

Epidemiological and economic evaluation of NSPs in Tasmania

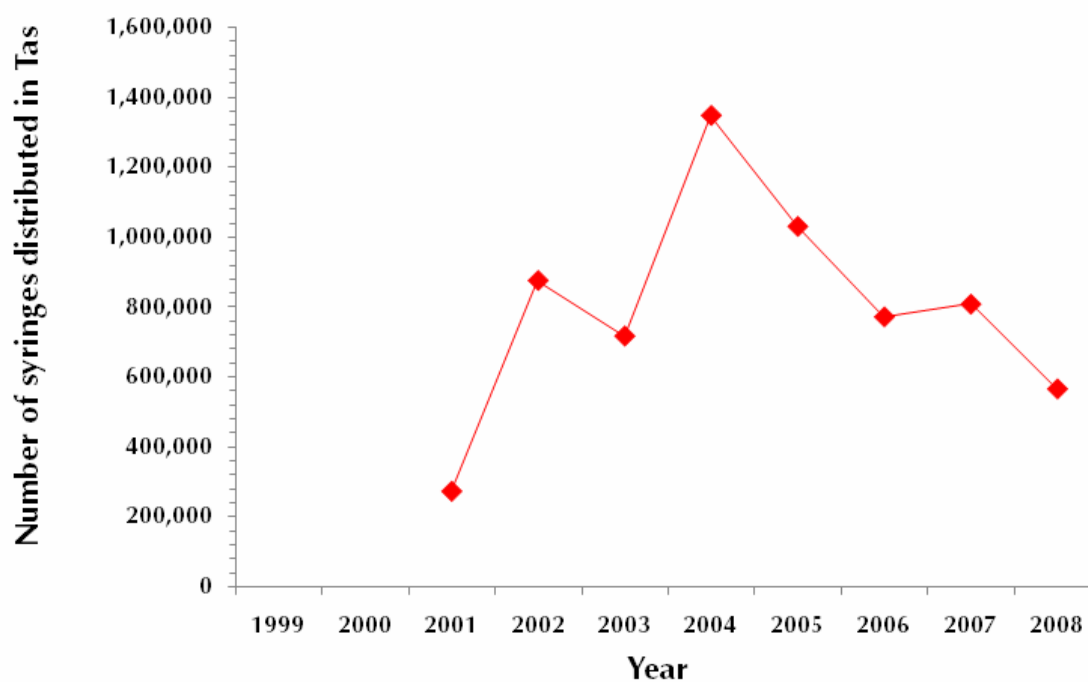


Overview

The Tasmanian Parliament passed the *HIV/AIDS Preventive Measures Act* in 1993 that enabled the establishment of NSPs in Tasmania. Prior to this, relatively small numbers of needles and syringes were distributed informally. Tasmania now has six primary outlets, 20 secondary outlets, and 60 pharmacy-based outlets. Pharmacy-based outlets provide equipment for a fee.

Number of NSPs:	86
Syringes distributed 2001-2008:	6,409,721
Average syringes per year:	801,215
Total spending 2007/8::	\$797,831

Figure 49: Number of needles and syringes distributed in Tasmania (2001-2008)



The number of IDUs in Tasmania has remained relatively constant. The number of sterile injecting equipment units increased in 2004-2005 but has generally stayed stable. The average frequency of injecting by IDUs in Tasmania has remained steady but sharing rates have been increasing. The prevalence of HCV among Tasmanian IDUs has increased significantly over the last decade but HIV infections are rare among Tasmanian IDUs.

In 2007/8, 691,668 sterile injection equipment units were provided in Tasmania: 17% were distributed through secondary sites and 23% were distributed through pharmacies. Pharmacists charge an average of \$5 per three-pack out-of-pocket costs. The number of NSP sites in Tasmania is listed in Table 29. Table 30 reports the spending by financial year in 2008 dollars, unadjusted and adjusted for the consumer price index (CPI).

