The Association Between Mental Health Service Utilization and Mental Health Functioning Among Ryan White Clients Living with HIV in New York City

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MENTAL HEALTH AMONG PEOPLE LIVING WITH HIV

- People living with HIV (PLWH) are disproportionately impacted by mental illness
  (Bing et al., 2001; Parhami, Fong, Siani, Carlotti, & Khanlou, 2012; Pence, Miller, Whetten, Eron, & Gaynes, 2006)

- Poor mental health is associated with unsuppressed viral load and increased risk of mortality among PLWH
  (Anastos et al., 2005; Cook et al., 2004; Hartzell, Spooner, Howard, Wegner, & Wortmann, 2007; Horberg et al., 2008; Ickovics et al., 2001; Irvine et al., 2016; Pence, Miller, Gaynes, & Eron, 2007;Yehia et al., 2015)

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MENTAL HEALTH SERVICES FOR PLWH

- Efficacy trials have identified mental health interventions for PLWH (e.g., Sherr et al., 2011)

- Elements of efficacy study designs limit the ability to reflect how mental health services function in “real-world” settings:
  - variable treatment lengths
  - interventions implemented differently in terms of structure and/or content
  - fewer resources for ensuring intervention fidelity and participant retention (Owczarzak & Dickson-Gomez, 2011)

MENTAL HEALTH SERVICES FOR PLWH IN REAL-WORLD SETTINGS

- **OUTCOMES:** Promising evidence of the positive impact of mental health services on health/mental health outcomes among PLWH (Brown, Stepelman, & Bottonari, 2012; Coleman, Blaishill, Gandhi, Safren, & Freudenreich, 2012; Primeau, Avellaneda, Musselman, St. Jean, & Illa, 2013)

- **PROCESS:** To date, two studies have found that higher levels of mental health services are associated with improved health and mental health outcomes among PLWH (Mkanta, Mejia, and Duncan, 2010; Winiarski, Beckett, and Salcedo, 2005)

- **GAP:** Studies of mental health service utilization are needed to inform the design and implementation of these services for PLWH, particularly in identifying adequate treatment dosages that will result in clinically significant improvements

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AIMS

1. To assess changes in mental health functioning among clients of RWPA-funded mental health services

2. To examine the association between mental health service utilization and improvement in mental health functioning

RYAN WHITE PART A

- Ryan White Part A (RWPA) provides assistance to Eligible Metropolitan Areas (EMAs) and Transitional Grant Areas (TGAs) that are most severely affected by HIV/AIDS
- RWPA is designed to fill gaps in medical and social services for PLWH by funding services that are not covered by other sources, such as Medicaid/Medicare, or serving individuals ineligible for those other sources, e.g., due to income or immigration status
- Individuals must live in the RWPA-funded EMA and have an income below 435% of the Federal Poverty Level to be eligible for RWPA services in New York

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RWPA FUNDED MENTAL HEALTH SERVICES FOR PLWH IN NEW YORK CITY

- Services include:
  - Individual/family/group mental health counseling
  - HIV treatment adherence counseling
  - Alcohol or drug (AOD) counseling
  - Psychiatric consultations
  - Care coordination

- Mental health services are provided by licensed clinicians (e.g., social workers, mental health counselors), psychiatrists, and certified peer workers

- To be eligible for mental health services, individuals must meet the income and residence guidelines for RWPA services and have a DSM diagnosis

