

Epidemiological and economic evaluation of NSPs in the Australian Capital Territory

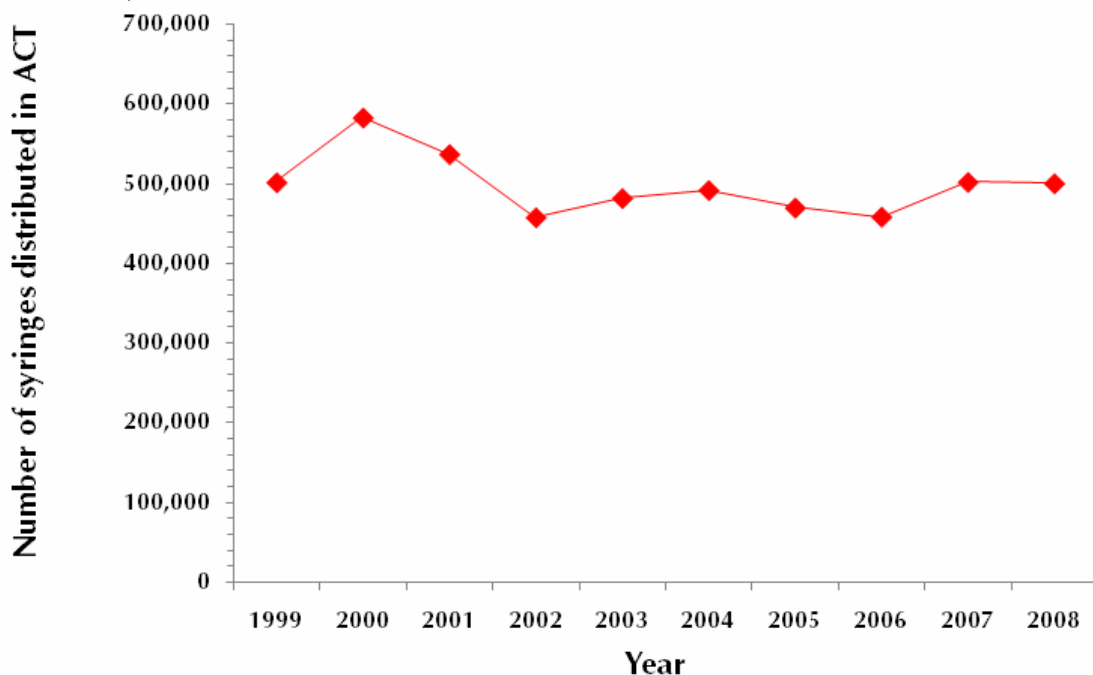


Overview

Needle and Syringe Programs have been operational in the Australian Capital Territory since 1989. The Australian Capital Territory has two primary outlets (both operated by DIRECTIONS ACT), seven secondary outlets (including one mobile outreach service), 31 pharmacy based outlets, and four vending machines. Many NSPs have disposal facilities, with the exception of approximately half of the pharmacy NSPs. In addition, primary outlets provide a large range of ancillary services including information, education, referral, disposal and condoms. There is no discount for people who return packs to pharmacies.

Number of NSPs:	44 (including pharmacies)
Syringes distributed 1999-2008:	4,989,520
Average syringes per year:	498,952
Total spending 2007/8:	\$1,228,514

Figure 24: Number of needles and syringes distributed in the Australian Capital Territory (1999-2008)



The proportion of all Australian IDUs that reside in the Australian Capital Territory has remained steady over the last decade, as has the distribution of needles and syringes. The average frequency of injecting by IDUs in the Australian Capital Territory has decreased but sharing rates have slightly increased. The prevalence of HCV has significantly increased while HIV has remained low.

In 2007/8, 575,779 sterile needles and syringes were provided in the Australian Capital Territory: 103,000 were provided through pharmacies, 46,024 through vending machines. Vending machines are provided in the Australian Capital Territory under a commercial arrangement including lease of the machines and provision of stock. Pharmacists charge on average \$2 per pharmacy pack sold. The number of NSP sites in the Australian Capital Territory is listed in Table 13. Table 14 reports the expenditure by financial year in 2008 dollars, unadjusted and adjusted for the consumer price index (CPI). As part of this spending, extra specific funding for the sector during 2007/8 is listed in Table 15.