Table 29: Number of NSP sites in Tasmania

	Primary	Secondary
2007	6	20
2006	6	19
2005	6	19
2004	4	19
2003	3	19

Table 30: Summary of expenditure on NSPs in Tasmania (2000/1 to 2007/8). Missing values for earlier years were imputed

	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
Consumables (\$'000)								
Sterile injecting equipment	484	447	490	595	628	588	678	340
Disposal equipment	60	55	51	56	67	71	66	76
Safe sex packs	0	0	0	0	0	0	0	0
sub-total	544	502	541	651	695	659	744	416
NSP SUPPORT (\$'000)								
Primary NSPs operations	182	217	216	235	263	258	306	308
Support for secondary NSPs	0	0	0	0	0	0	0	0
Transport	6	7	7	7	8	8	10	10
Vending machines	0	0	0	0	0	0	0	35
sub-total	188	224	223	243	271	266	316	353
TOTAL (\$'000) (unadjusted for CPI)	732	726	764	893	966	925	1,059	769
TOTAL in 2008 (\$'000) (CPI adjusted)	871	864	909	1,038	1,095	1,019	1,131	798

Evaluating current NSPs

The epidemiological transmission model for HIV and HCV was applied to IDUs and NSPs specifically in Tasmania. 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 Tasmania with and without NSP distribution of sterile injecting equipment (Figure 50). The estimated number of infections averted is presented in Figure 51. Less than one HIV infection would be expected due to syringe sharing by IDUs, on average, in Tasmania even without NSPs. Thus, NSPs are currently not preventing HIV infections in Tasmania. However, NSPs are very effective in averting HCV transmissions. It is estimated that over the last ten years they have averted 2,530 (2,404-2,677, IQR) new HCV infections.

