



TERVEYDEN JA HYVINVOINNIN LAITOS

Hepatitis surveillance system and epidemiology in Northern Finland

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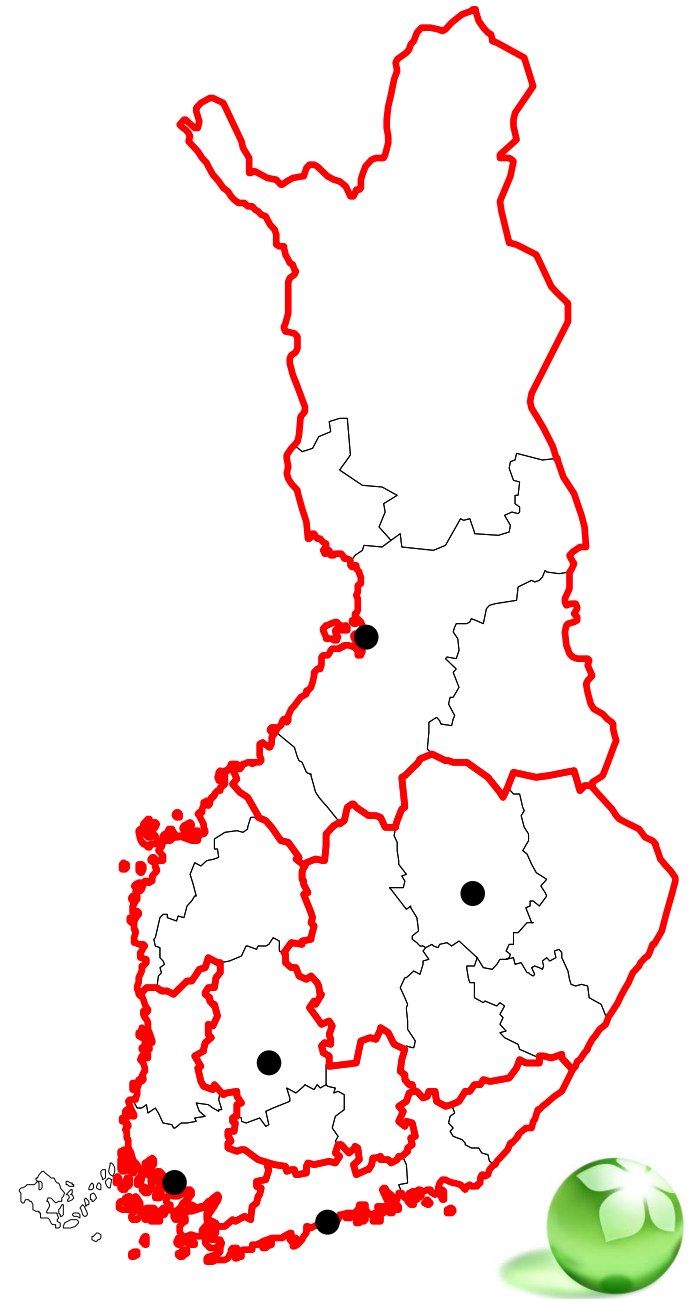
Finland - country profile

- Population 5.4 million, density 16 per sq km
- Health care system
 - > 95 % hospitals in public sector
 - majority of outpatient services in public sector
 - > 90 % clinical microbiology examinations in public sector
- Clinical microbiology
 - approximately 30 laboratories with significant volume
 - tests used widely and relatively uniformly
 - **labs require renewable licensure, with compulsory EQA**



Finland – country profile

- All primary responsibilities at municipal level
 - N=183; population 500 - 560 000
- *Hospital districts: specialist care, consultant role*
 - N= 20+1; population 50 000 - 1 500 000
 - 5 of these are university hospitals
 - Northern Finland = Lapland
 - population ~120 000
 - 86 000 sq km
 - Central hospital in Rovaniemi
- State Provincial Office, Medical Officer
- *Sectoral research institutions under ministry, consultant role*
 - National Institute for Health and Welfare (THL)
- Ministry of Social Welfare and Health