Table 13: Number of NSP sites in the Australian Capital Territory

	Primary	Secondary	Vending machine sites
2007	2	7	4
2006	2	9	4
2005	2	9	
2004	2	9	
2003	2	9	
2002	2	9	
2001	2	9	

Table 14: Summary of expenditure in Australian Capital Territory NSPs (2000/1-2007/8)

	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
Consumables (\$'000)								
Sterile injecting equipment	312	229	276	288	306	341	388	411
Disposal equipment	25	19	61	32	36	37	39	42
sub-total	337	247	337	320	343	378	427	453
NSP SUPPORT (\$'000)								
Primary NSPs Operations	152	199	236	236	280	283	324	619
Support for Secondary NSPs	0	64	55	48	58	60	50	47
Transport	0	2	4	7	5	5	5	2
Vending machines	0	0	0	0	0	19	59	63
sub-total	152	265	296	291	343	366	438	732
TOTAL (\$'000) (unadjusted for CPI)	489	512	633	611	686	744	865	1,185
TOTAL in 2008 (\$'000) (CPI adjusted)	618	628	753	710	777	820	924	1,229

Table 15: Additional expenditure on NSPs in the Australian Capital Territory (2007/8)

Peer support and advocacy	\$95,000
Sharps hotline responses	\$120,000
Sharps inspection patrols of Syringe Vending Machines' (SVM) surrounding areas	\$13,000
Health info leaflet inserts in SVM fitpacks	\$500
Admin and policy support	\$10,000
TOTAL	\$238,500

Evaluating current NSPs

The epidemiological transmission model for HIV and HCV was applied to IDUs and NSPs specifically in the Australian Capital Territory. The model was used to evaluate current NSPs versus no program and to project likely epidemiological impacts of potential changes to the program. The model estimated the expected number of HIV and HCV cases in the Australian Capital Territory with and without NSP distribution of sterile injecting equipment (Figure 25). The estimated cumulative number of infections averted is presented in Figure 26. Less than one HIV infection would be expected due to syringe sharing by IDUs, on average, in the Australian Capital Territory even without NSPs. Thus, NSPs are currently not preventing HIV infections in the Australian Capital Territory. However, NSPs are very effective in averting HCV transmissions. It is estimated that over the last ten years they have averted 1,482 (1,451-1,534, IQR) new HCV infections.

Figure 25: Estimated HIV and HCV incidence in the Australian Capital Territory with and without NSPs

