

ESTIMATING THE COST OF A COMPREHENSIVE SYRINGE SERVICES PROGRAM IN THE UNITED STATES

Alice Asher¹, Eyasu Teshale¹, Ryan Augustine¹, Eliana Duncan¹, Patty Dietz², Maria Aslam², John Ward¹, Jonathan Mermin², Kwame Owusu-Edusei²

¹Division of Viral Hepatitis, National Center for HIV/AIDS, Hepatitis, STD and TB Prevention, Centers for Disease Control and Prevention

²Office of the Director, National Center for HIV/AIDS, Hepatitis, STD and TB Prevention, Centers for Disease Control and Prevention

Background

- Comprehensive syringe service programs (SSPs) reduce transmission of hepatitis C virus (HCV) and other blood borne pathogens among persons who inject drugs (PWID) by providing access to sterile injecting equipment and to resources such as substance use disorder treatment and screening for infectious diseases.¹⁻⁹
- Many existing SSPs do not have capacity to provide the recommended number of syringes per PWID, referral to medication-assisted therapy, HIV and HCV screening and linkage to care, and hepatitis B vaccinations.¹⁰
- The cost of establishing and operating a comprehensive SSP is unknown. We sought to estimate the cost in the United States.

Methods

- We defined a comprehensive SSP as offering prevention services, such as education on safe injection practices and wound care, overdose prevention with naloxone, referral to substance use disorder treatment, and testing for infections like human immunodeficiency virus (HIV), hepatitis C virus (HCV), and hepatitis B virus (HBV). Services also include linkage to medical services, such as HIV or HCV treatment, referral to mental health services, and onsite or referral to hepatitis A and B vaccination.
- We categorized size of SSP by annual client volume as small (250), medium (1250), and large (2500).
- Geographic locations were categorized as rural, suburban, and urban.¹¹
- We categorized six components of costs: start-up, personnel, operational, prevention, medical/testing services, and a mobile van.
- We used data from the Bureau of Labor Statistics and conducted internet searches to estimate ranges of cost by geographic location and size and determine the midpoint cost
- We estimated first year costs, annual operating costs, and cost per syringe and per client per year.

Table 1: Estimated costs of a comprehensive syringe services program (SSP) by size and geographic location, United States (in \$1,000 2016 US dollars)

Category	Large* SSPs cost midpoint**			Medium* SSPs cost midpoint			Small* SSPs cost midpoint		
	Rural	Suburban	Urban	Rural	Suburban	Urban	Rural	Suburban	Urban
Total Cost	1698.7	1732.9	1855.0	986.3	1012.8	1102.5	449.2	470.6	546.8
One-time cost¹ (Start-up only)	13.2	13.6	15.4	9.6	9.8	10.5	7.3	7.4	7.7
Personnel²	376.3	408.3	504.2	305.0	329.8	410.5	256.8	278.3	350.5
Operational³	144.9	149.4	171.7	67.0	69.0	77.3	27.8	28.2	31.9
Prevention services⁴	1006.0	1003.9	1003.9	503.0	503.0	503.0	100.6	100.6	100.6
Onsite medical/testing services⁵	112.9	112.9	112.9	56.4	56.4	56.4	11.3	11.3	11.3
Mobile van unit⁶	45.4	44.8	44.8	45.4	44.8	44.8	45.4	44.8	44.8

*Large SSPs serve 2,500 clients per year and distribute approximately 1.5 million syringes per year, medium SSPs serve 1,250 clients per year and distribute approximately 0.75 million syringes per year, and small SSPs serve 250 clients per year and distribute approximately 0.15 million syringes per year.

**Midpoint cost refers to average cost of the highest and lowest costs.

¹ One-time costs include lease/rent deposit, office furniture, and office equipment (e.g., items such as computers, mobile phones, modems, etc.).

² Personnel categories include a program director, a part-time accountant, peer navigators, a part-time nurse, and counselors.

³ Operational costs are associated with lease/rent, insurance, utilities, mail services and janitorial services.

⁴ Prevention services costs are associated with sterile syringes/needles and other injecting equipment such as cotton filters, sterile water, and cookers, as well as naloxone, hazardous waste management, and sharps containers.

⁵ Onsite medical/testing services costs include point of care testing for hepatitis C virus and HIV, hepatitis A and B vaccination, wound care, and pregnancy tests.

⁶ Optional mobile van unit costs include the cost of a van, registration, maintenance, gas, storage, and insurance.

Table 2: Estimated per syringe and per client cost of a comprehensive syringe services program (SSP) by size and by geographic locations, United States (in 2016 US dollars)

Category	Large* SSPs cost midpoint**			Medium* SSPs cost midpoint			Small* SSPs cost midpoint		
	Rural***	Suburban	Urban	Rural	Suburban	Urban	Rural	Suburban	Urban
Cost (\$)/syringe	1.1	1.1	1.2	1.3	1.3	1.4	2.7	2.8	3.4
Cost(\$)/year/client	661.3	675.2	724.1	752.6	774.3	846.2	1615.1	1703.0	2007.7

*Large SSPs serve 2,500 clients per year and distribute approximately 1.5 million syringes per year, medium SSPs serve 1,250 clients per year and distribute approximately 0.75 million syringes per year, and small SSPs serve 250 clients per year and distribute approximately 0.15 million syringes per year.

**Midpoint cost refers to average cost of the highest and lowest costs.

Results

- The estimated first-year cost ranged from \$0.4 million for a small rural SSP to \$1.9 million for a large urban SSP. (Table 1)
- The cost per syringe distributed varied from \$1 (large urban SSP) to \$3 (small rural SSP) (Table 1).
- The cost per client per year ranged from approximately \$700 (large rural SSP) to \$2000 (small urban SSP) (Table 2).
- The cost of purchasing and operating a mobile unit ranged from \$44,800 (suburban/urban SSP) to \$45,400 (rural SSP). Most of this cost is incurred in the first year with purchase of the van (result not shown).
- Medical care accounted for the largest proportion of cost in a large urban SSP care whereas personnel did in a small rural SSP (result not shown).

Conclusion

- The cost of SSPs in urban, suburban, and rural areas varied by size and geography
- These findings can inform implementers, funders, and policy makers on costs required to start and operate an SSP and provide opportunities to plan according to available resources.
- This information can also contribute to further economic evaluation studies of this effective public health prevention tool.

Contact: Alice Asher, RN, Ph.D. AAsher@cdc.gov

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National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of Viral Hepatitis

