

Epidemiological and economic evaluation of NSPs in Western Australia

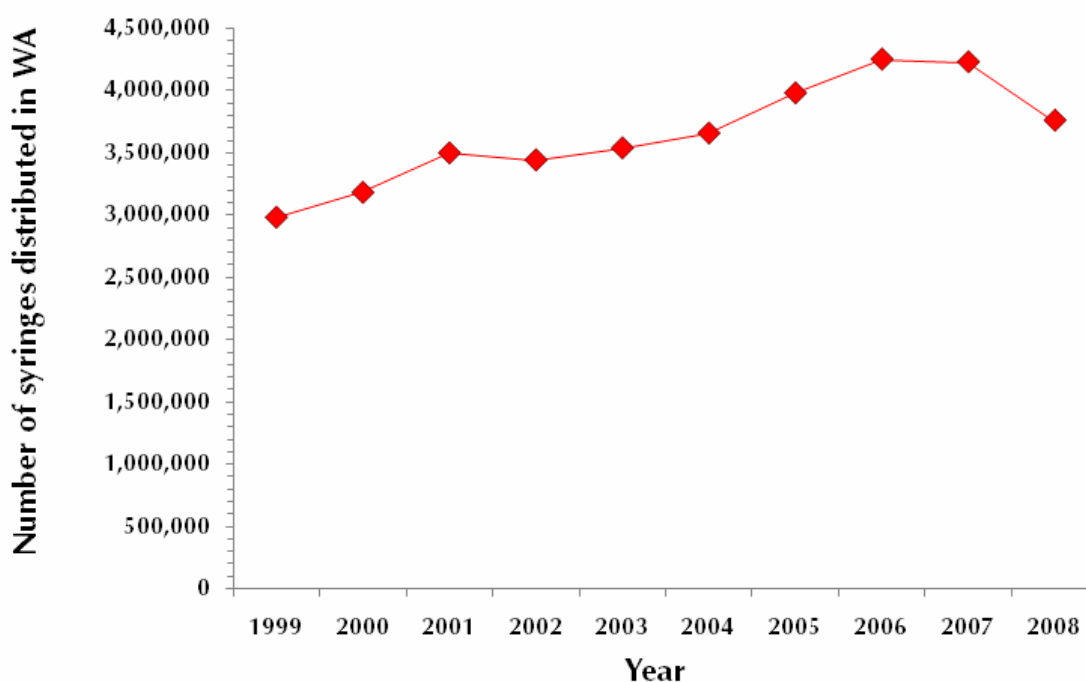


Overview

Needle and Syringe Programs commenced in Western Australia in 1987. The Poisons Amendment Act was introduced in 1994 to allow for the legal provision of needles and syringes by approved programs. Currently, Western Australia has three primary NSP outlets, 99 secondary outlets, one enhanced secondary outlet, and five vending machines. Over the past decade in Western Australia, an increased proportion of needles and syringes have been provided through primary NSPs, while pharmacy provision has correspondingly decreased.

Number of NSPs:	108
Syringes distributed 1999-2008:	36,555,281
Average syringes per year:	3,655,528
Total spending 2007/8:	\$1,415,117

Figure 59: Number of needles and syringes distributed in Western Australia (1999-2008)



The proportion of Australian IDUs in Western Australia has been steady to slightly increasing over the last decade. The number of needles and syringes distributed in Western Australia has been increasing. There is a clearly increasing trend in the frequency of injecting in Western Australia but the rate of sharing has been slowly decreasing. The prevalence of HCV among IDUs in WA has been relatively steady. HIV infections are low among Western Australian IDUs.

In 2006/7, 4,039,070 sterile injection equipment units were provided in Western Australia: 9.3% of injecting equipment units distributed in Western Australia were distributed through other outlets (e.g. hospitals, public health units, community health centres, nursing posts and other health related agencies) that could be considered secondary sites. One enhanced secondary site distributed 18,330 needles and syringes in 2007/2008. Western Australia has only had one vending machine operating for most of the past seven years. In late 2007, a further two vending machines were installed, and a further two in 2008. From 2001 to 2005 the vending machine distributed an average of approximately 4,000 packs (i.e. 20,000 needles and syringes) per year, which is <0.5% of needles and syringes distributed in Western Australia. All vending machines in Western Australia are located at regional hospital sites so filling of machines is undertaken by staff at these sites as part of their duties.