Flow of data and information in NIDR 1.1.2009 -

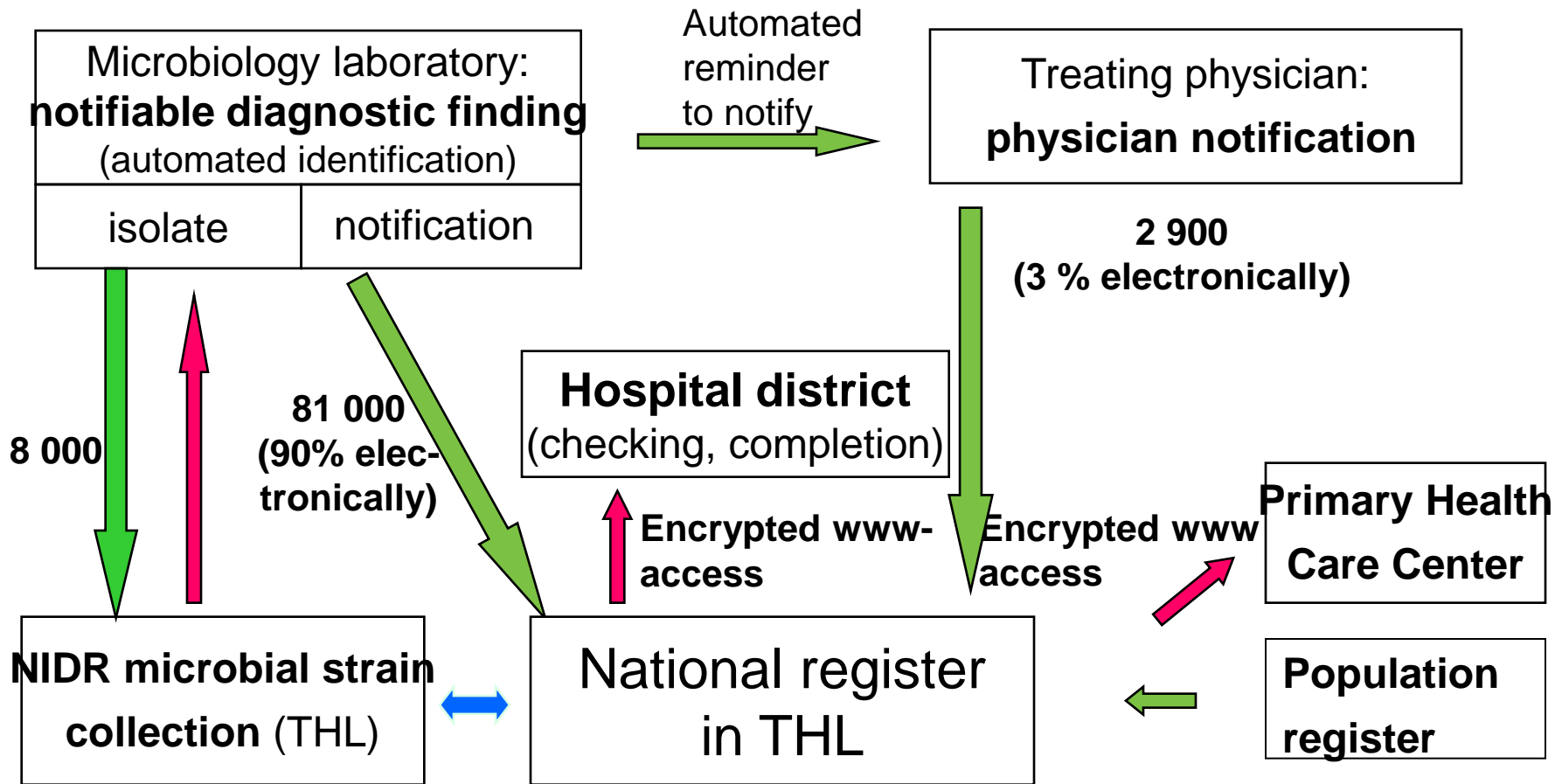
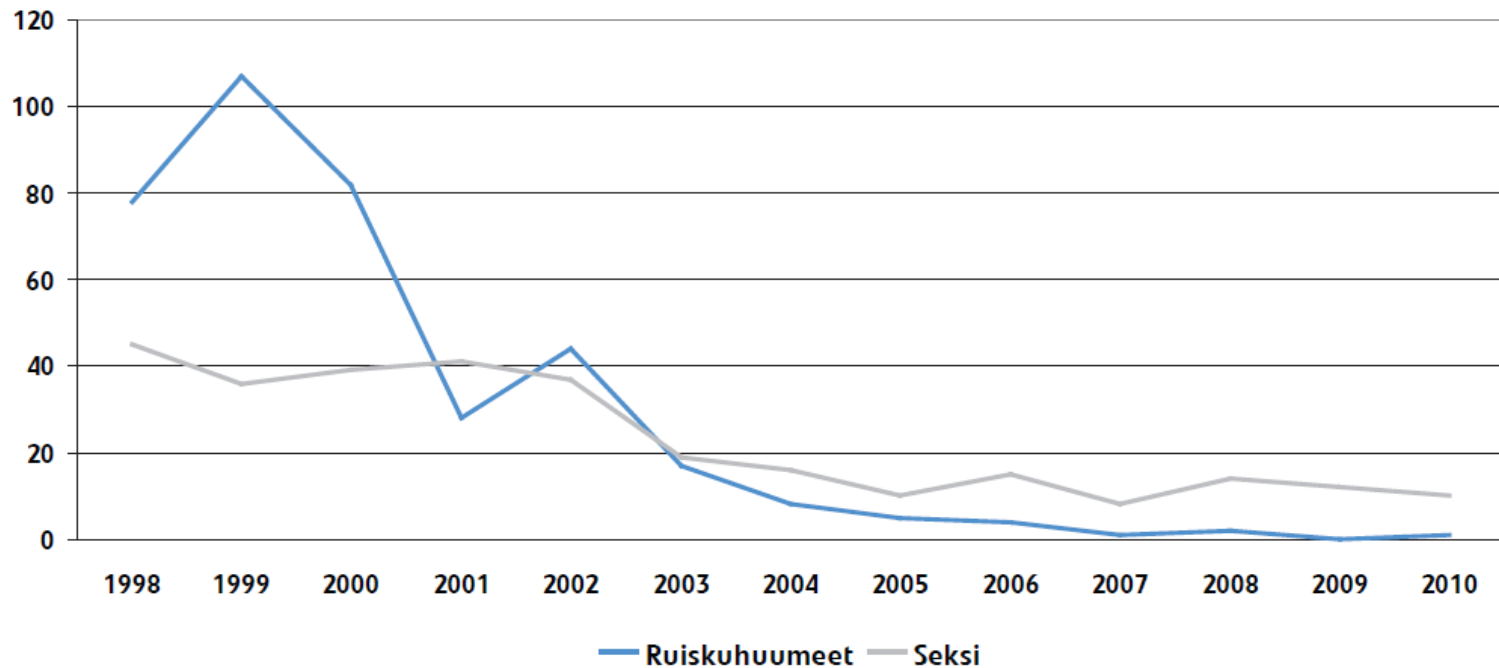