Figure 50: Estimated HIV and HCV incidence in Tasmania with and without NSPs

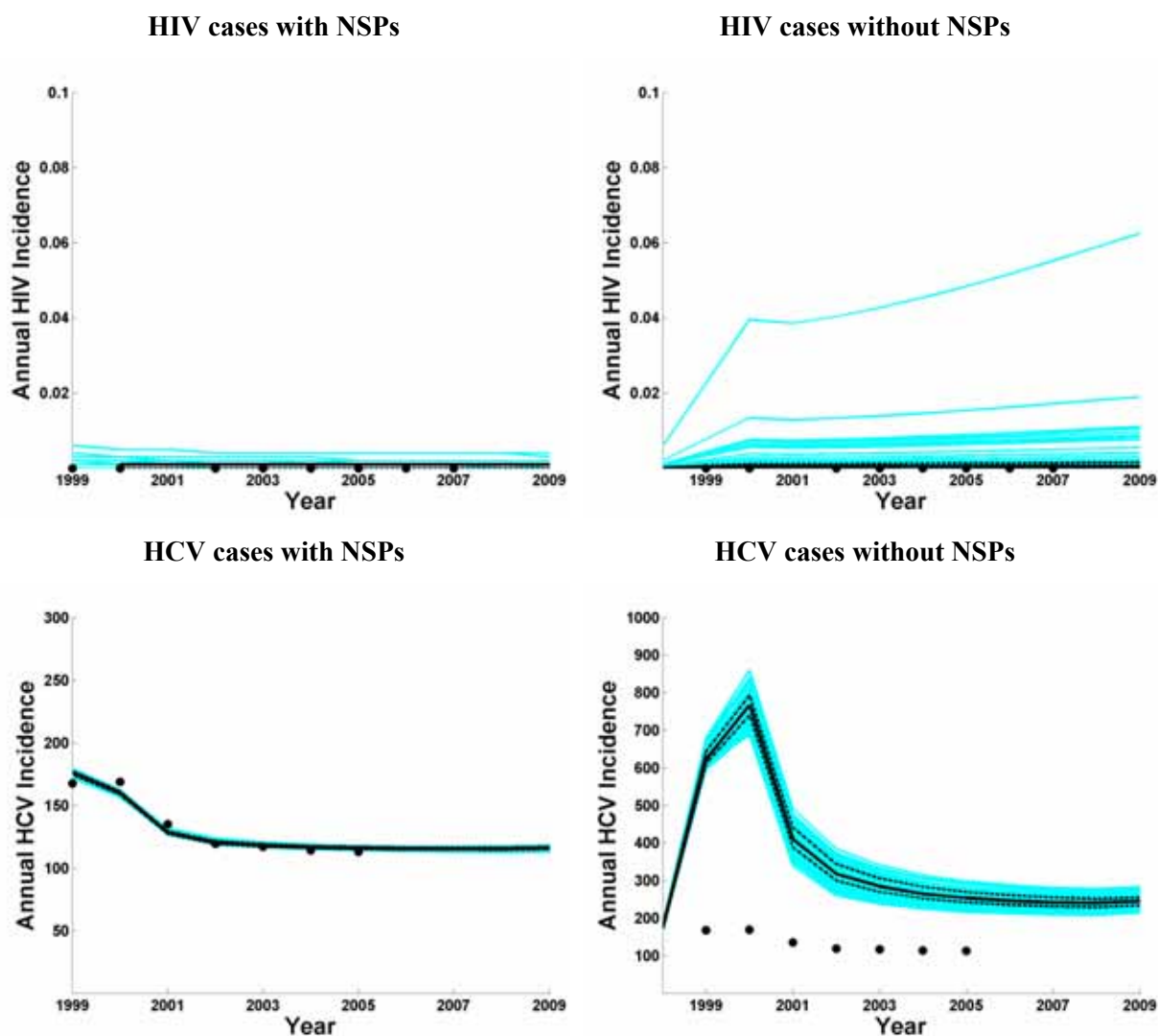
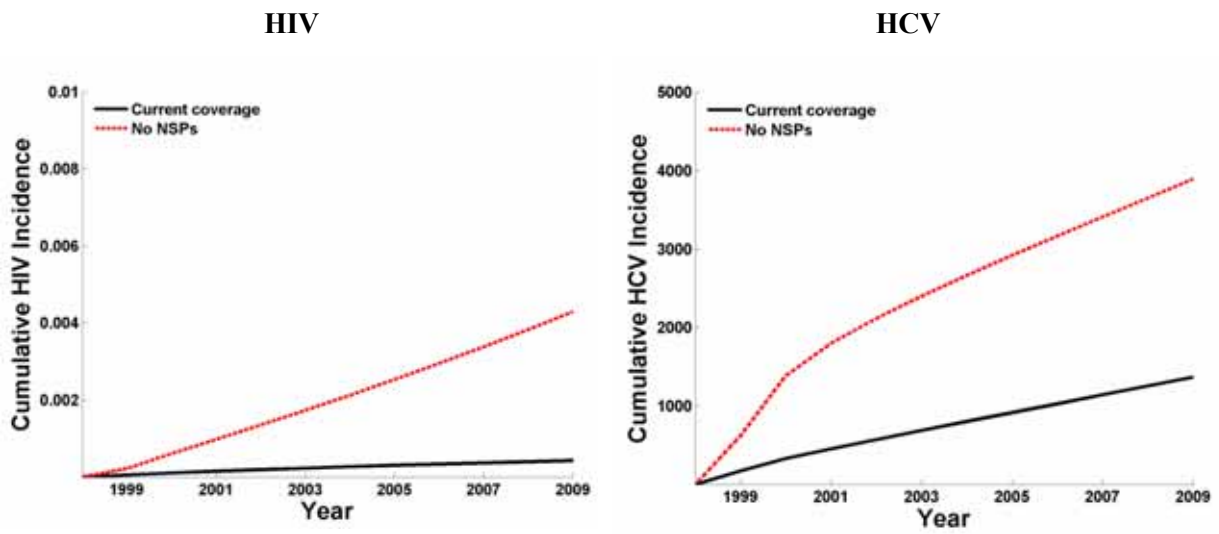


Figure 51: Estimated cumulative number of HIV and HCV cases averted in Tasmania due to NSPs



Epidemic projections in Tasmania

The Tasmanian 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 increases or decreases in the provision of syringes through Tasmanian NSPs.

Figure 52: Projections of the expected number of HIV cases in Tasmania according to different syringe distribution levels

