

Prevention with Positives in Clinical Settings

Overview & Highlights from the Special Projects of National Significance PWP Initiative



Background

- 4087 HIV-infected patients completed 30-minute baseline interviews via ACASI
- 3799 assigned to intervention or assessment only
- Interventions tailored to clinic populations
- Follow up interviews at 6 and 12 months



Study Assignment by Intervention Type

	Sites (N=14)	N (N=3799)	Percent %
Health Educator (HE)	6	976	26%
Provider	4	885	23%
Mixed (HE + Provider)	5	759	20%
Assigned to any Intervention	14	2620	69%
Assessment only	8	1179	31%



Sample Characteristics

	Intervention %	Assessment %	Overall %
Gender			
Male	70	73	71
Female	30	26	28
Age Greater than 40	62	67	63
Race			
African American	48	42	46
Caucasian	35	37	35
Hispanic	13	18	15
Other	4	4	4



Sample Characteristics, cont'd

	Intervention %	Assessment %	Overall %
Sexual orientation			
MSM	51	52	51
MSW	19	20	19
Women	30	26	28
Education: High School or less	51	52	51



Substance Use at Baseline

	Intervention %	Assessment %	Overall %
Alcohol use			
Never	39	39	39
Some	55	55	55
Daily	4.1	4.8	4.3
Stimulant use			
None	78	82	80
Cocaine alone	12	11	12
Speed alone	6	4	5
Cocaine and speed	3	3	3
Other drug use			
No	73	77	74
Yes	26	22	25



Model Results: Sexual Transmission Risk

- Overall, participants assigned to any intervention experienced a 38% reduction in risk at 12 months
- Participants receiving the assessment only experienced a 31% reduction in risk at 12 months.
- The 7% difference between groups was not statistically significant.



Intervention Exposure by Intervention Type

	Any Intervention %	Assessment %
No dose	24%	76%
Low dose Provider 1-9 min Health Educator 1-249 min Mixed 1-24 min	52%	17%
High dose Provider 10+ min Health Educator 250+ min Mixed 25+ min	24%	7%



Reduction in sexual transmission risk over time by intervention exposure



**Model Results:
High/Low/No Intervention exposure**

- Participants not exposed to any intervention experienced a 33% reduction in risk at 12 months.
- Participants who received a low exposure to any intervention experienced a 31% reduction in risk at 12 months.
- Participants who received a high exposure to any intervention experienced a 49% reduction in risk at 12 months, which was a significantly greater reduction compared to those not exposed ($p < 0.05$).



Conclusions

- All participants – whether they received intervention or not – reduced their HIV transmission risk behavior by at least 30%.
- Higher “doses” of intervention yield greater declines in risk.
- Prevention with positives is an effective strategy for reducing risk in clinical settings.





Prevention with Positives Health Educator Interventions



Background

- 6 Ryan White funded clinics
 - 3 Peer-delivered interventions
 - 3 Intervention specialist-delivered interventions
- 1696 HIV-infected patients

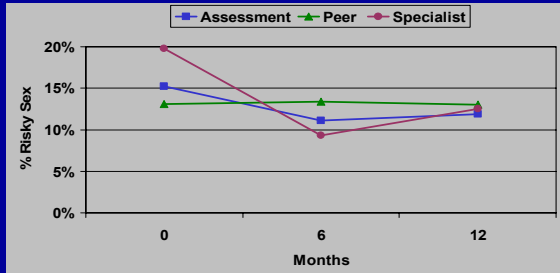


Intervention exposure by intervention type

	Total # Surveyed
Intervention Specialist Intervention	501 (30%)
Peer-led Intervention	473 (28%)
Assessment only	723 (43%)