Table 6. Hepatitis A cases by origin 1995–2009, number.

	Foreign origin	Domestic origin	Unknown	Total
1995	33	81	49	163
1996	40	90	56	186
1997	48	72	49	169
1998	34	58	26	118
1999	19	17	12	48
2000	24	18	9	51
2001	20	25	6	51
2002	37	293	63	393
2003	16	155	72	243
2004	21	9	12	42
2005	17	7	2	26
2006	11	7	8	26
2007	9	4	2	15
2008	13	3	6	22
2009	8	7	7	22



Acute hepatitis B by mode of transmission 1998 - 2010



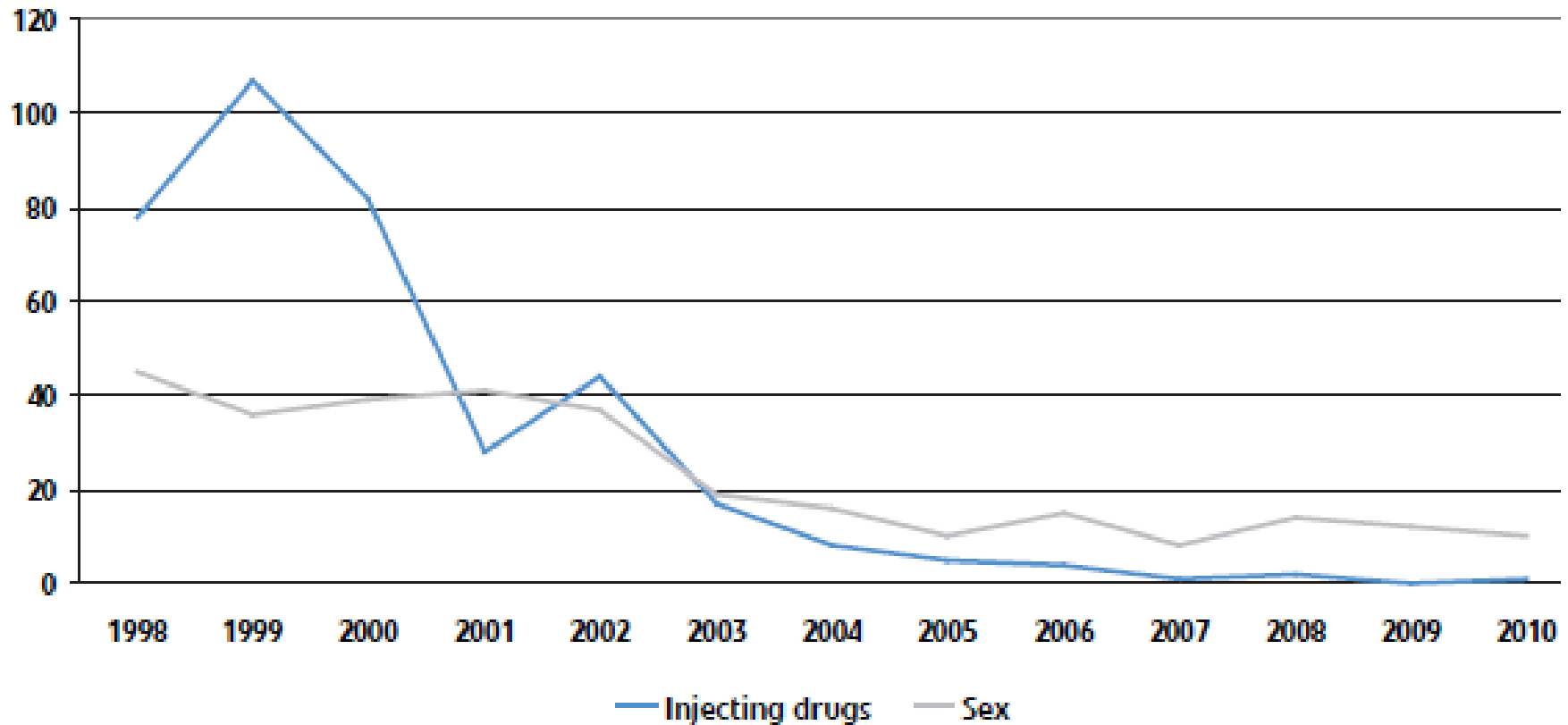


Figure 10. Acute hepatitis B cases involving intravenous drug use and sexually transmitted infections, 1998–2010 (no. of cases).



Table 2. All cases of hepatitis C according to physicians' reports, organised by means of transmission, 2000–2010.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Injecting drugs	937	826	717	637	615	629	578	468	574	516	596
Sex	40	42	45	46	60	62	72	68	74	70	73
Perinatal	6	3	3	1	11	5	5	3	11	9	10
Blood products	25	20	19	22	18	24	7	21	20	2	9
Other	31	31	28	35	31	34	37	28	34	31	38
Unknown	700	565	560	524	506	490	469	577	429	422	406
Total	1739	1487	1372	1265	1241	1244	1168	1165	1142	1050	1132