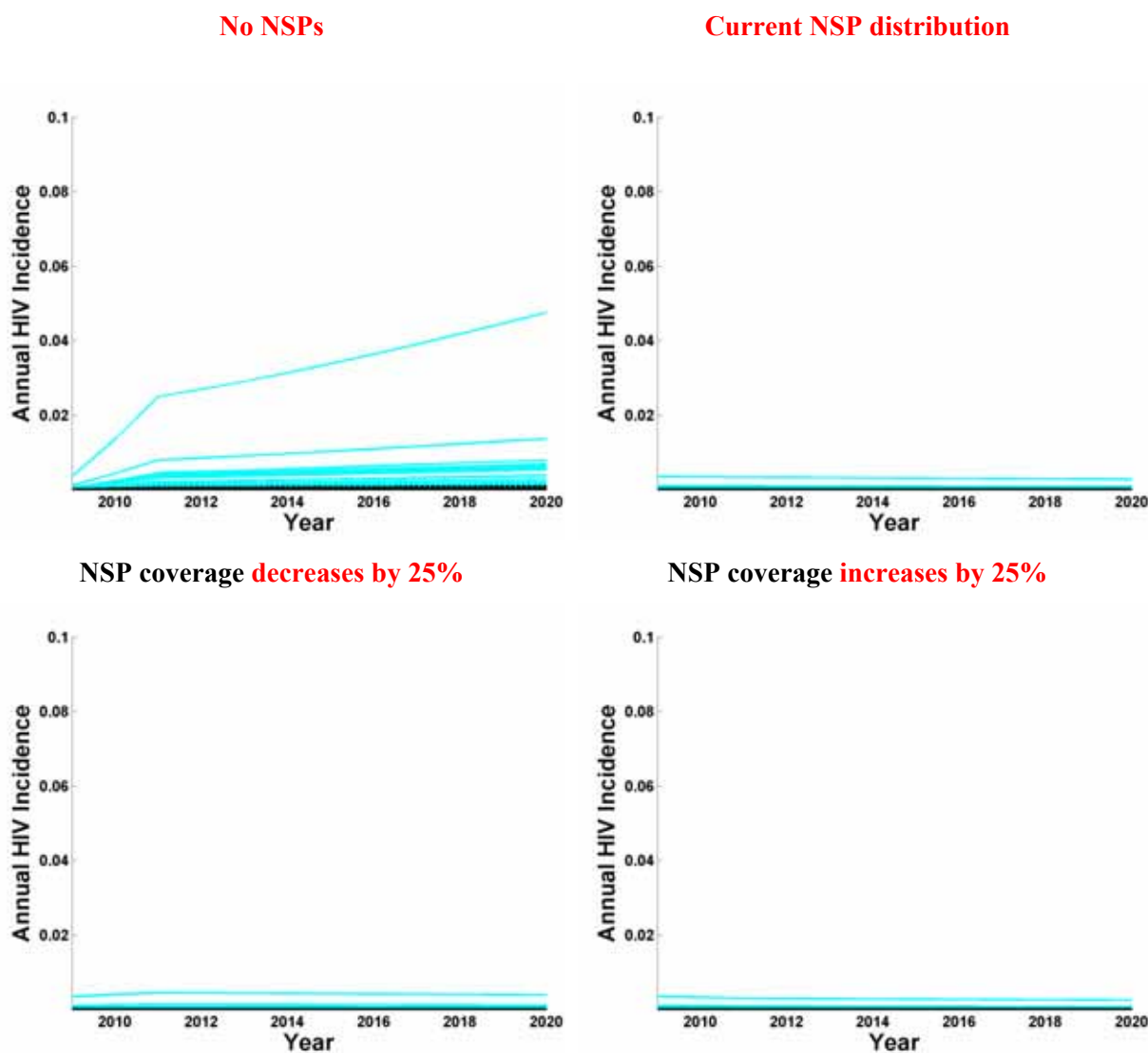
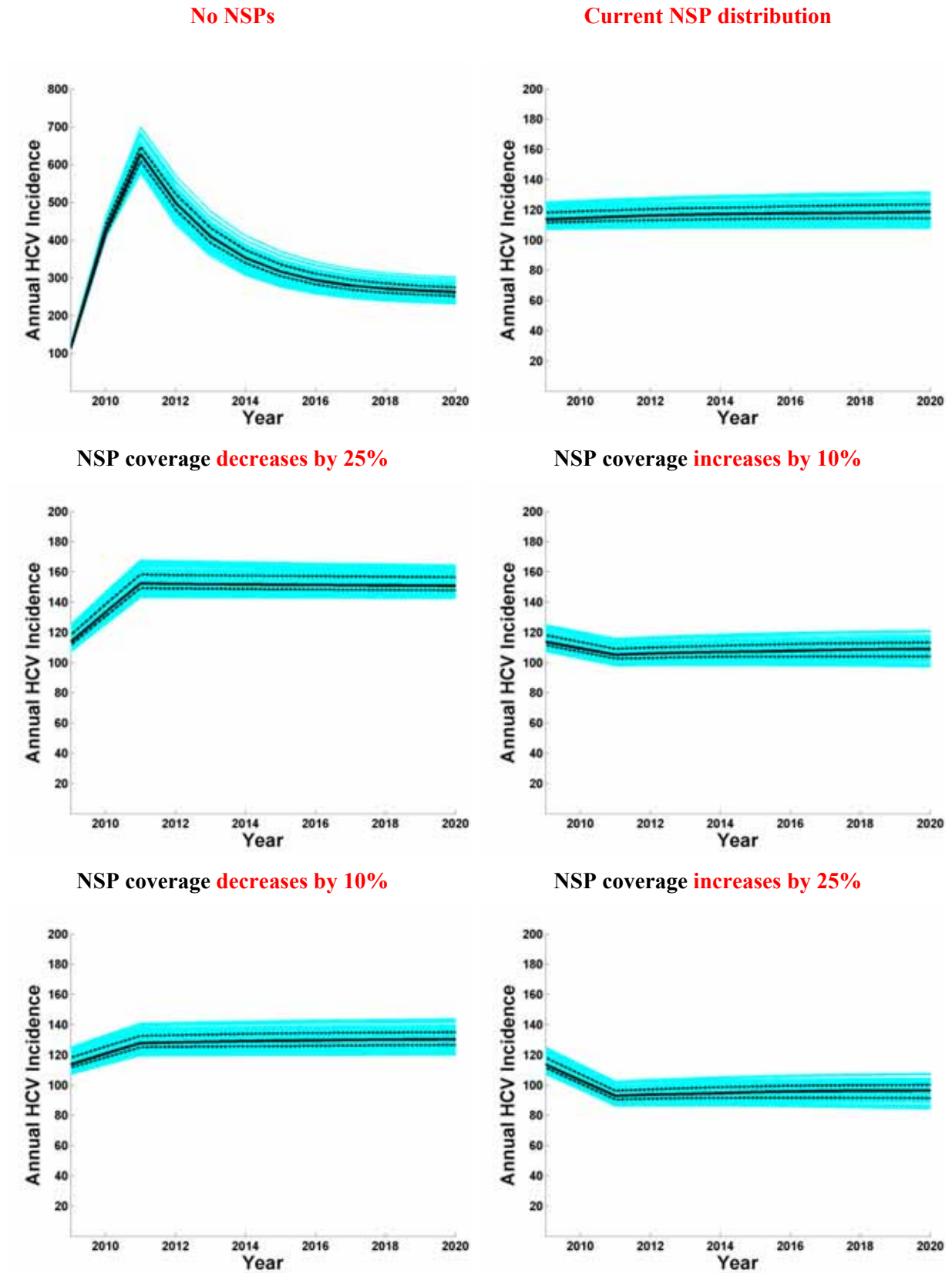


