Best practices and structural factors influencing success in a linkage to care program (ARTAS-II project)

2010 Ryan White Grantee Conference

Disclosures

- Lytt I. Gardner, Ph.D has no financial interest or relationships to disclose.
- Co-authors (Craw, Rossman, Gruber, O'Donnell, Jordan, Rapp, Simpson and Phillips) have no financial interest or relationships to disclose.
- HRSA Education Committee Disclosures. HRSA Education Committee staff have no financial interest or relationships to disclose.
- CME Staff Disclosures. Professional Education Services Group staff have no financial interest or relationships to disclose.

Learning Objectives

- Learning objective 1: By the end of the session participants will be able to identify at least three best practices employed by grantees to address linkage to care program implementation challenges in the ARTAS-II demonstration project.

- Learning objective 2: By the end of the session participants will be able to determine whether co-location of HIV medical care services with HIV testing, linkage to care services, and case management services is associated with higher rates of entry into HIV primary care.

- Learning objective 3: By the end of the session participants will be able to determine whether state health department grantees had significantly higher linkage to HIV care rates compared to non-state health department grantees.

Why is linkage to care important?

There are big personal and public health benefits of getting HIV+ persons into care early.

- Personal: Direct health benefits from clinic
- Public health: Keeping VL low leads to reduced transmission

Metsch L et al. and the ARTAS Study Group. **HIV transmission risk behaviors among HIV-infected persons who are successfully linked to care**. *Clin Infect Dis*. 2008; 47(4): 577-84.

Giordano T et al. **Retention in care: a challenge to survival with HIV infection.** *Clin Infect Dis* 2007;**44**:1493-1499.

CDC Strategic Plan by 2010

Goal 3:

By 2010, increase from the current estimated 50% to 80% the proportion of HIV-infected people in the U.S. who are linked to appropriate prevention, care and treatment services.

Background: need for Linkage to Care

- Previous U.S. estimates indicate:
  - ~ 40% of initially diagnosed delay entry into care by ≥ 12 mo. (Samet, 1998)
  - 1/3 HIV-infected persons aware of serostatus are not receiving medical care (Fleming, 2002)

ARTAS-I (2001-03)
AntiRetroviral Treatment Access Studies

- **PURPOSE:** Assess the efficacy of a brief case management intervention to link recently diagnosed HIV+ persons to HIV primary medical care.

- 2-arm randomized controlled trial (RCT)
  - Standard of Care (SOC) – received passive referral to care
  - Case Managed (CM) – received brief CM intervention

- Strengths-based intervention: up to 5 sessions within 90 days

CDC

Overall ARTAS-I Trial Results

Percent Linked to Care and Adjusted¶ RR

	6 Months N=270	6+12 Months N=273	Med record confirmed 6+12 Months N=224
Intervention arm	78%	64%	63%
Control arm	60%	49%	48%
RR_{adj}	1.3	1.4	1.4
p-value	0.0006	0.007	0.03

ARTAS-II (2004-2007)

- **Purpose:** Demonstrate that the ARTAS linkage case management (ALCM) intervention can be implemented effectively by sites without experienced researchers