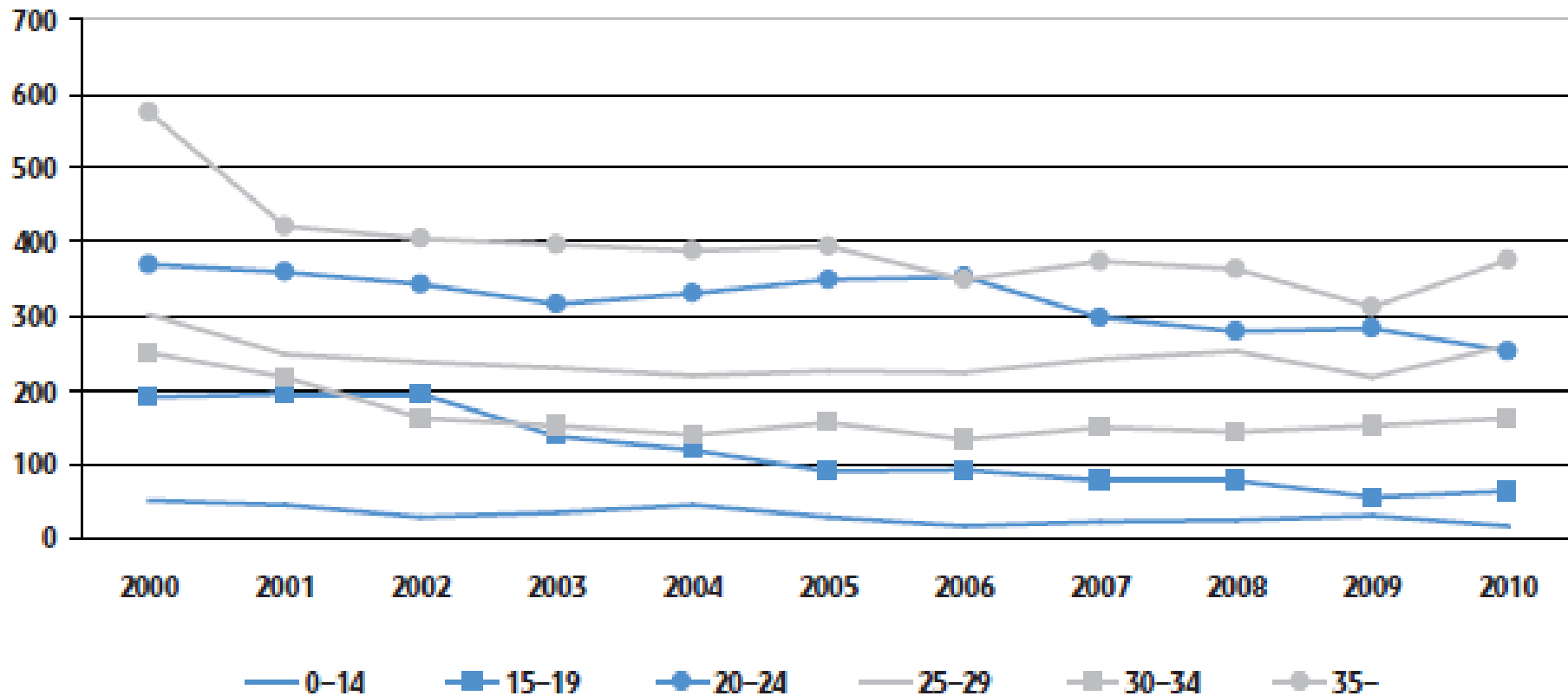


Figure 11. Hepatitis C by age group, 2000–2010 (no. of cases).