Reduction in sexual transmission risk over time by intervention type

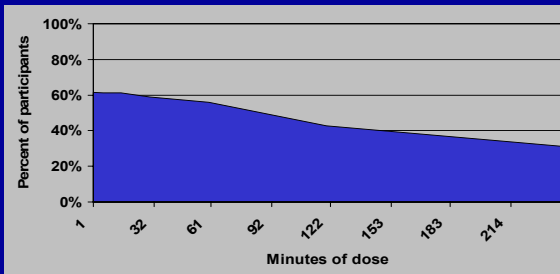


Model Results: Sexual Transmission Risk

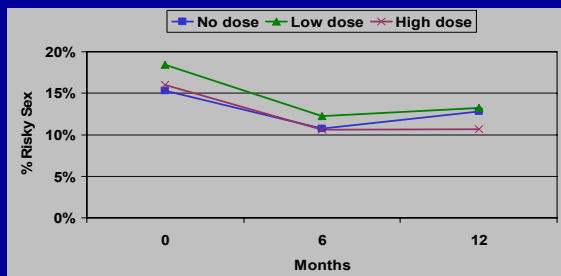
- **Assessment only**
 - 27% reduction at 6 months,
 - 22% reduction at 12 months
- **Peer-delivered interventions**
 - No change (<1%) at 12 months
- **Specialist-delivered interventions**
 - 53% reduction at 6 months ($p \leq 0.05$),
 - 37% reduction at 12 months
- Little effect of peer educator-led interventions on sexual transmission risk behavior.
- Effect of specialist-led interventions significant ($p < 0.05$) at 6 months.



Intervention Exposure



Reduction in sexual transmission risk over time by intervention exposure



Model Results: No/Low/High Intervention Exposure

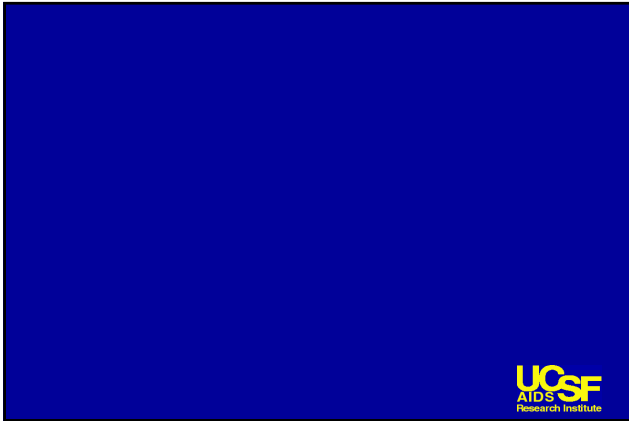
- **No dose**
 - 16% reduction in risk at 12 months
- **Low dose**
 - 28% reduction in risk at 12 months
- **High dose**
 - 33% reduction in risk at 12 months.
- **More effect with increasing dose, but not statistically significant.**
- **No difference in the effect of dose by intervention type (Peer vs. Specialist).**

