



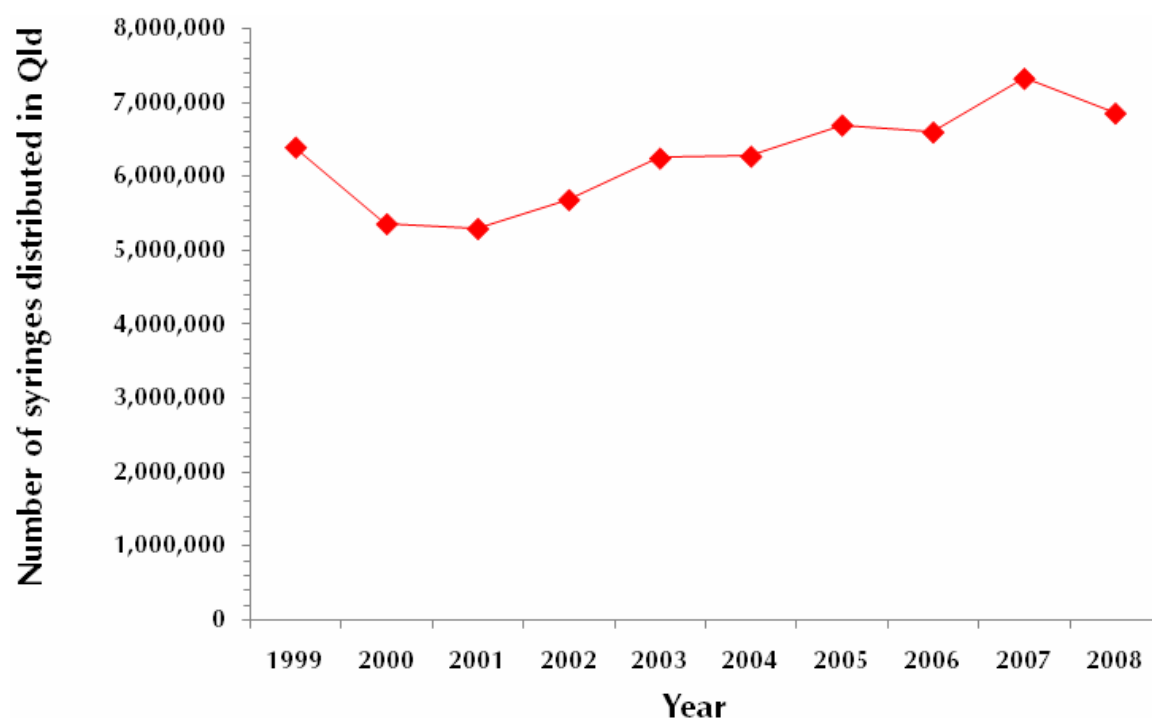
Epidemiological and economic evaluation of NSPs in Queensland

Overview

The supply of needles and syringes became legal in Queensland in 1989. Prior to 1989, single syringes were sold commercially through pharmacies. The distribution of needles and syringes increased considerably during the late 1990s. Queensland has 859 needle and syringe programs, consisting of 18 primary outlets operated by Queensland Health (and located in Brisbane and Cairns), 84 secondary outlets, four enhanced secondary outlets, 745 pharmacies, and eight vending machines. All community pharmacies are legally able to provide needles and syringes and the vast majority do so by selling pre-packaged needles and syringes on a commercial basis.

Number of NSPs:	859 (including pharmacies)
Syringes distributed 1999-2008:	62,752,480
Average syringes per year:	6,275,248
Total spending 2007/8:	\$3,901,747

Figure 39: Number of needles and syringes distributed in Queensland (1999-2008)



There are no accurate estimates of the number of IDUs in Queensland. However, based on indicators of IDU populations (Appendix B) the estimated number of IDUs and syringes distributed in Queensland has been increasing, and at a faster rate than any other jurisdiction. The average frequency of injecting by IDUs in Queensland has decreased modestly but sharing rates have been slightly decreased. The prevalence of HCV among Queensland IDUs has increased markedly during the last decade and HIV cases have remained low.

In 2007/8, 7,069,405 sterile injection equipment units were provided in Queensland: 46% were through primary sites, 14% were distributed through secondary sites, 9% were provided through enhanced secondary sites, 21% were through pharmacies, and 9% through vending machines. 300,000 five packs were distributed through pharmacies. Pharmacists charge an average of \$5 per five-pack out-of-pocket costs. The number of NSP sites in Queensland is listed in Table 23. Table 24 reports the spending by financial year in 2008 dollars, unadjusted and adjusted for the consumer price index (CPI).