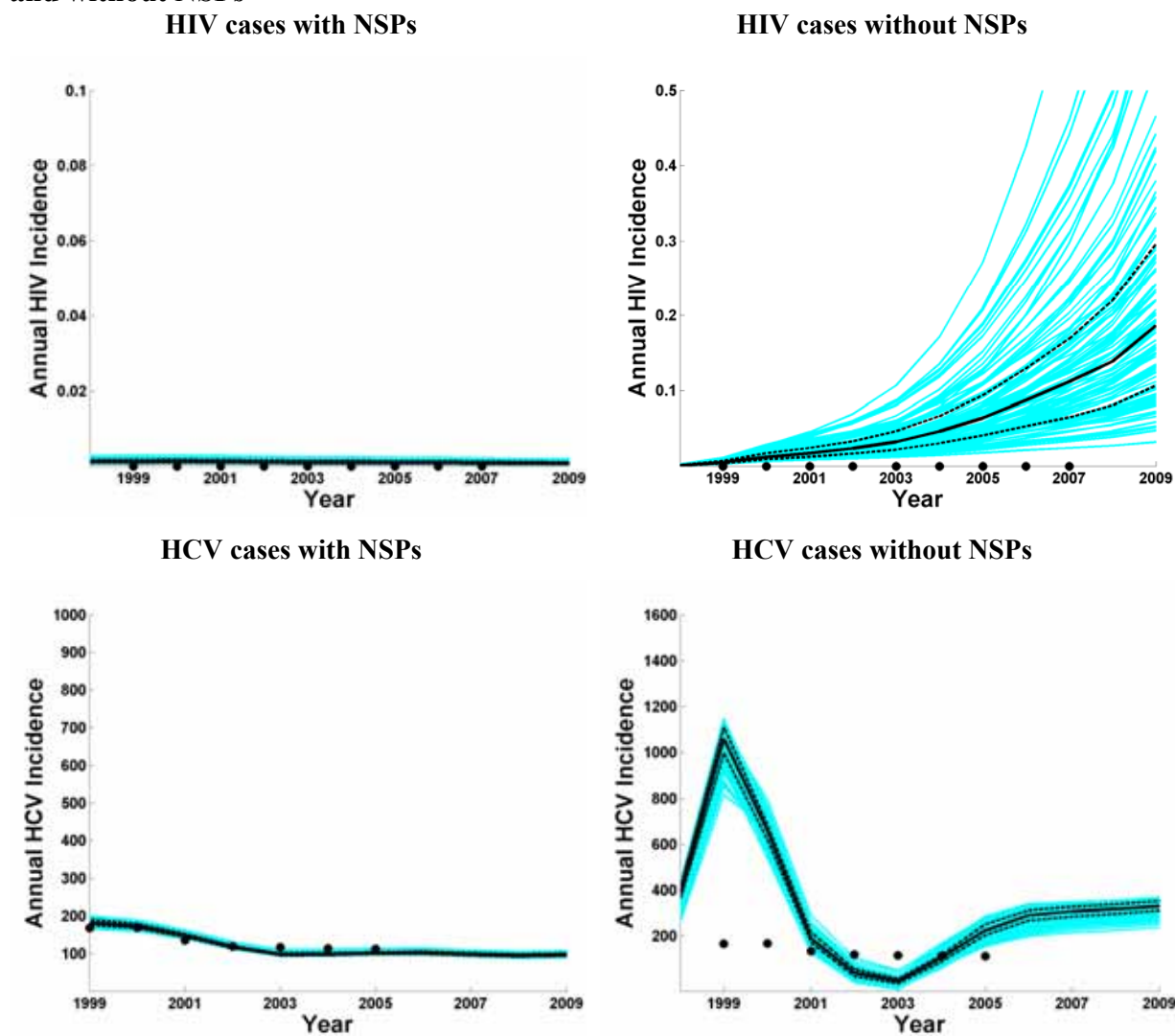
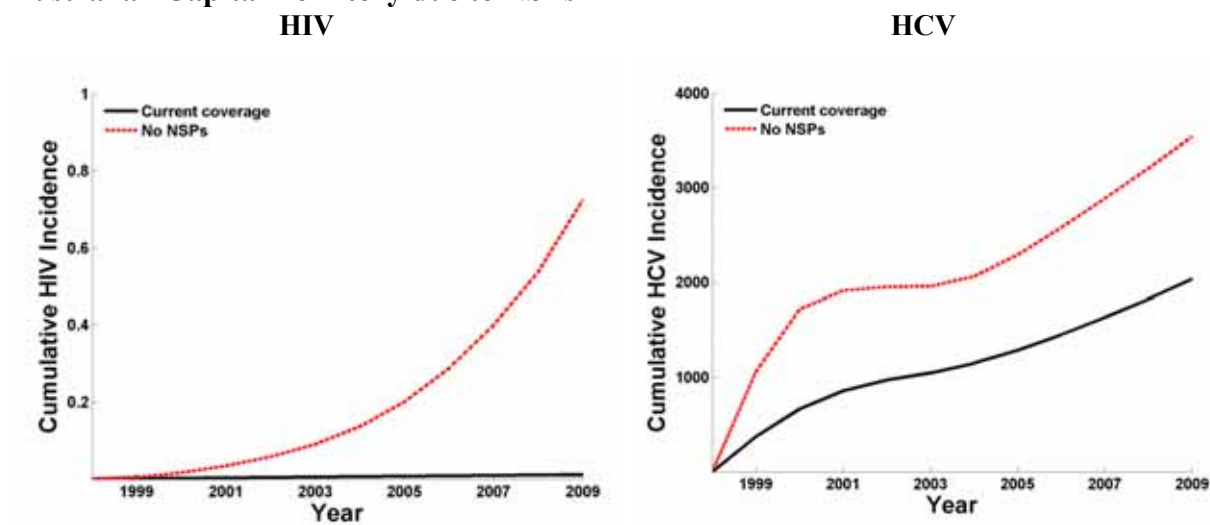


Figure 26: Estimated cumulative number of HIV and HCV cases averted in the Australian Capital Territory due to NSPs



Epidemic projections in the Australian Capital Territory

The Australian Capital Territory model was used to calculate projections of the expected number of HIV and HCV cases in the future, according to scenarios whereby current syringe distribution levels are maintained or if there are changes in the provision of syringes through Australian Capital Territory NSPs.

Figure 27: Projections of the expected number of HIV cases in the Australian Capital Territory according to different syringe distribution levels