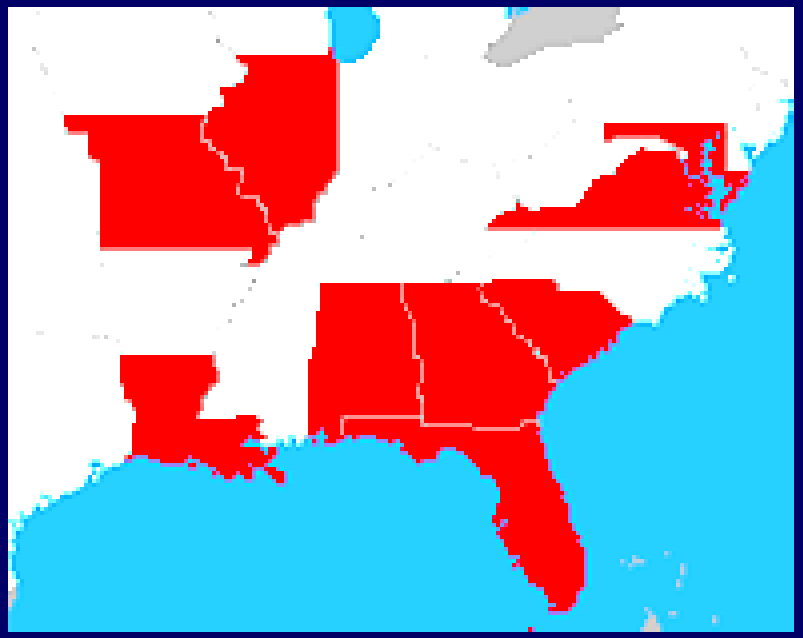
- **Primary Outcome:** Entry into HIV primary medical care within 6 months of enrollment

- **Goal:** ≥ 75% of participants in HIV medical care

ARTAS-II study sites

- **10 project sites funded**
  - 5 state, local health departments
  - 5 CBOs

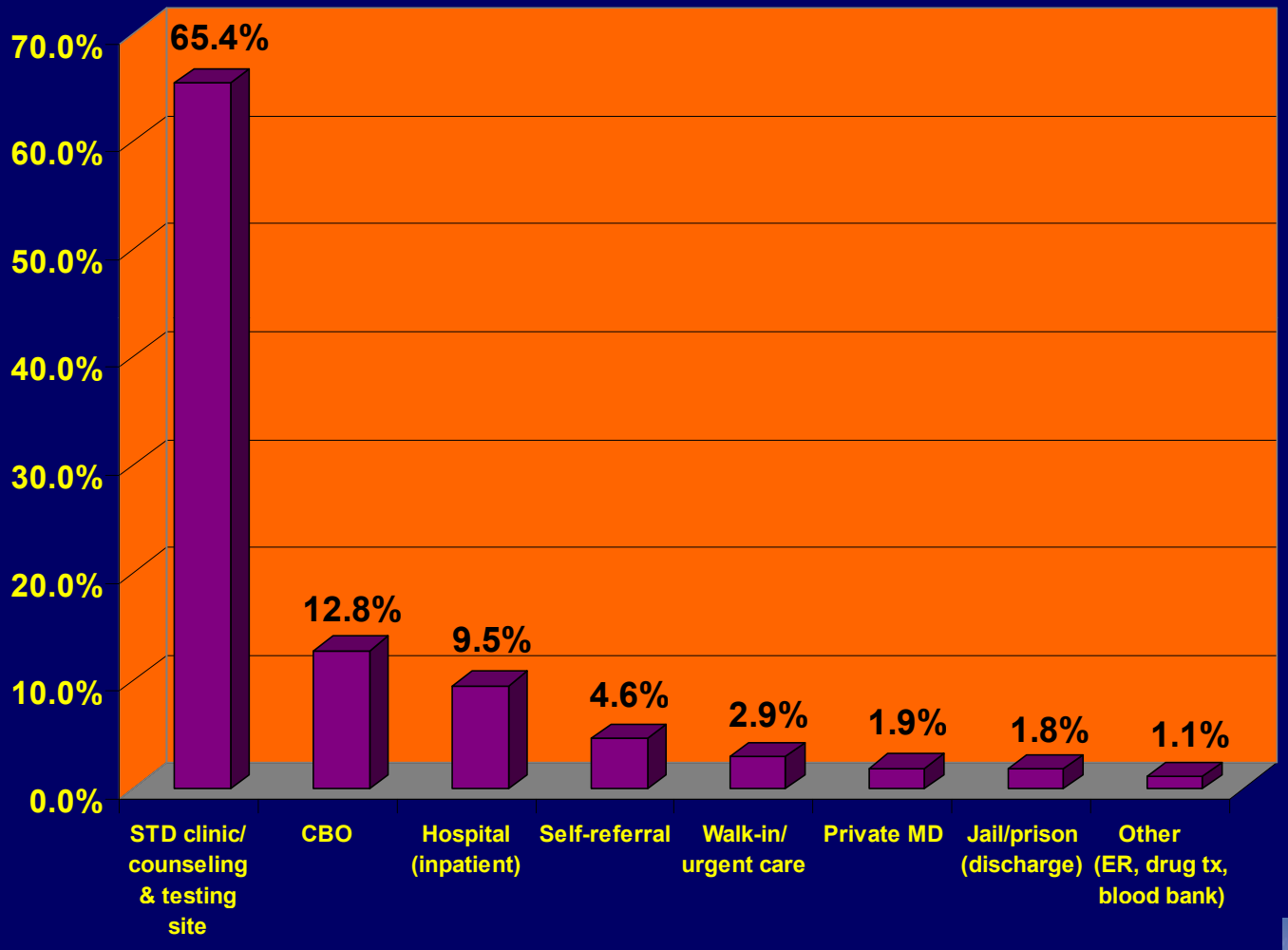
- **Anniston, AL**
- **Atlanta, GA**
- **Baltimore, MD**
- **Baton Rouge, LA**
- **Chicago, IL**
- **Columbia/Greenville, SC**
- **Jacksonville, FL**
- **Kansas City, MO**
- **Miami, FL**
- **Richmond, VA**