Table 23: Number of NSP sites in Queensland

	Primary	Secondary	Enhanced secondary	Vending machine sites	Pharmacies
2007	18	84	4	8	745
2006	18	86	5	7	
2005	14	81	5	4	
2004	15	82	5	4	
2003	12	81	5		
2002	14	77	5		
2001	13	69	5		
2000	11	64	5		

Table 24: Summary of expenditure on NSPs in Queensland (2000/1-2007/8)

Consumables (\$'000)	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
Sterile injecting equipment	889	893	1,023	1,130	1,225	1,104	1,256	1,246
Disposal equipment	160	155	164	207	207	224	266	338
Safe sex packs	0	0	0	0	0	0	0	0
sub-total	1,049	1,049	1,187	1,338	1,432	1,327	1,522	1,584
NSP SUPPORT (\$'000)								
Primary NSPs Operations	1,205	1,401	1,568	1,042	1,384	1,699	1,715	1,919
Support for Secondary NSPs	0	100	129	222	132	212	186	162
Transport	16	15	23	27	33	94	113	98
Vending machines	0	0	0	0	0	0	3	0
sub-total	1,221	1,516	1,720	1,291	1,550	2,005	2,017	2,179
TOTAL (\$'000) (unadjusted for CPI)	2,270	2,564	2,907	2,628	2,982	3,332	3,539	3,763
TOTAL in 2008 (\$'000) (CPI adjusted)	2,870	3,144	3,460	3,055	3,379	3,673	3,778	3,902

Evaluating current NSPs

The mathematical epidemiological transmission model for HIV and HCV was applied to IDUs and NSPs specifically in Queensland. 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 Queensland with and without NSP distribution of sterile injecting equipment (Figure 40). The estimated number of infections averted is presented in Figure 41. An estimated 7,296 (5,179-9,324, IQR) HIV infections and 21,285 (20,566-22,215, IQR) HCV infections were averted due to NSPs in Queensland.