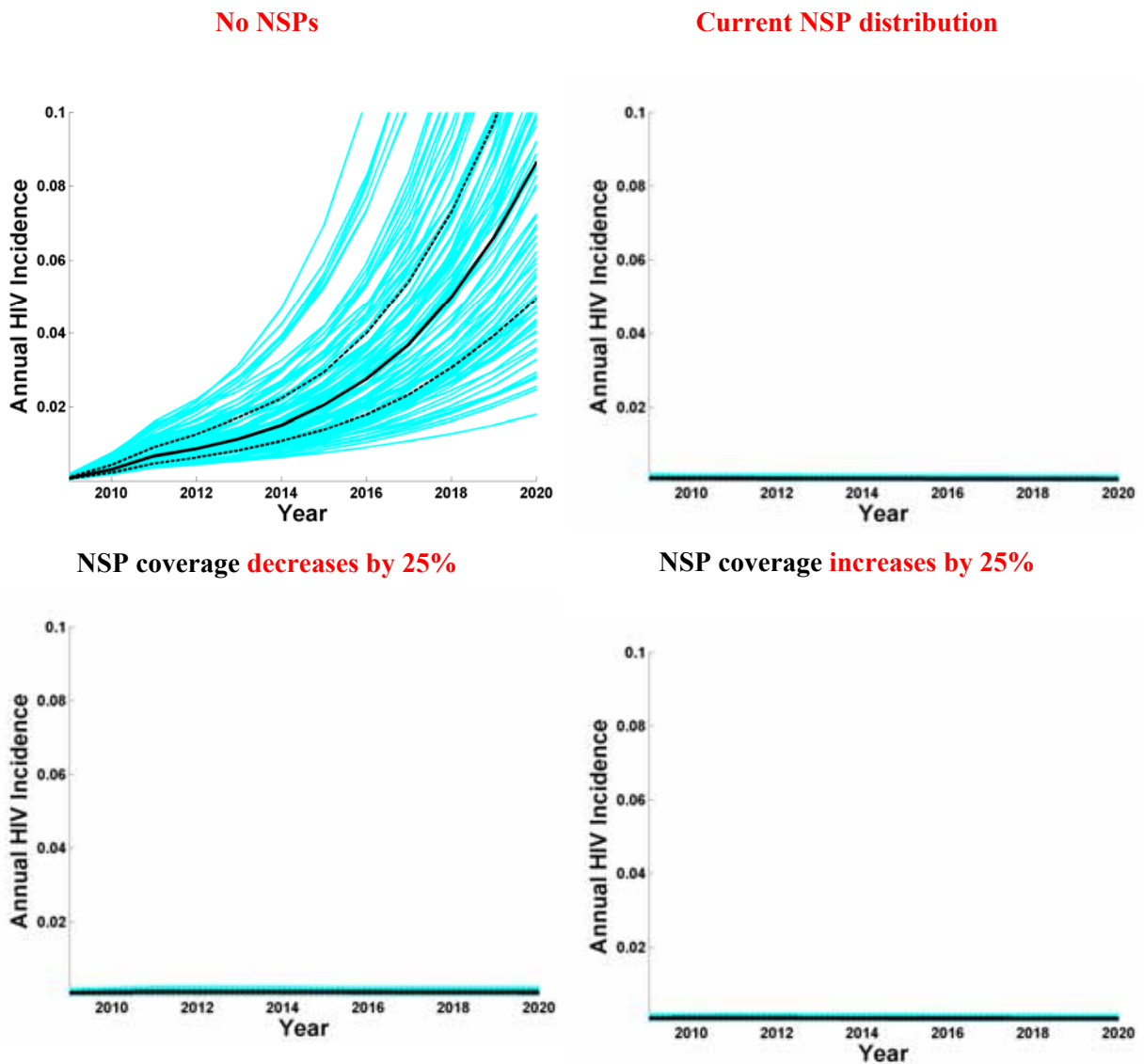
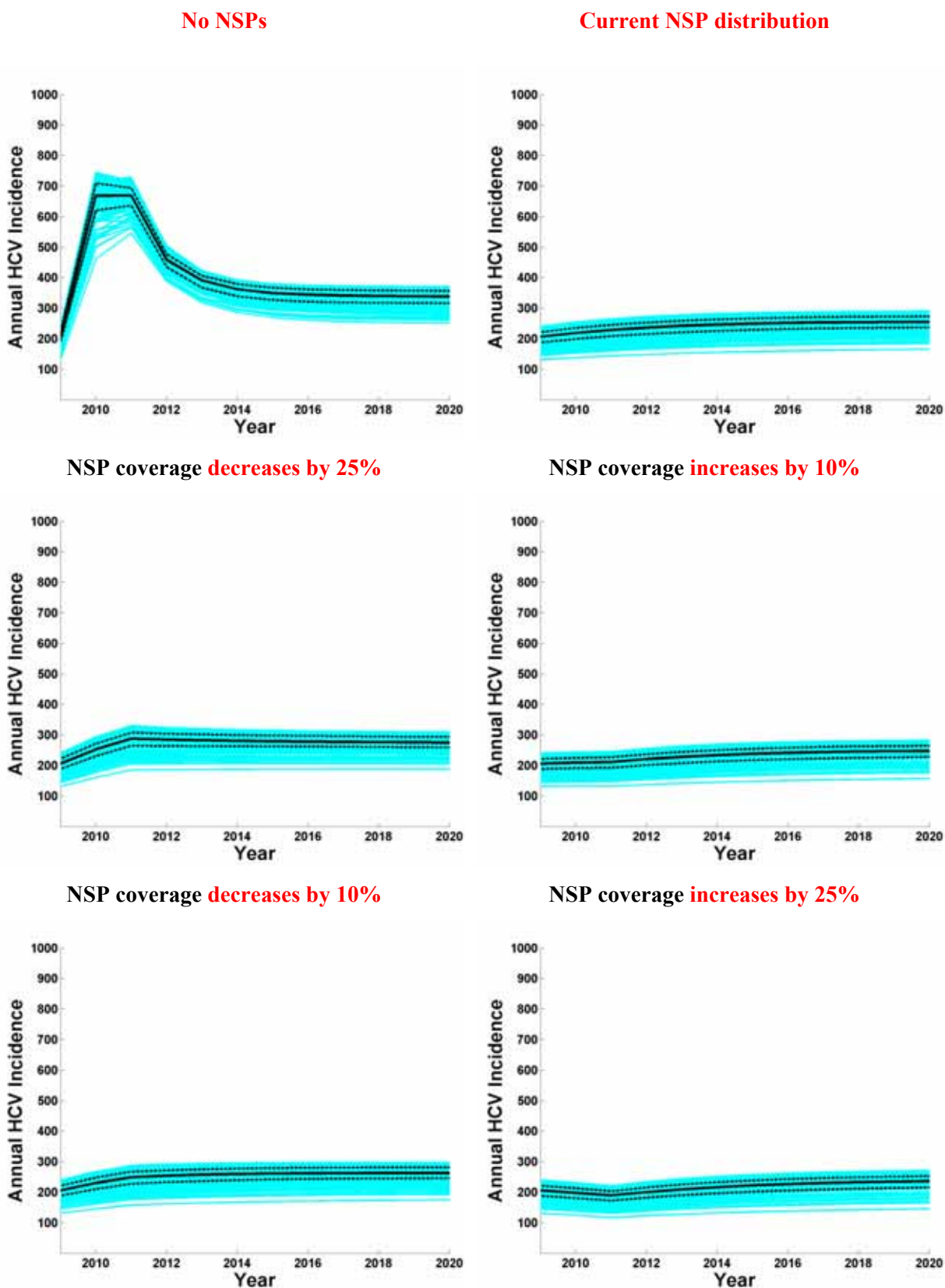


