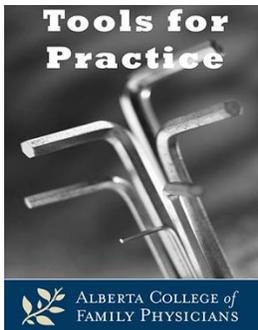


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## Shooting the Breeze on Supervised Injection Sites

**Clinical Question: Do supervised injection sites (SIS) reduce mortality, hospitalizations, ambulance calls, or disease transmission?**

**Bottom-line: Best evidence from cohort or modeling studies suggest that SIS are associated with lower overdose mortality (88 fewer overdose deaths/100,000 person years), 67% fewer ambulance calls for treating overdoses and a decrease in HIV infections. Effects on hospitalizations are unknown.**

### Evidence:

- Mortality:
  - High quality cohort study examining overdose mortality before and after Vancouver SIS opening.<sup>1</sup>
    - Of persons living within 500m of SIS (70% of SIS users):
      - Overdose deaths decreased from 253 to 165/100,000 person years (PYs); absolute risk difference: 88 deaths/100,000 PYs.
      - SIS one overdose death prevented annually for every 1,137 users.
    - Rest of city: No change in mortality.
- Hospitalizations:
  - Pre-SIS: 35% of 598 Vancouver intravenous drug users (IVDUs) admitted over three year period.<sup>2</sup>
    - 15% for skin infections.
  - Post-SIS: Of 1,083 SIS users over four years:<sup>3</sup>
    - 9% admitted with cutaneous injection-related infections (including osteomyelitis, endocarditis).
    - While SIS nurse 'referral' to hospital increased likelihood of admission, average length of stay decreased by eight days (from 12 to 4).<sup>3</sup>
  - Limitations: Indirect comparisons of different cohorts.
- Ambulance calls:
  - In the vicinity of SIS, average monthly ambulance calls with naloxone treatment for suspected opioid overdose decreased from 27 to 9, relative risk reduction = 67%.<sup>4</sup>
- Disease transmission:
  - Mathematical modelling on HIV infection prevention by SIS:

- HIV infections prevented ranges from ~6 to 57 per year.<sup>5,6</sup>
- Limitations: Assumptions made about drug use/injecting practices and may include benefit of co-existent needle exchange program.<sup>6</sup>
- Systematic review had similar findings.<sup>7</sup>

**Context:**

- Age standardized mortality rate among IVDU is ~8x higher than rest of population.<sup>8</sup>
- Benefit of SIS likely limited by site capacity:
  - SIS assists only ~4% of all injections in Vancouver's downtown eastside.<sup>5</sup>
- Educating SIS users likely contributes to decreased syringe borrowing (37% in 1996 to 2% in 2011).<sup>8</sup>
- At Vancouver SIS, ~1 overdose per 1,000 injections; no fatal overdose reported.<sup>9</sup>
- Cost effectiveness: All studies show healthcare savings for every SIS dollar spent.<sup>6,10,11</sup>
- Opening SIS does not increase arrests for drug trafficking, assaults, or robberies.<sup>12</sup>

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