Figure 40: Estimated HIV and HCV incidence in Queensland with and without NSPs

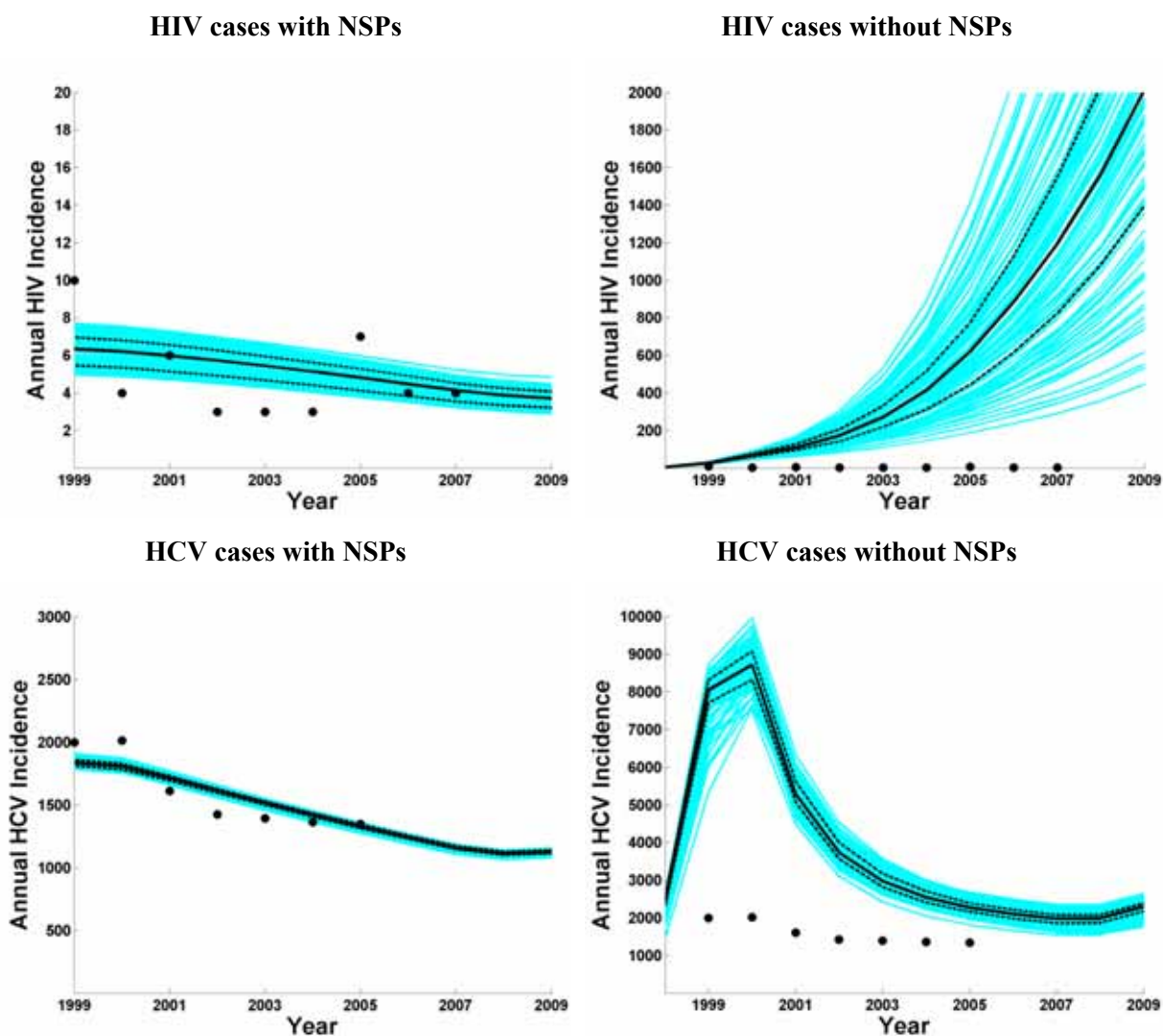
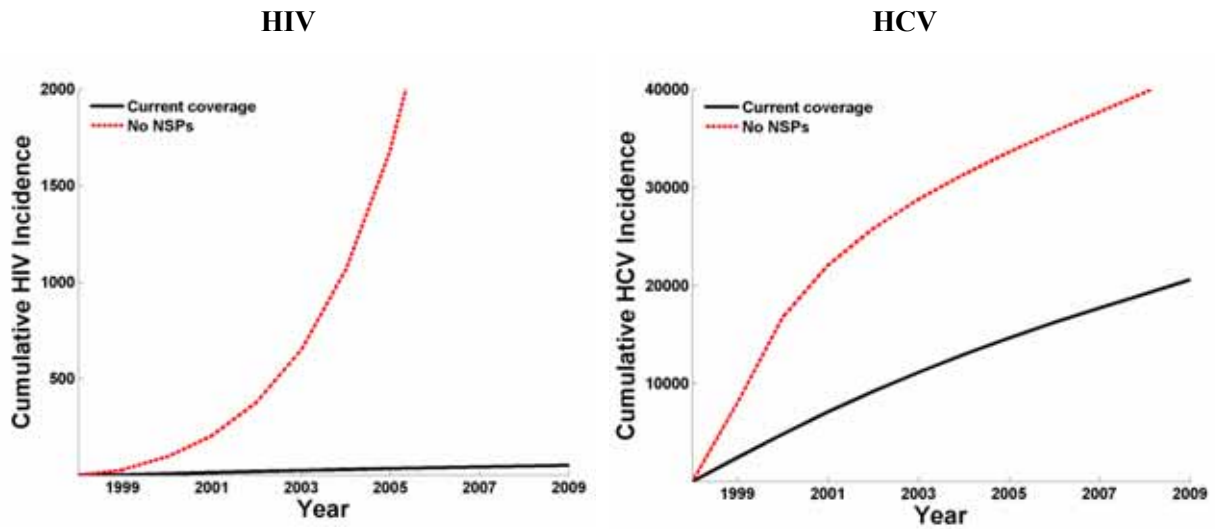


Figure 41: Estimated cumulative number of HIV and HCV cases averted in Queensland due to NSPs



Epidemic projections in Queensland

The Queensland 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 Queensland NSPs.