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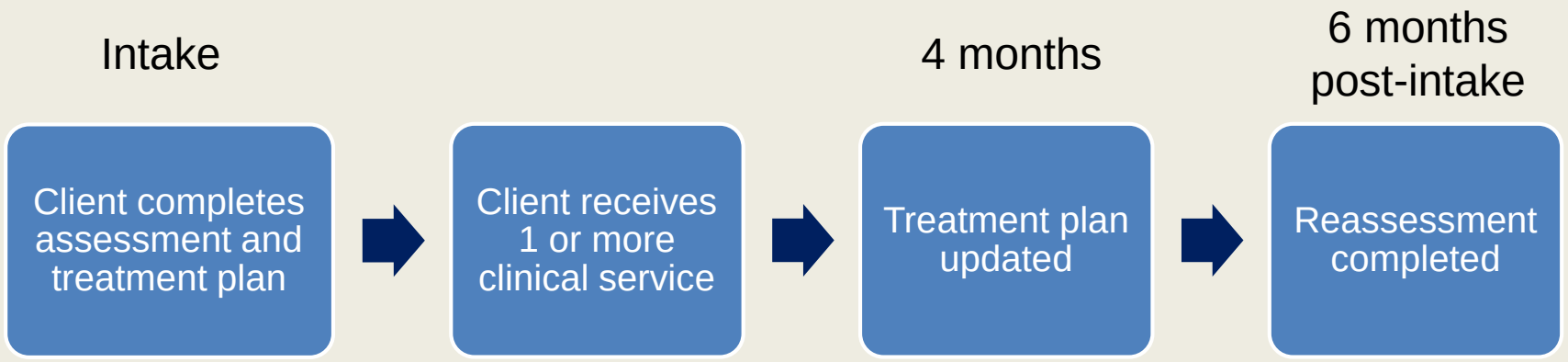
RWPA FUNDED MENTAL HEALTH SERVICES FOR PLWH IN NEW YORK CITY



THE ELECTRONIC SYSTEM FOR HIV/AIDS REPORTING AND EVALUATION (eSHARE)

- Primary data system for contracts with the Bureau of HIV/AIDS Prevention and Control at the New York City Department of Health and Mental Hygiene (NYC DOHMH), including RWPA funded contracts
- Web-based data reporting system designed by the NYC DOHMH
- Captures demographics, enrollments, services (individual and group), referrals, assessments and outcome measures over time

THE NYC HIV SURVEILLANCE REGISTRY

- Contains comprehensive information on HIV diagnoses and HIV-related laboratory results (CD4 counts and viral loads) from medical providers and laboratories
- Continuously updated with new deduplicated data on PLWH in NYC
- New York State requires named reporting of all diagnoses of HIV and AIDS, HIV-related illnesses, positive HIV diagnostic tests, HIV genotypes, dates and values for viral load tests and CD4 cell counts

CLIENT POPULATION

Individuals who met the following criteria were included in our analysis:

- age 18 or older
- continuous enrollment in a RWPA-funded mental health services program at one of 11 sites in NYC for ≥4 months between 6/2012 and 5/2016
- ≥1 clinical visit (i.e., an individual or group mental health, AOD, or HIV treatment adherence counseling session or a psychiatric consultation)
- an intake assessment completed upon program enrollment
- a reassessment completed between 4 and 8 months post-intake

PRIMARY OUTCOME
MENTAL HEALTH FUNCTIONING

- Mental component summary (MCS) score data from the Short Form 12 (SF-12)(Ware et al., 1996) were analyzed at program intake and reassessment
- A clinically significant improvement in mental health functioning was defined as a ≥3.5 point increase on the MCS score from program intake to the reassessment (Maruish, 2012)
- Low mental health functioning was defined as an MCS score <37