Hepatitis C, cases/100,000 population

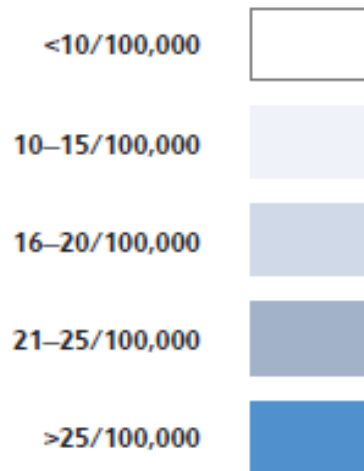
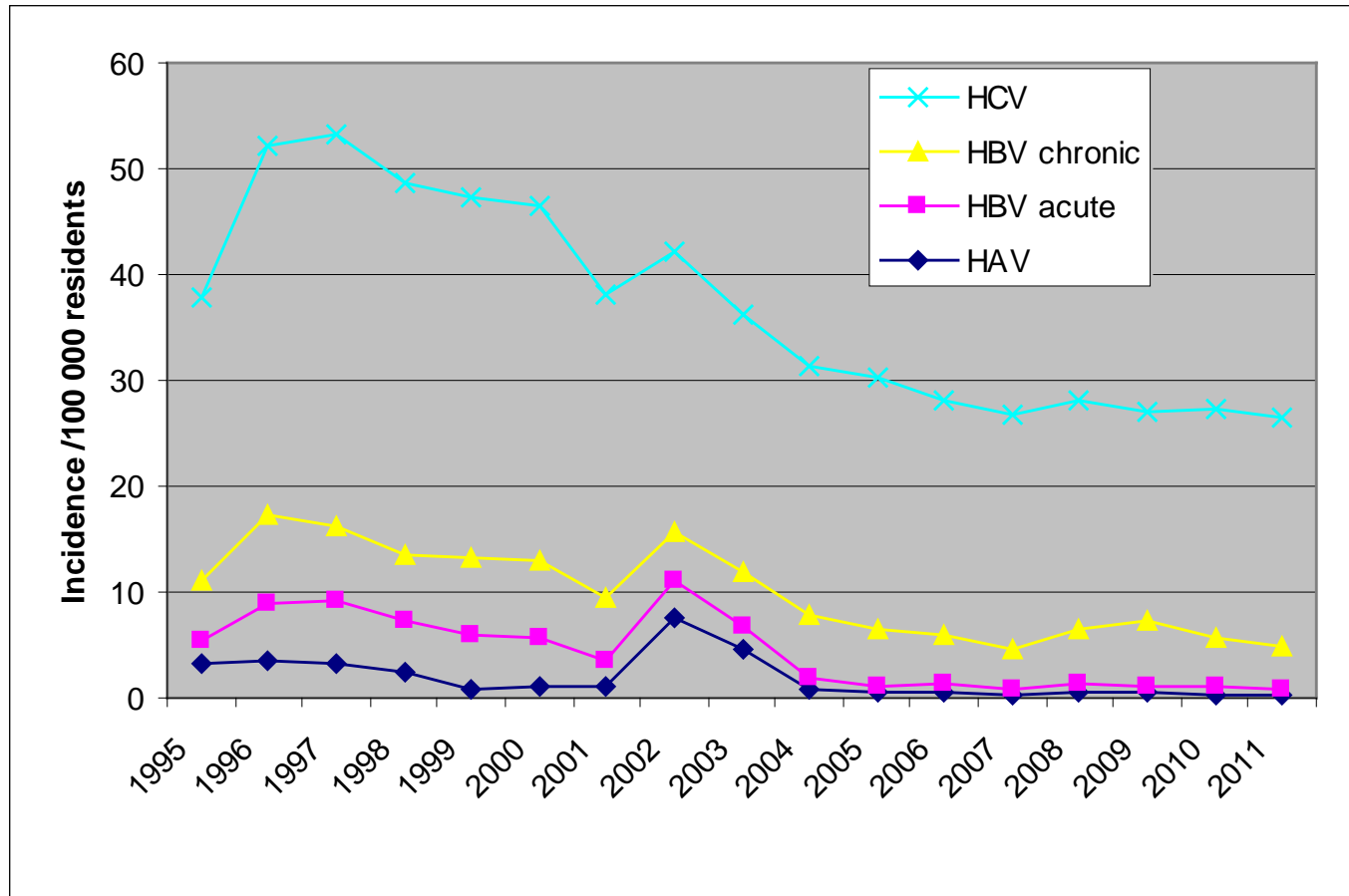


Figure 12. Incidence of Hepatitis C in Finland 2010.



Annual incidences of hepatitis A, B and C during years 1995-2011, in Finland



Hepatitis cases in Lapland Hospital District, years 2007-2011

	HAV		HBV acute		HBV chronic		HCV	
	N	Incid.	N	Incid.	N	Incid.	N	Incid.
2007	2	1,69	1	0,84	7	5,90	25	21,06
2008	0	-	6	5,06	6	5,06	24	20,24
2009	3	2,53	2	1,69	11	9,29	17	14,36
2010	0	-	0	-	5	4,22	23	19,43
2011	3	2,53	0	-	4	3,38	25	21,12