Figure 42: Projections of the expected number of HIV cases in Queensland according to different syringe distribution levels

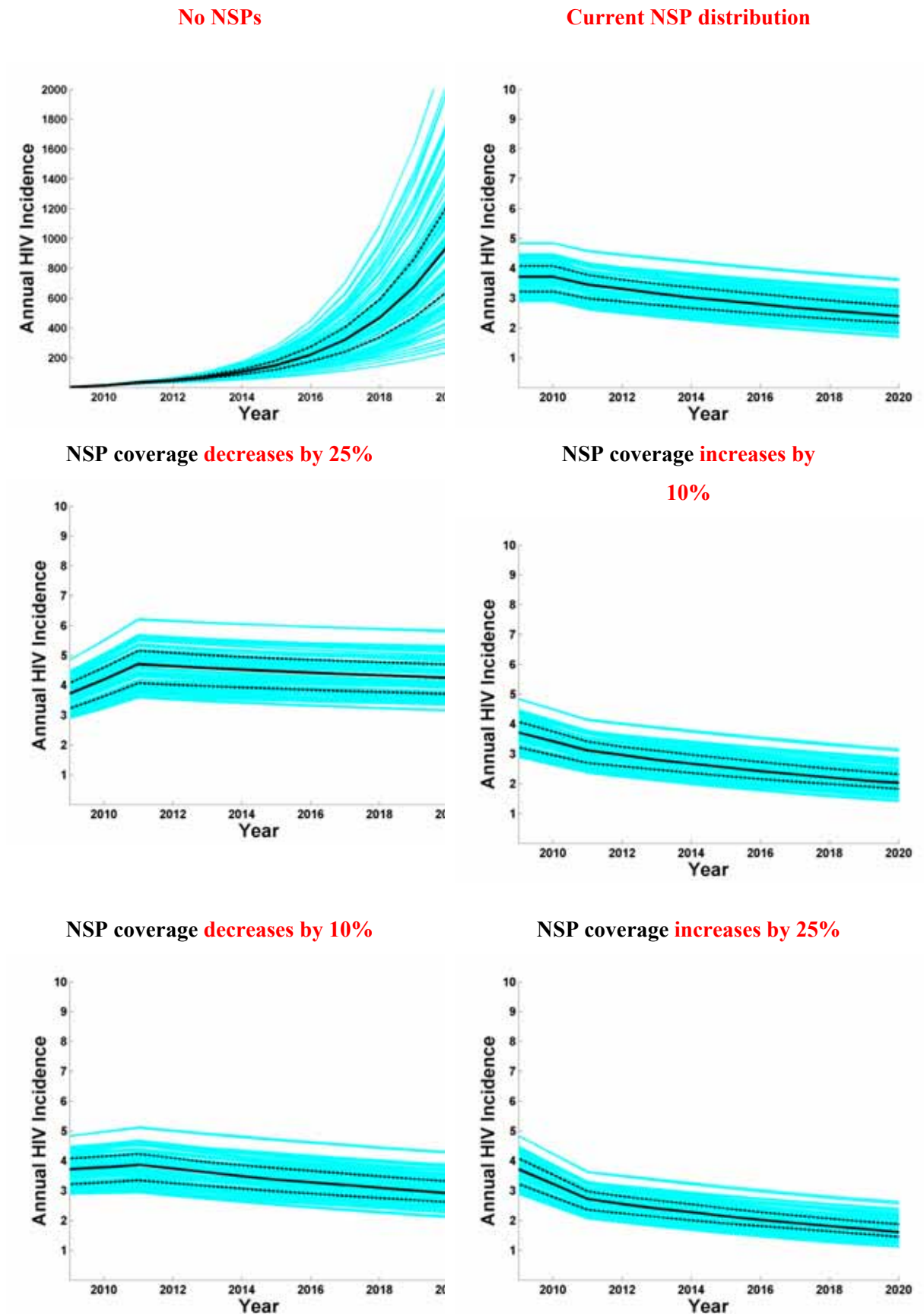
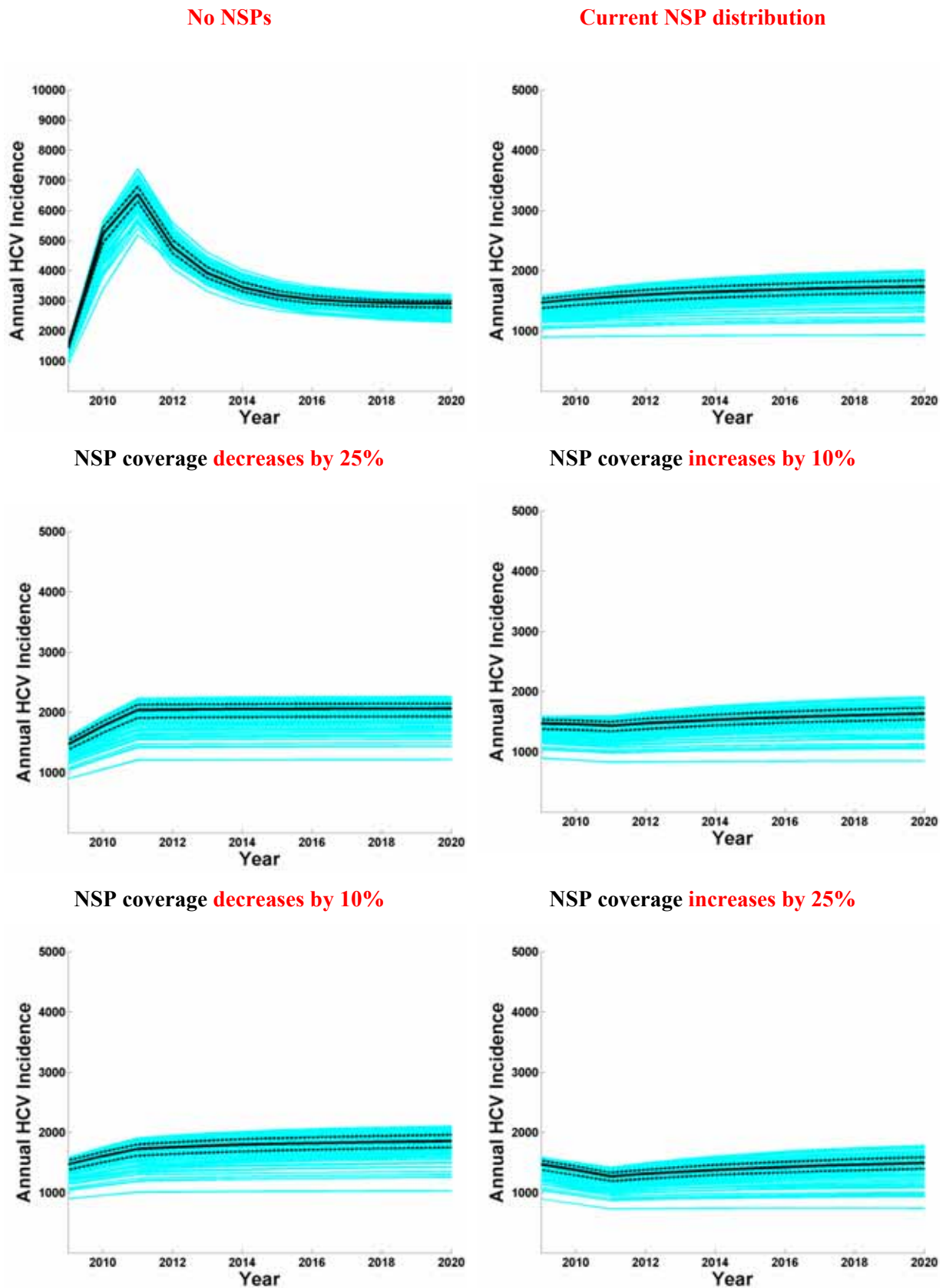


