



JOHNS HOPKINS
BLOOMBERG
SCHOOL *of* PUBLIC HEALTH

Cost Analysis of *Positive Charge*,
a Multi-Site Linkage to Care Program in the US

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Protecting Health, Saving Lives—*Millions at a Time*

Methods

A cost and threshold analysis to locally assess:

1. *Cost per client and cost per contact of delivering the program,*
2. *Economic threshold for the cost per HIV infection averted compared to current standard of care, and*
3. *Economic threshold for cost per disability-adjusted life years (QALYs) averted*

	A	B	C
1	COST ANALYSIS OF Positive Charge Interventions to Promote Access to Care		
2	Date: June 2010		
3			
4	<i>NOTE: Blue cells are to be entered; yellow cells are calculated for you. Please roll your cursor over individual cells with an orange triangle in the right corner for further information</i>		
5			
6	STEP 1: Specify time frame of analysis ==>		
7			
8			
9	STEP 2: Below, define Positive Charge service for your site		
10			
11			
12			
13			
14	<i>NOTE: All costs below should be expressed in the same year dollars (e.g., 2010 dollars)</i>		
15			
16			
17	STEP 3: Input summary client data (note: this step focuses on costs the clients incur)		
18			
19	No. enrolled clients served ==>		
20	No. enrolled client contacts ==>		
21	Total clients ==>		0
22	Total contacts ==>		0
23	Input average time (in hours) each client spends		
24	in your service (total across visits) ==>		
25	Input average time (in hours) each client spends		
26	in travel to/from your service (total) ==>		
27	Input approx average wage level for clients ==>	\$	-
28	Input approx average transportation cost for client		
29	(for roundtrip; all visits combined) ==>	\$	-
30	Input fraction of clients needing child care		
31	during receipt of services (0 through 1.0) ==>		
32	Total client cost to receive services ==>	\$	-
33			



Results: Project IN-CARE

CHICAGO	
Six-months service delivery costs	\$291,711 (\$212,000 staff)
Clients seen	107 clients 321 contacts
Cost per client	\$2776
Cost per contact	\$909
Cost-saving threshold	0.83 HIV transmissions *
Cost-effectiveness threshold	2.92 QALYs **

*The number of HIV transmissions need to be averted to be cost-saving (given lifetime HIV care costs are ~ \$355,000)

** The number of QALYs need be saved to be cost-effective (at \$100,000 willingness to pay per QALY)



Results: BANPH

OAKLAND/SAN FRANCISCO	
Six-months service delivery costs	\$356,796
Clients seen	112 clients 727 contacts
Cost per client	\$3186
Cost per contact	\$491
Cost-saving threshold	1.01 HIV transmissions *
Cost-effectiveness threshold	3.57 QALYs **

*The number of HIV transmissions need to be averted to be cost-saving (given lifetime HIV care costs are ~ \$355,000)

** The number of QALYs need be saved to be cost-effective (at \$100,000 willingness to pay per QALY)



Conclusions

- Limitations in data collection
- Cost per client and cost per contact results help shed light on affordability of services
- Positive Charge's linkage to care programs have achievable *cost-saving* and *cost-effectiveness* thresholds
- Enormous need to scale-up successful HIV linkage to care programs and their economic benefits appear to be promising



Literature Cited

1. Farnham P.G., D.R. Holtgrave, S.L. Sansom, and H.I. Hall. 2010. Medical Costs Averted by HIV Prevention Efforts in the United States, 1991-2006. *J Acquir Immune Defic Syndr.* 54(5): 565-567.
2. Hall, H.I., D.R. Holtgrave, and C. Maulsby. 2012. HIV transmission rates from persons living with HIV who are aware and unaware of their infection. *AIDS* 26(7): 893-896.
3. Gold, M. Panel on cost-effectiveness in health and medicine. *Med Care* 34 (12):DS19-199.
4. Holtgrave, D.R. 1998. *Handbook of economic evaluation of HIV prevention programs.* Plenum Publishing Corporation, New York..
5. Holtgrave, D.R., R.J. Wolitski, S.L. Pals, et al. 2012. Cost-utility analysis of the housing and health intervention for homeless and unstably housed persons living with HIV. *AIDS and Behavior.* Epub ahead of print.



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