Figure 28: Projections of the expected number of HCV cases in the Australian Capital Territory according to different syringe distribution levels



Economic evaluation of NSPs in the Australian Capital Territory

The spending of \$8.8m in the funding of NSPs in the Australian Capital Territory from year 2000-2009 has resulted in a saving of \$11.5m in healthcare costs, with more than 2,000 Disability Adjusted Life Years saved, with a net financial saving of \$2.6m. A summary of the return on investment of NSP funding in the Australian Capital Territory is shown in Table 16. The mathematical and economic modelling estimated that if NSPs are continued at the same level of funding in the Australian Capital Territory for the next ten years, \$4.9m of net financial savings will accrue (\$4.36m discounted at 3%) and for twenty years \$10.6m (\$8.01m discounted at 3%). The lifetime net present value of investment in NSPs that took account of all healthcare costs and savings (but not costs associated with productivity losses) would be \$293m (\$65.9m discounted at 3%).

Table 16: Return on Investment of NSP funding in the Australian Capital Territory (2000-2009)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Healthcare costs saved \$m (IQR)	1.1 (0.9-1.2)	0.6 (0.5-0.7)	0.6 (0.5-0.7)	0.9 (0.8-1.0)	1.2 (1.1-1.3)	1.3 (1.2-1.4)	1.3 (1.2-1.5)	1.4 (1.3-1.6)	1.5 (1.4-1.7)	1.6 (1.4-1.7)
NSP funding \$m (median)	0.6	0.6	0.8	0.7	0.8	0.8	0.9	1.2	1.2	1.2
Net cost savings \$m (median)	0.4	0.04	0.1	0.2	0.4	0.5	0.4	0.2	0.3	0.3
DALY gain (median)	206	199	182	171	171	181	196	210	222	234

Please note that any inconsistencies between the figures presented in the above text and table are due to rounding. Additionally, the results for each jurisdiction are provided to assist in assessment of local return on investment. The small numbers in some jurisdictions may distort parameter uncertainties and should not be used to compare one jurisdiction with another.