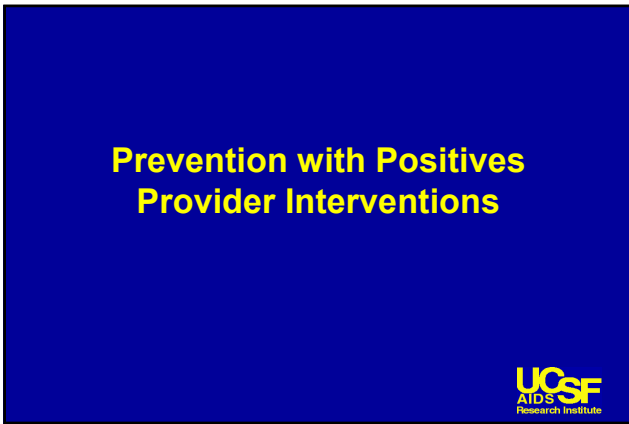


Conclusions

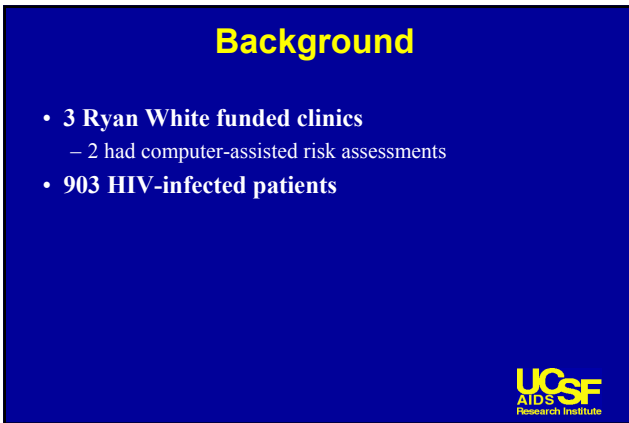
- **Intervention specialist interventions led to significant reductions in sexual risk behavior at 6 months.**
 - This effect was not maintained at 12 months.
- **Peer interventions did not have a significant effect on sexual transmission risk behavior.**
 - It is likely that peer interventions did not focus primarily on reduction in sexual risk behavior.
- **Future analyses of these interventions will explore the effect of these interventions on other facets of HIV-infected individuals lives, especially longer term.**







Prevention with Positives Provider Interventions



Background

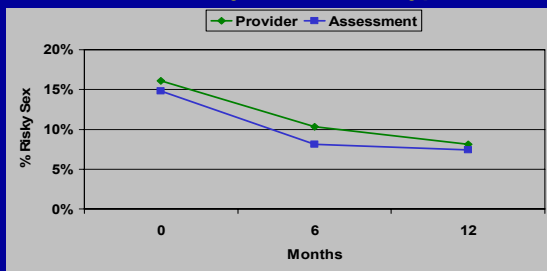
- 3 Ryan White funded clinics
 - 2 had computer-assisted risk assessments
- 903 HIV-infected patients

Participants by Intervention Type

	N (N=903)	Percent (%)
Provider	445	49%
Assessment only	458	51%



Reduction in sexual transmission risk over time by intervention type

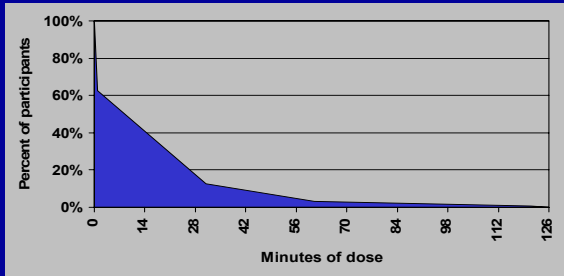


Intervention exposure by intervention type

	Received Intervention N (%)	Percent (%)
Provider	366	82%
Assessment only	276	60%

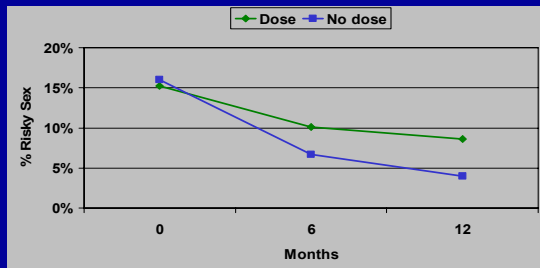


Intervention Exposure



UCSF
AIDS
Research Institute

Reduction in sexual transmission risk over time by intervention exposure



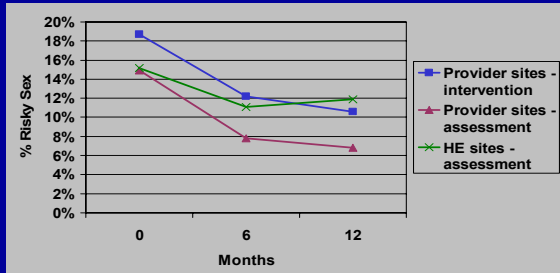
UCSF
AIDS
Research Institute

Model Results: Intervention Exposure

- Documented exposure to provider-led interventions did not impact the decline in reported sexual transmission risk.
- However...