Eligibility criteria

- At least 18 years old
- Could speak/read English or Spanish
- Diagnosed HIV^+ in past 12 months
- No more than 1 visit to an HIV medical care provider and not currently engaged in care
- Not currently receiving HIV-related assistance from a CM/SW
- Not currently taking antiretroviral medications

Referral sources



Primary outcome: HIV medical care received?

- Did the participant visit an HIV primary care provider (MD/DO, PA, NP) at least once within 6 months of enrolling in the study?

- Determined in a hierarchical fashion from:
  1) 6-month ACASI survey (self-report)
  2) Medical record abstraction (signed consents)
  3) Case manager summary reports

Results

- **Baseline characteristics (n=626):**
  - Male (73%)
  - Black non-Hispanic (70%), Hispanic (11%)
  - Median age = 35 (range, 18-74)
  - Uninsured (65%)
  - Total annual household income < $10,000 (62%)

- **6-month linkage to care outcome:**
  - 79% (497/626) linked to HIV medical care

*20 participants were excluded from follow-up due to death or invalid eligibility screening information.

Results – Multivariate results

	Adj OR (95% CI)	P-value
Age (years)		
26-39 vs. 18-25	1.83 (1.07, 3.13)	0.03
40+ vs. 18-25	2.00 (1.14, 3.51)	0.02
Race/ethnicity		
•White-NH vs. Black-NH	1.29 (0.70, 2.38)	n.s.
•Hispanic vs. Black-NH	2.14 (1.03, 4.43)	0.04
Co-located HIV medical care		
Yes vs. No	3.03 (1.87, 4.90)	< 0.0001
# of case management sessions		
2-5 vs. 0-1	2.95 (1.88, 4.62)	< 0.0001
Housing last 3 months		
•Own home or apartment	2.38 (1.19, 4.73)	0.01
•Someone else's home/apt	1.65 (0.81, 3.36)	n.s.
•Unstable	Ref.	--
Non-injection drug use last 3 mos		
No vs. Yes	1.94 (1.04, 3.60)	0.04

Summary of Findings: ARTAS-II

- **79% was comparable to the 78% linked in ARTAS-I trial arm**
- Higher than previous CDC & HRSA "in-care" estimates

- Average amount of time to link clients to HIV care was relatively moderate. These data from case mgr summary sheets:
  - Median # CM sessions per client = 2 (mean, 2.3)
  - Total average time spent per client = 7.2 hours

Published 2008: Craw J et al. Brief strengths-based case management promotes entry into HIV medical care. *JAIDS* 2008; 47: 597-606.