- Incidence /100000 residents

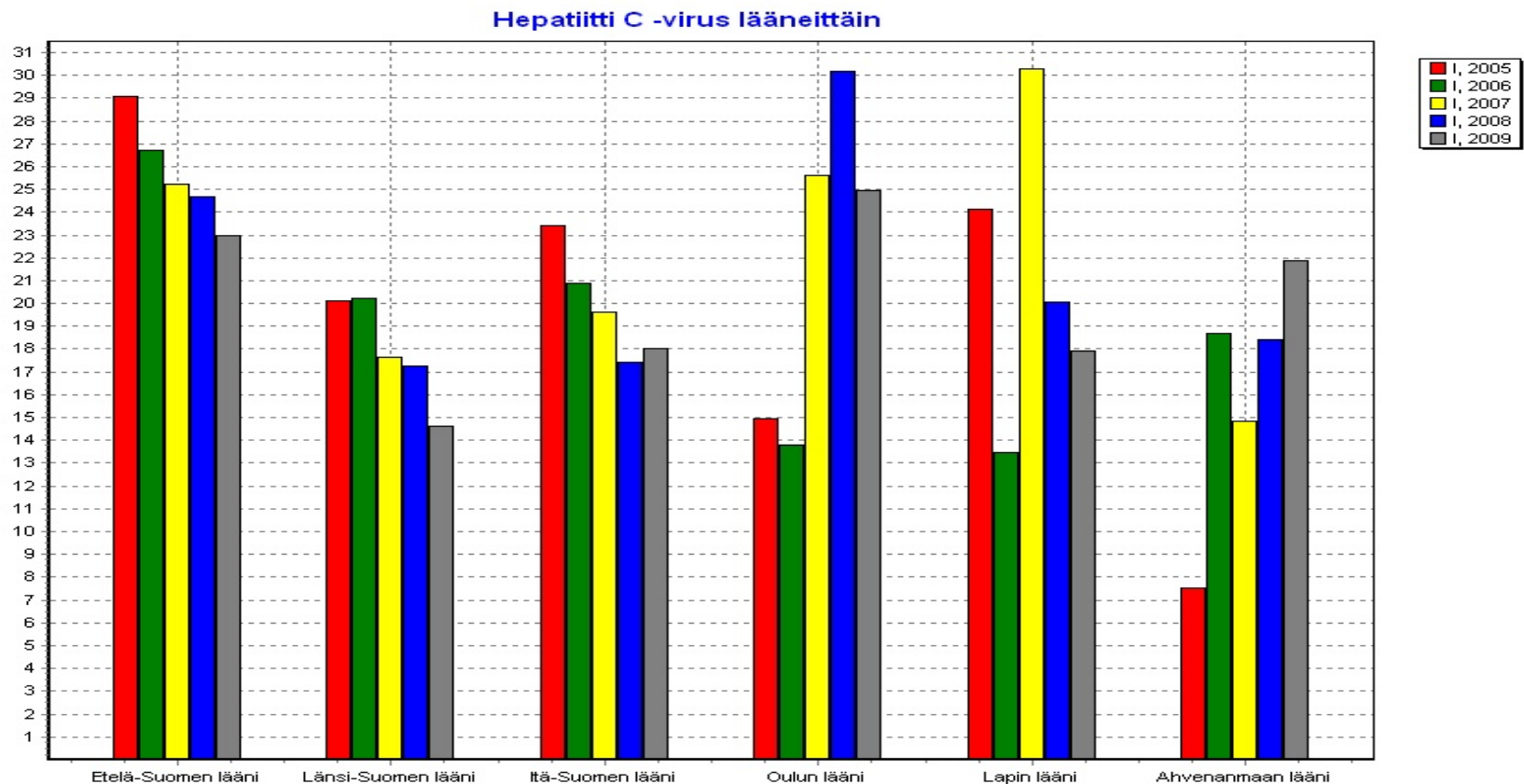


Nationality of hepatitis cases notified in 2011 in Finland

	HAV		HBV acute		HBV chronic		HCV	
	%	(N)	%	(N)	%	(N)	%	(N)
Finland	93.3	(14)	79.2	(19)	18.6	(41)	84.4	(974)
Other	6.7	(1)	8.3	(2)	52.3	(115)	8.8	(101)
Not known			12.5	(3)	29.1	(64)	6.8	(79)



C-hepatiitti incidence in Finnish provinces during 2005-2009



Transmission in infection reported to Register of Infectious Diseases in 2011

	HBV acute	HBV chronic	HCV
Intravenous drug use		0.4 (1)	49.2 (597)
Sexual contact	41.7 (10)	4.9 (11)	11.7 (142)
Perinatal		4.0 (9)	0.9 (11)
Blood products		0.9 (2)	0.6 (7)
Other		3.6 (8)	3.1 (38)
Not known	58.3 (14)	86.1 (192)	419 (34.5)



Conclusions

- Hepatitis A and acute hepatitis B are rare diseases in Finland, including Lapland
 - Vaccination of risk groups
- Hepatitis C is common, incidence slowly decreasing (?)
 - Burden of illness substantial
 - Further studies needed
- Epidemiology of hepatitides in Northern Finland not different from other parts of the country