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Reduction in sexual transmission risk by intervention exposure and location



**Model Results:
Alternative Assessment Group**

- Participants *assessed* in health educator intervention sites experienced a 22% reduction in risk at 12 months.
- Participants who received the provider intervention experienced a 43% reduction in risk at 12 months.
- Participants assessed but who did not receive the intervention in provider-led sites experienced a 54% reduction in risk at 12 months.



**Model Results:
Alternative assessment group**

- Participants assigned to provider-led interventions reported significantly greater declines in sexual transmission risk compared to those assigned to the assessment group in the health intervention sites.



Conclusions

- Patients seen in clinical sites using provider-led intervention strategies demonstrated significant reductions in risk, regardless of whether intervention exposure was documented.
- Assessing risk in clinical settings is key.
- Computer-assisted risk assessments and comparison to non computer assisted methods warrant further study.





Prevention with Positives Mixed Interventions (Provider+Health Educator)



Background

- 5 Ryan White funded clinics
- 1200 HIV Positive patients
- Referent group was provider-only intervention (standard of care)

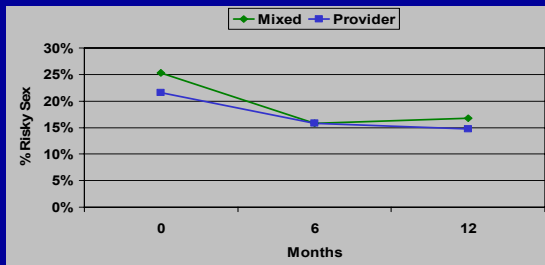


Participants by Intervention Type

	N (N=1200)	Percent (%)
Mixed (Provider + Health Educator)	758	63%
Provider only	442	37%



Reduction in sexual transmission risk over time by intervention type

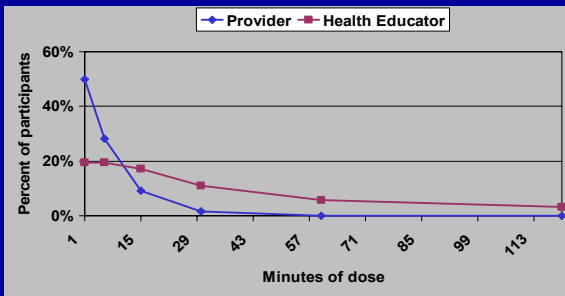


Model Results: Sexual Transmission Risk

- Overall, participants assigned to the mixed intervention experienced a 34% decline in sexual transmission risk behavior at 12 months
- Participants assigned to the provider intervention experienced a 32% decline at 12 months.
- The 2% difference between groups was not statistically significant.



Intervention Exposure by Source

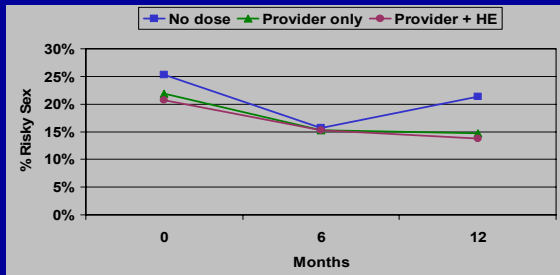


Intervention Exposure by Source

	N (%)	Median minutes of intervention	Range
No exposure	534 (44%)	0	
Provider only	424 (36%)	6	(1-55)
Health Educator + Provider	174 (15%)	95	(1-2944)