A major shift has been seen over the past decade in the proportion of needles and syringes distributed through pharmacies and NSPs. Up until about 2001 pharmacies accounted for two-thirds of needles and syringes distributed in Western Australia; now they only account for about one-third, with NSPs now accounting for over half of the needles and syringes distributed. Pharmacists may choose to sell pre-packaged needle and syringe products in the range of \$5 to \$8. Pharmacy NSPs operate on a commercial retail basis in Western Australia and are not subsidised by the Department of Health.

The number of NSP sites in Western Australia is listed in Table 36. Table 37 reports the spending by financial year in 2008 dollars, unadjusted and adjusted for the consumer price index (CPI).

Table 36: Number of NSP sites in Western Australia

	Primary	Secondary	Enhanced secondary	Vending machine sites
2008	3	99	1	5
2007	3	105	1	3
2006	3	100	1	1
2005	3	100	1	1
2004	3	100	1	1
2003	3	100	1	1
2002	3	100	1	1
2001	3	100	1	1
2000	2	80	0	0

Table 37: Summary of expenditure on NSPs in Western Australia (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	275	290	313	444	451	437	603	603
Disposal equipment	28	44	43	50	65	71	52	52
Safe sex packs	0	0	0	0	0	0	4	4
sub-total	302	333	356	495	517	508	658	658
NSP SUPPORT (\$'000)								
Primary NSPs operations	483	545	508	637	709	655	653	641
Support for secondary NSPs	0	7	9	10	10	10	10	10
Transport	0	0	0	0	0	0	0	0
Vending machines	10	0	0	0	0	0	55	55
sub-total	493	552	517	647	719	665	718	706
TOTAL (\$'000)								
(unadjusted for CPI)	795	885	873	1,142	1,235	1,173	1,376	1,365
TOTAL in 2008 (\$'000)								
(CPI adjusted)	1,005	1,086	1,039	1,328	1,400	1,293	1,469	1,415
<p>Notes provided: Data was unavailable for 2007/8 so was extrapolated from 2006/7</p> <p>Transport – transport costs for equipment items to primary NSPs are generally met as part of equipment costs. As the Department of Health WA has moved to a new centralised purchasing system for supply of equipment to primary NSPs in 2008/2009, it is evident that one of the suppliers itemises freight costs separately on invoices, but prior to this transport costs cannot be determined. For secondary NSPs (hospitals etc), the Sexual Health and Blood-borne Virus Program provides Fitsticks® at no costs to the service; however, the service meets the cost of couriering the goods.</p> <p>These cost figures include all equipment (needles, syringes, swabs, disposal containers etc) distributed through primary needle and syringe exchange programs (NSPs). As some items are cost recovered through NSPs, this income has been deducted from the total cost figure. Also included in this costing is the cost of all prepacked products (Fitpacks®, Fitsticks®) provided for distribution through secondary needle and syringe programs (NSPs) such as hospitals, public health units, community health centres, nursing posts etc.</p> <p>The cost figures for 'Spending on disposal equipment' are mainly the costs incurred by the primary NSPs for used needle and syringe waste disposal costs. In 2000/2001 and 20001/2002, a small amount of funding (\$6,090 and \$12,000 respectively) was spent on purchase of needle and syringe bins for installation in public settings, these bins were mainly provided to Local Government Authorities. These costs are included in the above figures.</p> <p>Includes funding for COAG NSP projects, but does not include funding for Department of Health and Ageing Hepatitis C Education and Prevention or National Illicit Drug Strategy (NIDS) funded projects.</p> <p>Other items that could be considered include: Cost to State/Territory health departments for administering programs e.g. staffing costs.</p> <p>Costs involved in resource production e.g. in 2006/2007 in WA \$11,320 was spent on the production on labels for Fitpacks® and Fitsticks®. There are also other resources that are produced but in total are probably not a major budget item.</p> <p>There is also a range of NSP workforce development projects that are not included.</p>								

Evaluating current NSPs

The epidemiological transmission model for HIV and HCV was applied to IDUs and NSPs specifically in Western Australia. 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 Western Australia with and without NSP distribution of sterile injecting equipment (Figure 60). The estimated number of infections averted is presented in Figure 61. An estimated 895 (564-1522, IQR) HIV infections and 12,625 (12,255-12,929, IQR) HCV infections were averted due to NSPs in Western Australia.

