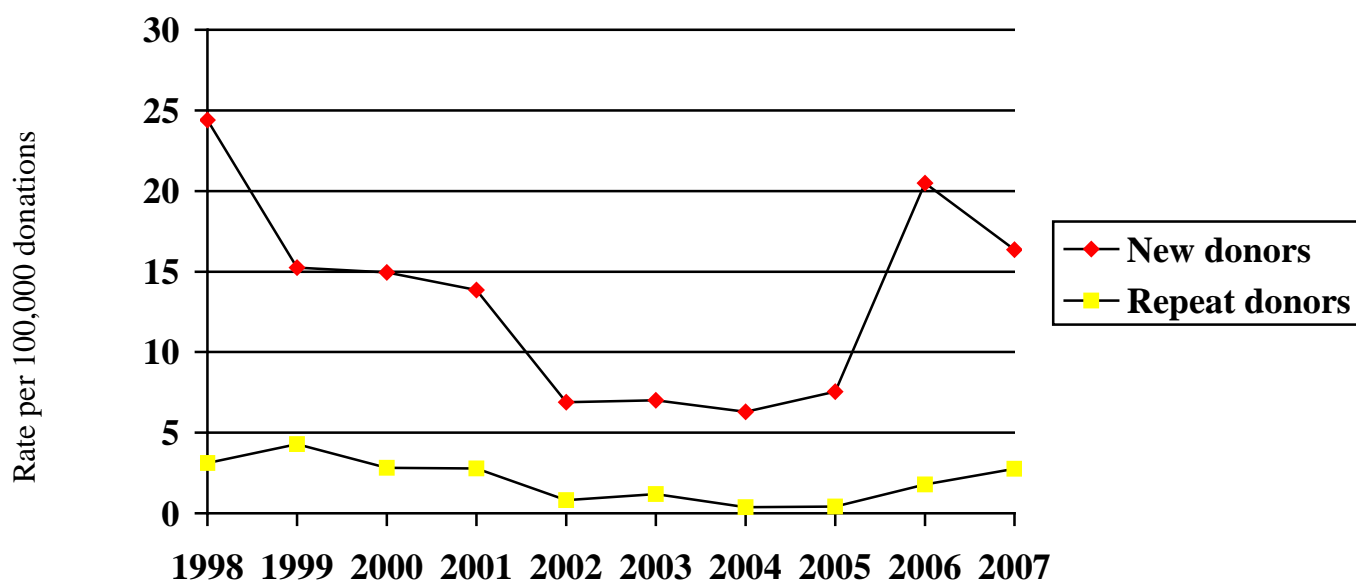


TABLE 7
HTLV antibody positive blood donations: Scotland
 Donations collected from 01.01.00 to 31.12.07

	New donors			Repeat donors			Total		
	HTLV Antibody	Donations Tested	Rate per 100,000	HTLV Antibody	Donations Tested	Rate per 100,000	HTLV Antibody	Donations Tested	Rate per 100,000
2000	3	33,414	8.97	1	249,023	0.40	4	282,437	1.41
2001	1	28,844	3.46	1	252,187	0.39	2	281,031	0.71
2002	0	29,062	-	0	247,159	-	0	272,221	-
2003	0	28,449	-	0	249,605	-	0	278,054	-
2004	0	31,765	-	0	258,944	-	0	290,709	-
2005	1	26,456	3.77	0	235,449	-	1	261,905	0.38
2006	0	24,404	-	0	223,934	-	0	248,338	-
2007	1	24,445	4.09	0	216,906	-	1	241,351	0.41
Total	6	226,839	2.64	2	1,933,207	0.10	8	2,160,046	0.37

Figure 7 HTLV antibody positive blood donations: Scotland.
 Donations collected between 1/1/00 and 31/12/07

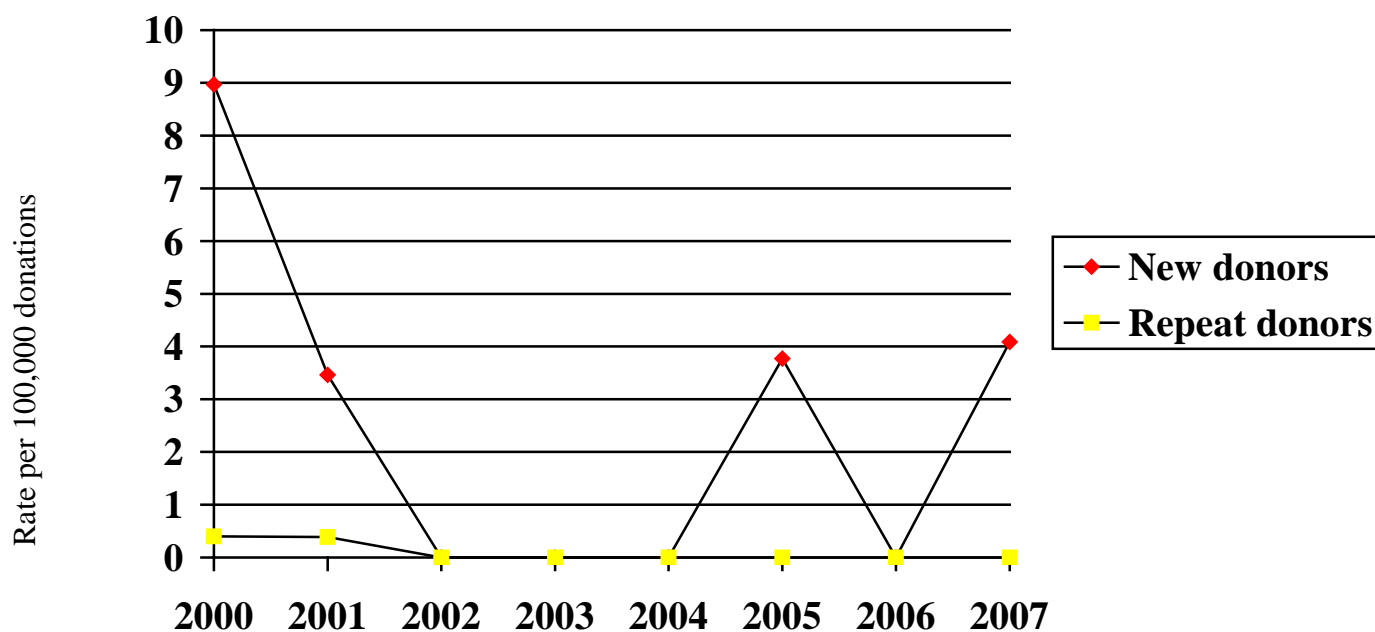


TABLE 8: Cumulative confirmed reports of transfusion transmitted infection: reported from 1998 to 2007 by date of actual transfusion

	Year of implicated transfusion																		
	Pre 1991	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
HBV	0	0	0	0	0	0	0	0	0	2*	0	0	0	1	0	1	0	0	4
HCV	8	1 ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
HIV	1 ¹	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
HTLV	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Trep- onema	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bacteria	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	1	5

¹ Pre-1985 (ie before HIV screening)

² Pre anti-HCV test implementation in September 1991

*same donation involved in 2 separate cases

Note that all HCV, HTLV and HIV infections were detected in donations prior to introduction of mandatory testing