Sexual transmission risk behavior by intervention exposure



Model Results: Intervention exposure

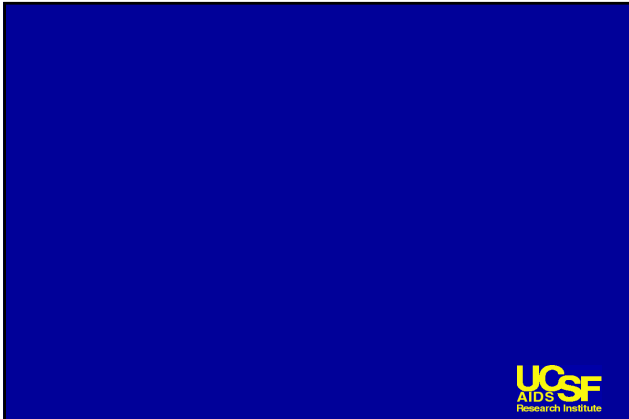
- Participants not exposed to any intervention experienced a 16% decline at 12 months.
- Participants who received provider only intervention experienced 33% decline in sexual transmission risk behavior at 12 months.
- Participants who received provider and specialist intervention experienced a 33% decline in sexual transmission risk behavior at 12 months.
- No significant differences.

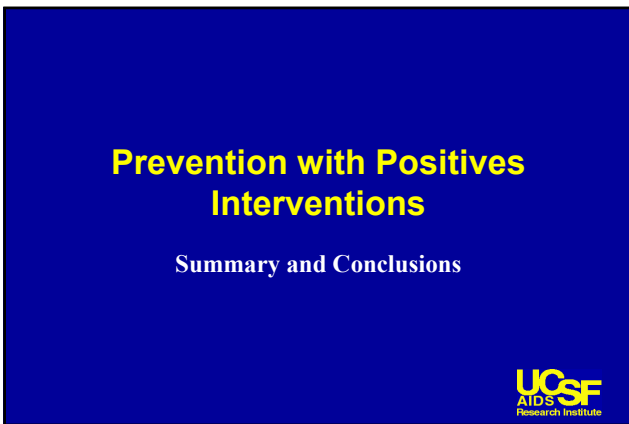


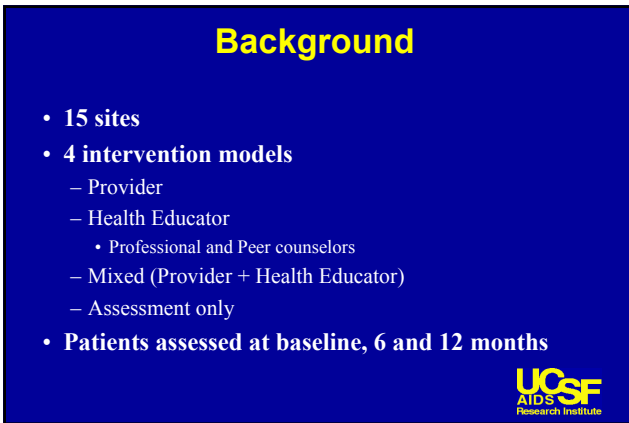
Conclusions

- Overall, participants exposed to providers or providers + health educators experienced a significantly greater reduction in sexual transmission risk behavior compared to those who were not exposed to these interventions.
- There was no additional benefit of health educator intervention in the presence of the provider-led one.
- When combined with provider-led interventions, health educator interventions in a clinical setting may require extra effort.







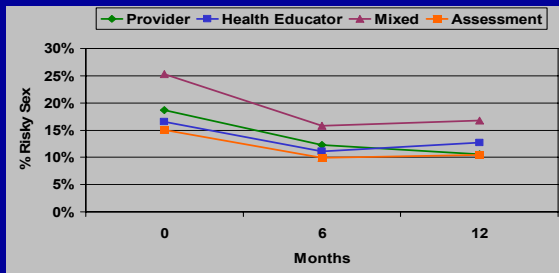


Participants by Intervention Type

	N (N=3799)	Percent (%)
Provider	930	24%
Health Educator	975	26%
Mixed	758	20%
Assessment only	1234	32%



Sexual transmission risk behavior by intervention type



Summary and Conclusions


- Provider-led interventions led to significantly greater reduction in sexual risk at 12 months compared to the assessment only group.
- Brief risk assessment and provider-led interventions appear to have the greatest effect on reduction in sexual risk among patients seen in clinical settings.
- More analysis is needed to explore whether and how professional and peer counselor-led interventions affect the lives of HIV-infected individuals in clinical settings.