Figure 60: Estimated HIV and HCV incidence in Western Australia with and without NSPs

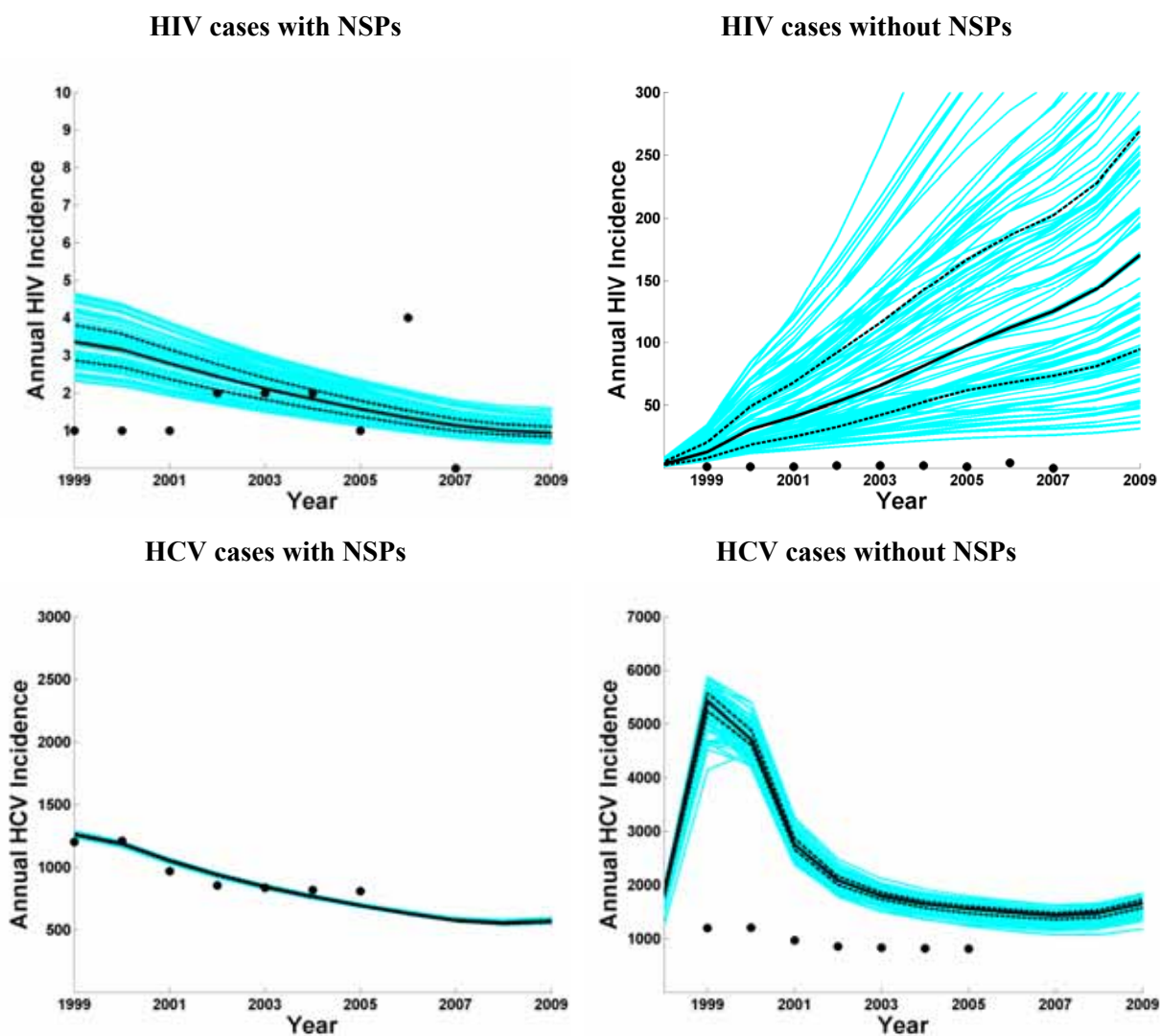
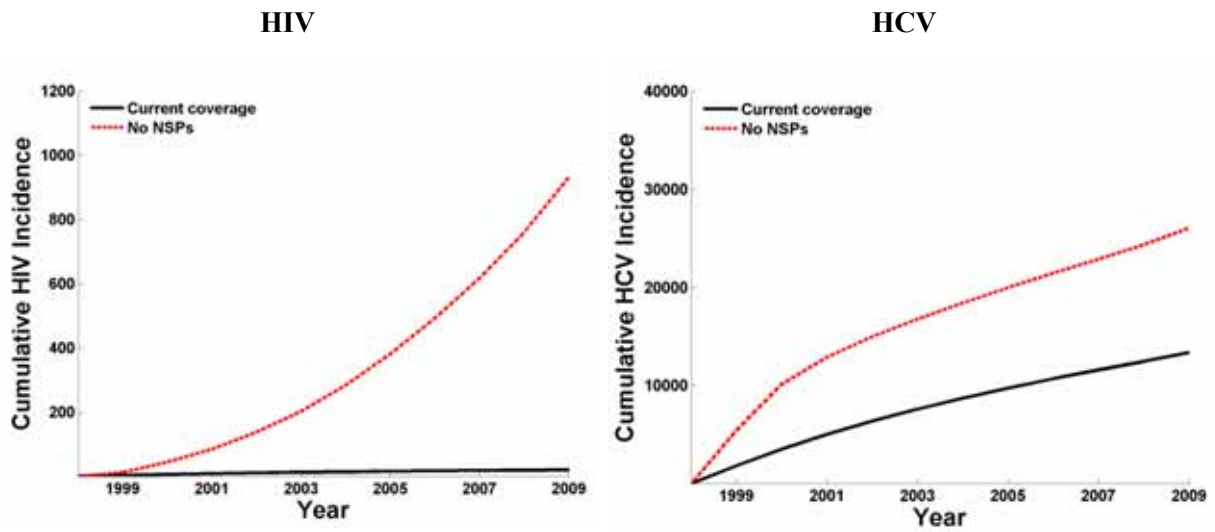