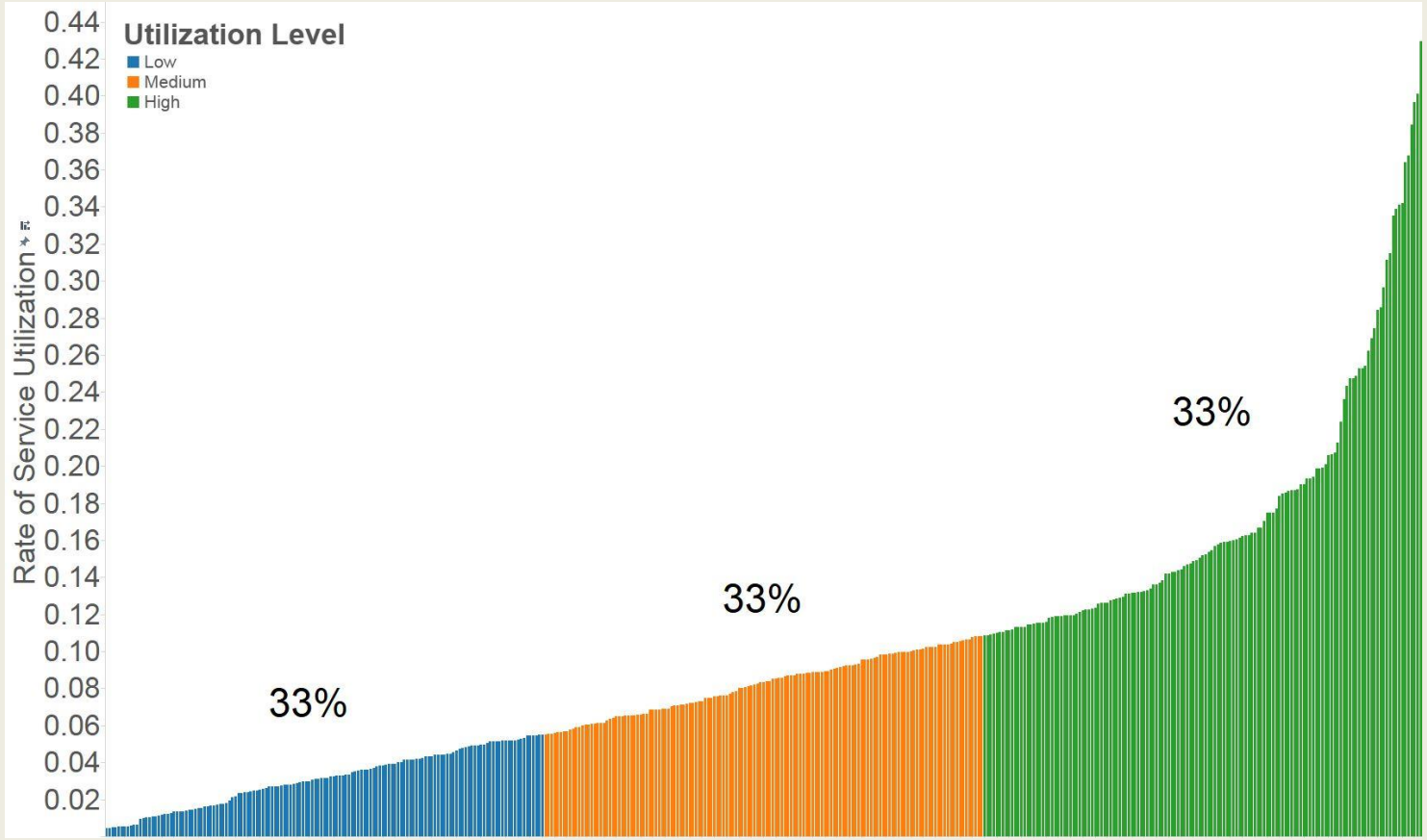
PRIMARY EXPOSURE
LEVELS OF MENTAL HEALTH SERVICE UTILIZATION

- Calculated using the number of clinical services received per day between the intake and reassessment

- Three categories were created based on the terciles of the distribution of the average number of clinical services utilized per day:

Low	0.004 - 0.05 services/day
Medium	0.05 - 0.1 services/day
High	>0.1 services/day

PRIMARY EXPOSURE
MENTAL HEALTH SERVICE UTILIZATION



PRIMARY EXPOSURE
MENTAL HEALTH SERVICE UTILIZATION

TYPE OF MENTAL HEALTH SERVICES PARTICIPATION:

- No clinical sessions vs. ≥1 clinical service

- Clinical services:
  - Mental health counseling/psychiatric consultation
  - AOD counseling
  - HIV treatment adherence counseling

CLIENT POPULATION (N= 429)
CHARACTERISTICS

		n (%) or M (SD)
Gender	*Male*	286 (66.7%)
	Female	130 (30.3%)
	Transgender	13 (3.0%)
Age		47.3 (11.1)
Race/Ethnicity	*Black/African-American*	207 (48.3%)
	Hispanic	121 (28.2%)
	Other	19 (4.4%)
	White	80 (18.7%)
Primary Language	*English speaking*	377 (87.9%)
Country of origin	*Born outside USA/US territory*	47 (11.0%)
Education	*≥ HS diploma/GED*	274 (63.9%)
Employment Status	*Unemployed*	379 (88.3%)
Income	*< 100% Federal Poverty Level*	310 (72.3%)
Housing Status	*Unstable housing*	112 (26.1%)
Improved housing status (from intake to reassessment)		22 (5.1%)
Lifetime history of incarceration		187 (43.6%)
Cigarette smoking (past 3 months)		223 (52.0%)
Hard drug use (past 3 months)		92 (21.5%)
Lifetime history of IDU		94 (21.9%)
IDU (past 3 months)		34 (7.9%)