Figure 53: Projections of the expected number of HCV cases in Tasmania according to different syringe distribution levels



Economic evaluation of NSPs in Tasmania

The spending of \$9m in the funding of NSPs in Tasmania from year 2000 to 2009 has resulted in a saving of \$21m in healthcare costs, with nearly 3,000 Disability Adjusted Life Years saved with a net financial saving of \$12m. A summary of the return on investment of NSP funding in Tasmania is shown in Table 31. The mathematical and economic modelling estimated that continued spending at the same level for ten years would result in \$14.5m of cost savings (\$12.6m with 3% discounting) and for twenty years 33m (24.8m with 3% discounting). 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 \$165m (\$60.3m discounted at 3%).

Table 31: Return on Investment of NSP funding in Tasmania (2000-2009). Missing values from early years were imputed.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Healthcare costs saved \$m (IQR)	2.0 (1.7- 2.3)	2.0 (1.8- 2.3)	2.0 (1.8- 2.3)	2.1 (1.9- 2.3)	2.1 (1.9- 2.4)	2.2 (2.0- 2.4)	2.2 (2.0- 2.5)	2.2 (2.0- 2.5)	2.3 (2.1- 2.6)	2.4 (2.1- 2.6)
NSP funding \$m (median)	0.9	0.9	0.9	1.0	1.1	1.0	1.1	0.8	0.8	0.8
Net cost savings \$m (median)	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.4	1.5	1.6
DALY gain (median)	211	252	275	293	307	318	327	335	342	349

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.