As we analyzed data for the JAIDS publication we began to realize that best practices themes were emerging from our notes, reports, emails, etc…

1. Selecting an implementing agency. [8 of 10 were CBOs]

2. Establish and strengthen essential partnerships. [with health departments, HIV clinics, case management agencies]

3. Distinguish ALCM from long-term case management.

4. Communicating the benefits of an ALCM program

5. Maintaining referrals: document and track outcomes.

6. Transportation : be able to meet with client out of office.

7. Transition clients from ALCM to long-term case management.

8. Provide consistent support and supervision to the linkage case manager.

In the Spring of 2007, all the ARTAS-II CDC money stopped. But 5 of the ten grantees managed to continue ALCM despite the funding gap. All 5 had contributed examples of their best practices.

Linkage to care rates by post-project ALCM continuation

Continued ALCM post-CDC funding			**Did not continue ALCM post-CDC funding**			**P-value**
Grantee	Type	#linked/ #enrolled (%)	Grantee	Type	#linked/ #enrolled (%)	
Group Total		**299/352 (85%)**	**Group Total**		**198/274 (72%)**	<0.0001
Anniston, AL	CBO	39/42 (93%)	Atlanta, GA	CBO	44/77 (57%)	
Baton Rouge, LA	State H.D.	55/72 (76%)	Baltimore, MD	CBO	15/22 (68%)	
Columbia& Greenville, SC	State H.D.	86/93 (93%)	Chicago, IL	CBO	26/36 (72%)	
Kansas City, MO	CBO	74/89 (83%)	Jacksonville, FL	Local H.D.	55/64 (86%)	
Richmond, VA	State H.D.	45/56 (80%)	Miami, FL	State H.D.	58/75 (77%)	

Characteristics of sites that continued ALCM after mid-2007

Site	Strong health department partnership?	State or local h.d. grantee?	Co-located ALCM and HIV care?
Alabama	Y	N	Y
Baton Rouge, LA	Y	Y	N
Columbia/ Greenville SC	Y	Y	mixed
Kansas City, MO	Y	N	Y
Richmond, VA	Y	Y	N

Were state health department sponsored sites more successful, were co-located sites more successful?

Were these factors independent correlates of linkage to care?

Variable	No. Linked/ Total enrolled (%)	Adjusted Odds Ratio	Logistic model p-value
Co-located			
Yes	244/281 (87%)	3.6	<0.0001
No	253/345 (73%)		
Grantee			
State health dept.	244/296 (82%)	2.5	<0.0001
CBO/local health dept.	253/330 (77%)		

In this logistic model being linked to care (yes vs. no) was the dep. variable. Co-location and grantee status binary indep. vars.
Both co-location of ALCM with HIV primary care and having a state health Department sponsor were independently associated with a higher rate of linkage to care.

Can you isolate effects of some of the best practices on linkage to care rates?

Sites that continued ALCM

Not co-located implementation sites	Linked/Enrolled (%)	Co-located implementation sites	Linked/Enrolled (%)	Chi-square p-value
Baton Rouge, LA Richmond, VA Columbia, SC **Average**	**125/157 (80%)**	Alabama Kansas City Greenville, SC **Average**	**174/195 (89%)**	**0.01**
Average # enrolled per site	52		65	

All 5 grantees had strong health department partnerships

Characteristics of sites that did not continue ALCM after mid-2007

Site	Difficult H.D. partnership?	State or local h.d. grantee?	Co-located ALCM and HIV care?
Atlanta	X		
Baltimore	X		
Chicago	X		
Jacksonville		X	X
Miami		X	X

Sites that did not continue ALCM

Not co-located sites	Linked/Enrolled (%)	Co-located sites	Linked/Enrolled (%)	Chi-square p-value
Atlanta Baltimore Chicago Average	85/135 (63%)	Jacksonville Miami Average	113/139 (81%)	<0.0001
Average # enrolled per site	45		70	