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CLIENT POPULATION (N= 429)
CHARACTERISTICS

		n (%) or M (SD) or Median (range)
Years living with diagnosed HIV*		14.4 (8.7)
Current ART prescription		382 (89.0%)
Suppressed viral load (≤200 copies/mL)*		317 (73.9%)
Improved viral load status (from intake to reassessment)*		42 (9.8%)
Previous mental health treatment (lifetime)**		287 (66.9%)
Location of mental health services received	*Non-AIDS CBO*	62 (14.5%)
	Healthcare facility	32 (7.5%)
	AIDS CBO	335 (78.1%)
Type of mental health services received***	*Treatment adherence*	399 (93.0%)
	AOD	211 (49.2%)
	Mental health counseling/psychiatric consultation	270 (62.9%)
Counseling sessions received		15 (1-93)
Treatment length (days)		182 (122-243)

*Data are based on information reported to the Registry as of 6/30/16
**n= 376 (due to missing data on an optional question in eSHARE)
***≥1 visit

CLIENT POPULATION (N= 429)
MENTAL HEALTH FUNCTIONING

		n (%) or M (SD)
Baseline MCS Score		37.6 (12.1)
Mental health status (intake to reassessment)	*Improvement (≥3.5 point increase)*	170 (39.6%)
	Deterioration (≤3.5 point decrease)	108 (25.2%)
	No change	151 (35.2%)
Improved mental health status from intake to reassessment (among clients with an MCS score <37.0 at intake, n= 195)		114 (58.5%)

FACTORS ASSOCIATED WITH IMPROVEMENT IN MENTAL HEALTH FUNCTIONING

		Improvement in MH functioning* n (%) or M (SD)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Employment Status	*Unemployed*	142 (85.5%)	0.52 (0.28-0.98)	0.55 (0.28-1.09)
Baseline MCS score		31.7 (10.9)	0.93 (0.91-0.94)	0.92 (0.91-0.94)**
Level of mental health services participation	*Low*	42 (24.7%)	Reference	Reference
	Medium	65 (38.2%)	2.0 (1.23-3.26)	1.90 (1.11-3.24)
	High	63 (37.1%)	1.89 (1.16-3.09)	1.82 (1.06-3.12)

*N= 429

**The odds of improvements in mental health functioning decreased with higher baseline MCS scores, perhaps because people with higher scores had less room for improvement.

SUMMARY OF RESULTS

- Two-fifths of PLWH receiving RWPA-funded mental health services in NYC experienced a clinically significant improvement in mental health functioning
- Lower proportions of unemployed mental health services clients experienced an improvement in mental health functioning
- There was a significant independent relationship between high and medium levels of mental health service participation and improvement in mental health functioning

DISCUSSION

- Dose-response studies of the relationship between mental health service utilization and health/mental health outcomes are important in planning these services for PLWH (e.g., performance-based contracts)
  - Need to examine utilization patterns across different mental health services (i.e., funded by RWPA, Medicaid, etc.)
- Prevalence of recent tobacco use (52%) underscores the need to address it in the context of NYC RWPA mental health services
- Data collected by service organizations are a critical resource for improving the implementation and impact of programs, particularly because this information reflects how services function in real-world settings

LIMITATIONS

- PLWH in this analysis included only those who received RWPA-funded mental health services in NYC
- Clients may have also received other mental health services that are not funded by RWPA
- We measured dose specifically in terms of the average number of services/day, however other aspects of utilization (e.g., concentration of services) may be as or more important to mental health outcomes
- We cannot attribute any observed improvements in mental health functioning to participating in mental health services

ACKNOWLEDGMENTS

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