Figure 43: Projections of the expected number of HCV cases in Queensland according to different syringe distribution levels



Economic evaluation of NSPs in Queensland

The spending of \$35m in the funding of NSPs in Queensland from year 2000-2009 has resulted in a saving of \$253m in healthcare costs, with more than 38,000 Disability Adjusted Life Years saved with a net financial saving of \$218m. A summary of the return on investment of NSP funding in Queensland is shown in Table 25. The mathematical and economic modelling estimated that if NSPs are continued at the same level of funding in Queensland for the next ten years, \$634m of net financial savings will accrue (\$579m discounted at 3%) and for twenty years \$1.58bn (\$1.17bn 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 \$12.1bn (\$3.72bn discounted at 3%).

Table 25: Return on Investment of NSP funding in Queensland (2000-2009)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Healthcare costs saved \$m (IQR)	22 (20-24)	21 (19-24)	21 (19-24)	21 (19-24)	22 (19-25)	23 (21-26)	25 (23-29)	28 (25-32)	32 (28-38)	38 (33-45)
NSP funding \$m (median)	3	3	3	3	3	4	4	4	4	4
Net cost savings \$m (median)	19	18	18	18	18	19	21	24	28	34
DALY gain (median)	2,561	2,968	3,184	3,333	3,505	3,721	3,983	4,407	5,042	5,925

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.