Figure 61: Estimated cumulative number of HIV and HCV cases averted in Western Australia due to NSPs



Epidemic projections in Western Australia

The Western Australian 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 Western Australian NSPs.

Figure 62: Projections of the expected number of HIV cases in Western Australia according to different syringe distribution levels

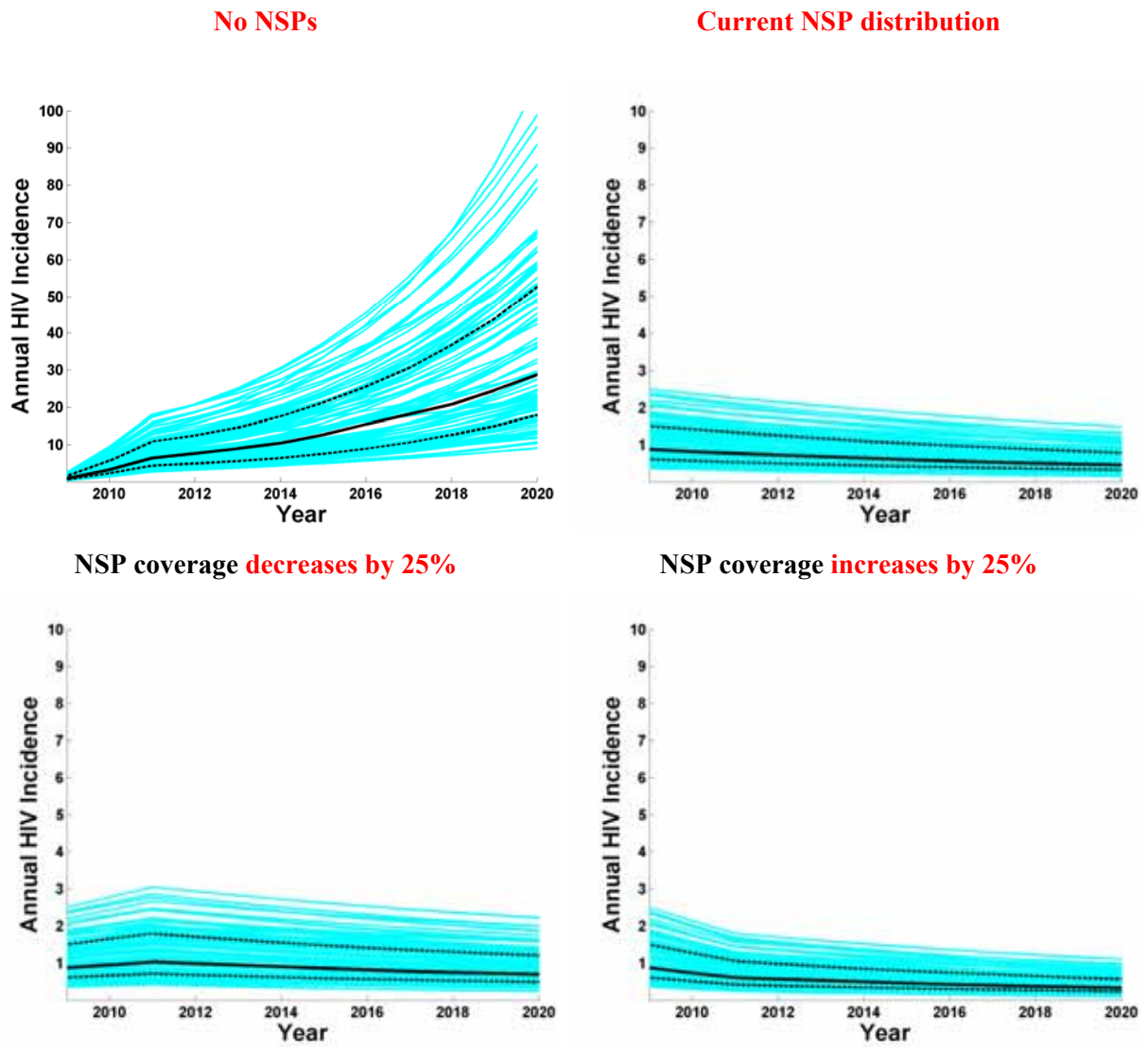
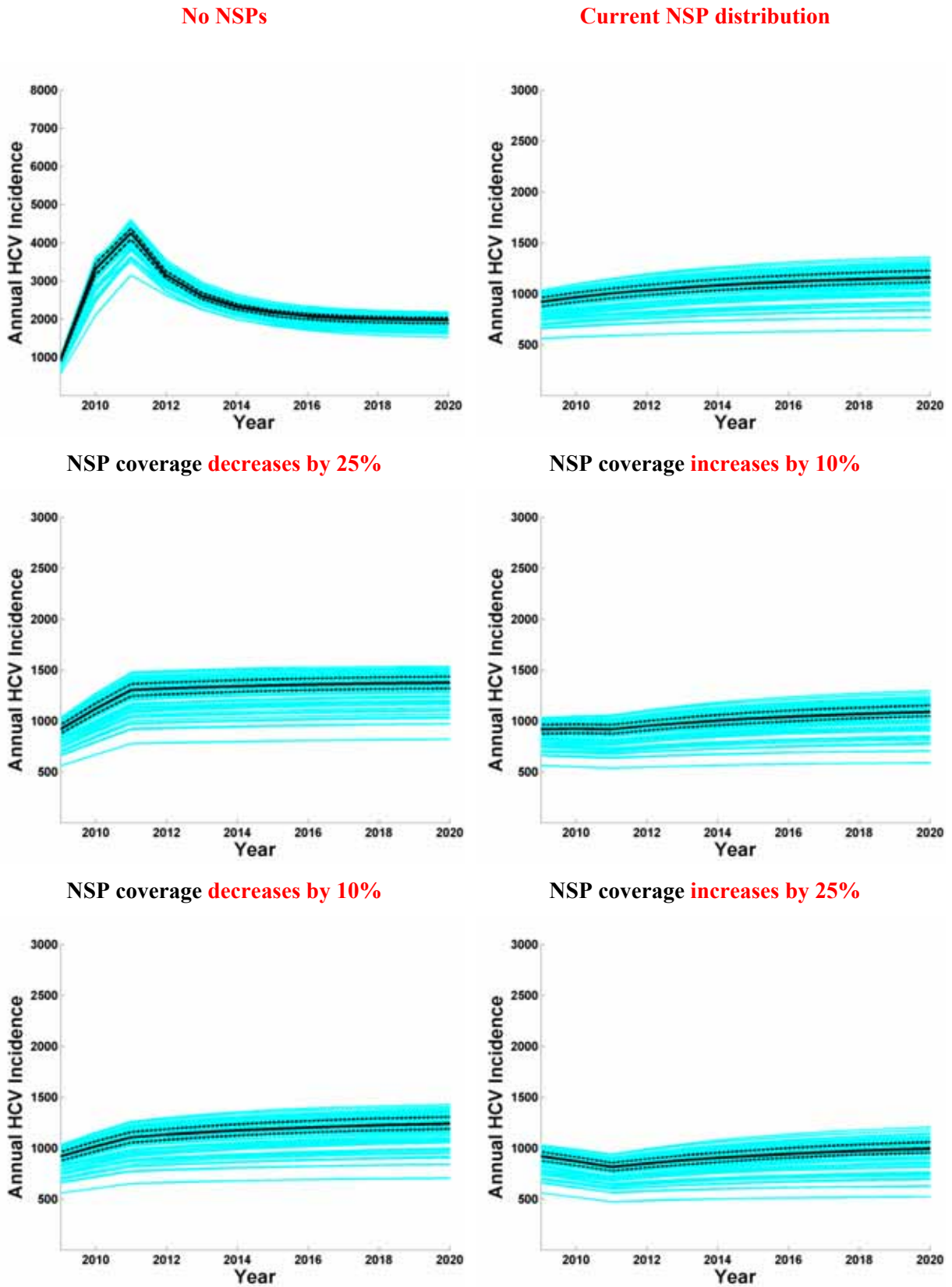