Prevention with Positives in Clinical Settings

Cost-Effectiveness



Objectives

- Outline methods for calculating program effects
- Present effects, unit cost and cost-effectiveness results among those in:
 - Provider-led interventions
 - Health educator-led interventions
 - Mixed interventions



Methods

(Brief)



“Per Protocol Analysis”

Among those who were randomized to
‘Intervention’:

1. Calculate difference in estimated transmission among those who got any dose versus those who got no dose.
2. Calculate this difference at Baseline vs. 6 months; and 6 months vs. 12 month



Program Effectiveness:

Estimated Cases of HIV Averted



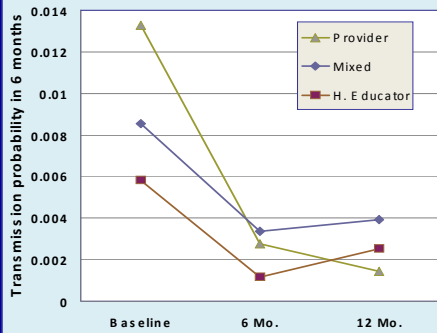
Estimated Transmission of HIV

- For each individual, estimate the probability of transmitting HIV:
- Includes consideration of:
 - Number and types of partners (gender, HIV status)
 - Number and types of unprotected sexual acts per partner (vaginal, anal insertive, anal receptive)
 - Transmission risk per sex act
 - Use of HAART therapy (reduced transmission risk)

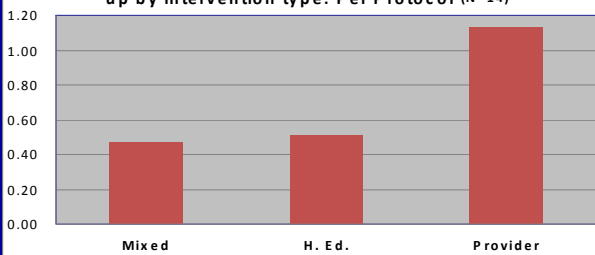
Details in "Predicting HIV Transmission Risk among HIV-Infected Patients Seen in Clinical Settings"; S. Morin, J. Myers, S. Shade *et al.*; *AIDS and Behavior*, 2007.



Mean 6-month HIV transmission risk over 12 months f/u (By type)



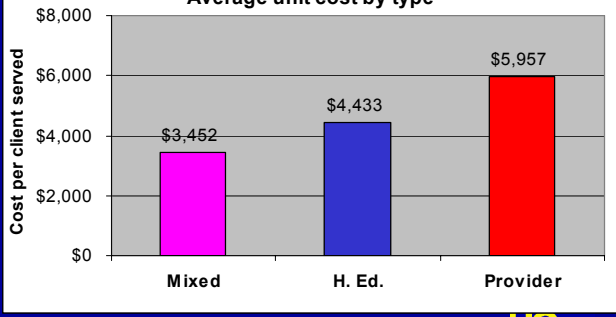
Average HIV cases averted in 12 months of follow-up by intervention type: Per Protocol (N=14)



Unit Costs



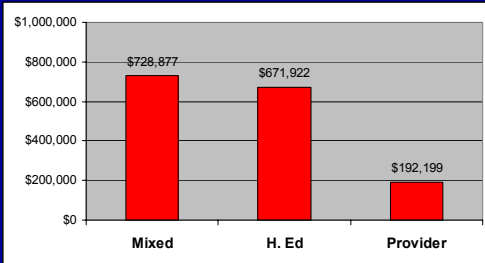
Average unit cost by type



Cost Effectiveness



Cost per HIV Infection Averted



Key Findings

Order of Intervention types by CE

1. "Provider" (Most CE)
2. "Health Educator"
3. "Mixed" (Least CE)

Order of Intervention types by unit cost

1. "Provider" (Highest unit cost)
2. "Health Educator"
3. "Mixed" (Lowest unit cost)



Caveats

- Results not adjusted for differences in client risk profile between sites.
- No tests of significance of differences in effectiveness.