Continued ALCM post-CDC funding			Did not continue ALCM post-CDC funding			P-value
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2. Establish and strengthen essential partnerships. [with health departments, HIV clinics, case management agencies]

3. Distinguish ALCM from long-term case management.

4. Communicating the benefits of an ALCM program

5. Maintaining referrals: document and track outcomes.

7. Transition clients from ALCM to long-term case management.

Conclusions

- **Health departments and CBOs without experienced researchers can implement the ARTAS linkage intervention effectively. (Our conclusion in 2008).**
- **Co-location of linkage services with HIV medical care and being a state health dept grantee associated with significantly higher linkage to care rates.**
- **But non-co-located agencies (LA+VA+SC[a]) successfully employing best practices averaged an 80% linkage rate.**

Conclusions

- **CBOs with a history of strong partnerships with local and regional health departments (AL+Kansas City) much better able to succeed than CBOs that had difficulty sustaining strong partnerships with local health depts (Atlanta+Baltimore+Chicago).**

- **Any type of grantee agency public or private, that successfully employs these 8 best practices can achieve high enrollment and linkage to care rates.**

- **Co-location of ALCM and HIV primary care definitely helps clients enter care, but may not be a practical solution for reaching linkage to care targets for the majority of communities in the U.S.**

Recommendations

- **Adherence to best practices important for linkage to care programs, especially those without linkage services co-located with HIV primary care.**
- **Collecting self-report and medical record evidence of successful linkage to primary care important for evaluation and monitoring.**
- **Integration of post-test counseling and linkage case management improves efficiency, benefitting both the client and public health—as evidenced by vignette from Kansas City Free Health Clinic.**

Lessons Learned-Kansas City

- Following a rapid test positive result, ALCM is called to meet with client, offer support, answer questions, facilitate blood draw for confirmatory result, and schedule confirmatory result appointment with client.
- ALCM makes follow up call to client combining confirmatory post-test counseling, ALCM, and partner elicitation.
- Rapport with client from ALCM improved partner elicitation. Strengthened the partnership with the Kansas City Health Department.
- Subsequent to the CDC ARTAS project, ALCM eligible population was expanded to include clients who had fallen out of care.
- ALCM not always available made for challenges in 2005-2007. Recently KC expanded to 4 ALCMs with 24/7 coverage. Now responding to opt-out testing at Truman Med Center and other sites.

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National Strategy Targets

By 2015

- Increase the proportion of newly diagnosed patients linked to clinical care within three months of their HIV diagnosis from 65 percent to 85 percent.

Publications

- L Gardner, L Metsch, P Mahoney et al. Efficacy of a brief case management intervention to link recently diagnosed HIV-infected persons to care. *AIDS* 2005; 19: 423-431.

- J Craw, L Gardner, G Marks, R Rapp, J Bosshart, W Duffus et al. Brief strengths-based case management promotes entry into HIV medical care. *JAIDS* 2008; 47: 597-606.

- D Gruber, P Campos, M Dutcher, L Safford, K Phillips, J Craw, L Gardner. Linking recently diagnosed HIV-positive persons to medical care: perspectives of referring providers. *AIDS Care* 2010 (in press).

- J Craw, L Gardner, A Rossman, D Gruber, N O'Donnell, D Jordan, R Rapp, C Simpson and K Phillips. Structural factors and best practices in implementing a linkage to HIV care program using the ARTAs model. *BMC Health Services Research* 2010 (in press).

- L Metsch et al. and the ARTAS Study Group. HIV transmission risk behaviors among HIV-infected persons who are successfully linked to care. *Clin Infect Dis*. 2008; 47(4): 577-84.

Credits

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Referral patterns

- Louisiana CBOs

  14 referring sites. 49% from STD clinic.