Figure 63: Projections of the expected number of HCV cases in Western Australia according to different syringe distribution levels



Economic evaluation of NSPs in Western Australia

The spending of \$12.9m in the funding of NSPs in Western Australia from year 2000-2009 has resulted in a saving of \$124m in healthcare costs, with more than 19,000 Disability Adjusted Life Years saved with a net financial saving of \$111m. A summary of the return on investment of NSP funding in Western Australia is shown in Table 38. The mathematical and economic modelling estimated that if NSPs are continued at the same level of funding in Western Australia for the next ten years, \$520m of net financial savings will accrue (\$456m discounted at 3%) and for twenty years \$1,060m (\$804m 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 \$5.63bn (\$1.97bn discounted at 3%).

Table 38: Return on Investment of NSP funding in Western Australia (2000-2009)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Healthcare costs saved \$m (IQR)	11 (10-12)	11 (10-12)	11 (10-13)	11 (10-13)	11 (11-13)	12 (11-14)	13 (12-15)	14 (12-16)	15 (13-18)	16 (14-20)
NSP funding \$m (median)	1	1	1	1	1	1	1	1	1	1
Net cost savings \$m (median)	10	10	10	10	10	11	11	12	13	15
DALY gain (median)	1,460	1,643	1,745	1,815	1,873	1,947	2,055	2,180	2,323	2,487

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.