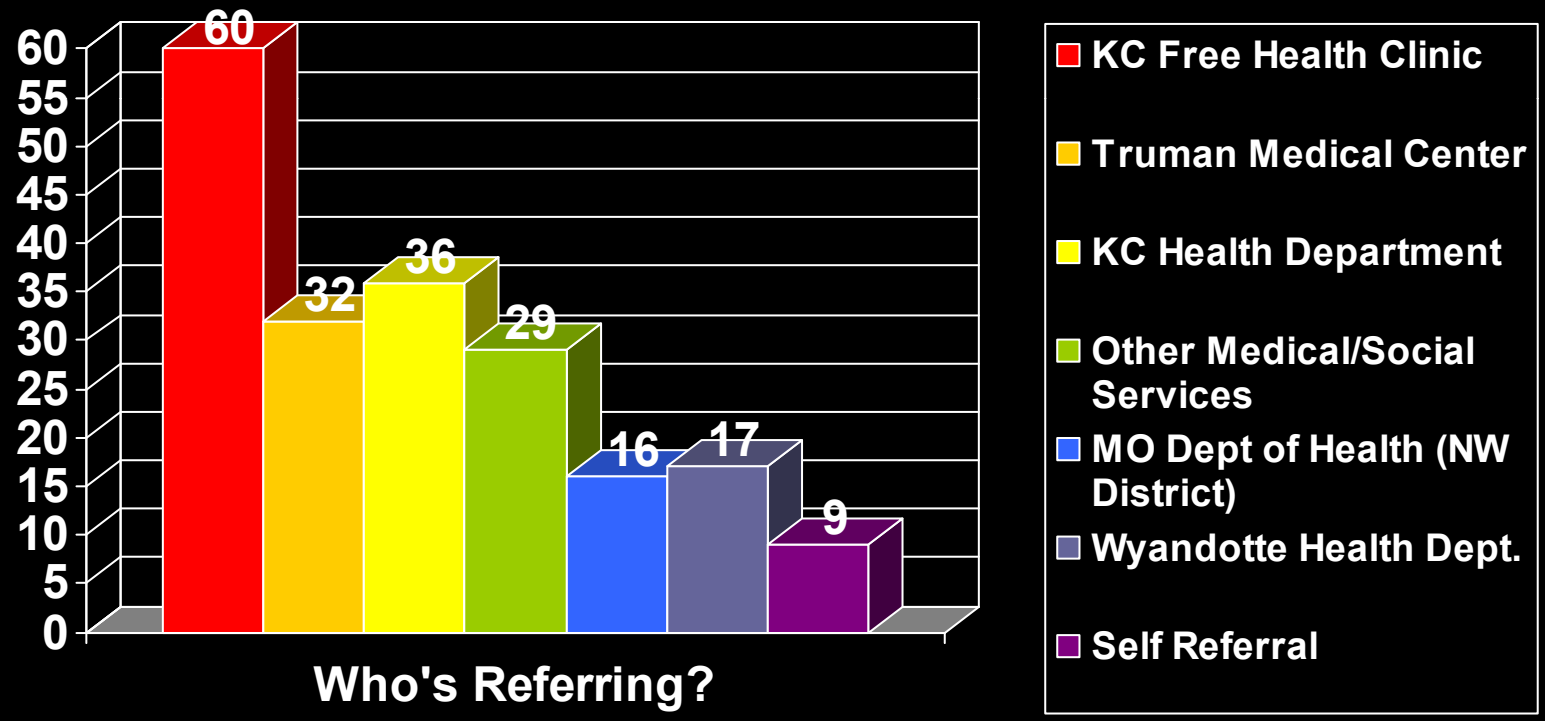
- KC Free Clinic

  8 referring sites

- Alabama CBO

  37 of 44 positive clients referred by DIS assigned to 2 regional health districts

Referrals In: Kansas City Sources



Referrals include ALL referrals screened by ALCMs regardless of eligibility form completed or enrollment status.