



## HIV Case Managers' Attitudes Toward Empirically Supported Interventions

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### Abstract

Although empirically supported interventions (ESIs) have become increasingly important in social work practice, there is limited empirical research on HIV/AIDS case managers' attitudes toward using these interventions in their work. The Evidence-Based Practice Attitudes Scale (EBPAS) was administered to a sample of HIV case managers (N=79) who reported moderate attitudes toward adopting ESIs. The majority of the respondents received their primary training to work with people with HIV/AIDS (PLHA) on the job. Our sample indicated that ESIs would be more appealing if case managers had adequate training to implement them. Group differences in attitudes were identified between male and female case managers and between more-experienced and less-experienced case managers. It is important to provide HIV case managers with ongoing on-the-job training in ESIs and, moreover, to educate these providers about the rationale and importance of adopting ESIs so their clients can receive the best services available.

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# HIV case managers' attitudes toward empirically supported interventions

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## ABSTRACT

Although empirically supported interventions (ESIs) have become increasingly important in social work practice, there is limited empirical research on HIV/AIDS case managers' attitudes toward using these interventions in their work. The Evidence-Based Practice Attitudes Scale (EBPAS) was administered to a sample of HIV case managers ( $N=79$ ) who reported moderate attitudes toward adopting ESIs. The majority of respondents received their primary training to work with people with HIV/AIDS (PLHA) on the job. Our sample indicated that ESIs would be more appealing if case managers had adequate training to implement them. Group differences in attitudes were identified between male and female case managers and between more-experienced and less-experienced case managers. It is important to provide HIV case managers with ongoing on-the-job training in ESIs and, moreover, to educate these providers about the rationale and importance of adopting ESIs so their clients can receive the best services available.

## KEYWORDS

EBPAS; empirically supported interventions; empirically supported treatments; evidence-based practice; HIV case management

## Introduction

During the past several decades, empirically supported interventions (ESIs) have assumed a prominent role in social work practice. This term is a variation on the term “empirically supported treatment” (EST) developed by the American Psychological Association in 1995 in reference to psychotherapies that have achieved certain evidentiary benchmarks, allowing them to be designated as “empirically supported” (American Psychological Association, Division 12, n.d.; McBeath, Briggs, & Aisenberg, 2010; Thyer & Pignotti, 2011). These evidentiary benchmarks include being found beneficial in two or more randomized clinical trials that cannot all have been led by the same investigator (American Psychological Association, Division 12, n.d.; Chambless & Hollon, 1998). The term “evidence-supported intervention” is not specific to psychotherapies and thus is often used in social work due to the many types of interventions performed by social workers. Therefore, for the purposes of this research, we will refer to the term “ESI” due to its broader



use. Because much of ESI adoption hinges on practitioners' attitudes, an important area of inquiry has been the examination of practitioner attitudes about ESIs within a variety of fields of practice (Aarons, McDonald, Sheehan, & Walrath-Greene, 2007; Aarons & Palinkas, 2007). This study extends this line of inquiry by examining HIV/AIDS case managers' attitudes toward ESIs.

### ***Factors influencing attitudes toward and adoption of ESIs***

Researchers have identified individual demographic and experiential (e.g., education and work history) factors related to attitudes toward and implementation of ESIs. In a national sample of mental health service providers, including social workers, psychologists, and clinicians with a variety of other professional degrees, white mental health providers had more positive views of ESIs than did nonwhite providers (Aarons, 2004; Aarons, Glisson, Hoagwood, Kelleher, Landsverk, & Cafri, 2010). Patterson, Wolf, Maguin, Dulmus, and Nisbet (2013) found more positive attitudes toward ESIs among female than male mental health workers whose educational backgrounds included social work, psychology, nursing, and education. Patterson et al. (2013) also found that mental health workers whose backgrounds were in social work or "other" disciplines placed greater emphasis on research-based interventions in comparison with clinical wisdom than did mental health workers whose backgrounds were in education, nursing, or psychology. Aarons et al. (2010) and Patterson et al. (2013) had conflicting findings about the effect that experiential variables such as years of human service experience or educational attainment have on attitudes toward ESIs (Aaron et al., 2010; Patterson et al., 2013). Research is needed to examine the extent to which individual attitudes toward ESIs impacts their implementation.

Because case management occurs within agency settings, it is important to understand factors that impact ESI implementation within agencies, and a variety of studies has examined this. Factors that have been identified as impacting ESIs implementation within agencies include level of supervision and training provided in ESIs (Aarons & Palinkas, 2007), transformational leadership (Aarons & Sommerfeld, 2012), and organizational culture (Marty, Rapp, McHugo, & Whitley, 2008).

### ***HIV case management***

The U.S. Department of Health and Human Services' Health Resources and Services Administration funds the Ryan White Program, which serves persons with HIV/AIDS. The case management services funded through this program are intended to mitigate the structural, financial, personal, cultural, and medical barriers to treatment, as well as the psychosocial issues that complicate the treatment of HIV/AIDS (Rumptz et al., 2007). HIV case management involves



the coordination of services through assessment, planning, linking, monitoring, and advocacy (Rapp & Chamberlin, 1985; Thompson, 1998). The goal of this service coordination is to increase access to care in the community while decreasing the likelihood of costly in-patient hospital and institutional stays (Piette, Fleishman, Mor, & Thompson, 1992).

Various research studies have documented the effectiveness of ESIs for PLHA. For example, Gardner et al. (2005) developed a manualized, strengths-based case management intervention for newly diagnosed PLHA. In a randomized clinical trial, those participants who had been assigned to the strengths-based case management arm were more likely to report seeing an HIV care provider in the first 6 months after diagnosis than were those assigned to the standard of care arm, and the number of contacts with a case manager was also associated with an increased number of visits with an HIV care provider (Gardner et al., 2005). This study demonstrated that a brief, strengths-based intervention increases linkage to HIV care as “participants who received the case management intervention were nearly four times as likely to have seen a care provider as those who receive a passive referral” (Anthony et al., 2007). While this is not the only HIV case management intervention with strong empirical support, it is one of the most methodologically rigorous ones found in the literature.

### ***Research purpose***

Evidence demonstrates that case management is beneficial for PLHA, yet there is limited empirical literature regarding the professional training and competence of practicing case managers who specialize in HIV/AIDS (Whyte, Eccles, Whyte, Pappas, & Cesnales, 2013). Furthermore, studies have failed to identify whether HIV case managers are incorporating ESIs into their practice, or their attitudes about doing so. Given the professional obligation to use the most scientifically supported interventions, as opposed to solely basing interventions on practitioner preferences and available resources, it follows that there is a need to examine HIV case managers' attitudes toward incorporating ESIs into their practice. To this end, a nonprobability sample of HIV case managers was selected to participate in a cross-sectional web-based survey with the purpose of identifying their attitudes toward incorporating ESIs into their practice. Furthermore, we sought to identify group differences in attitudes toward incorporating ESIs into HIV case management by demographic and experiential variables. This study specifically aimed to answer the following questions: What do Ryan White Program-supported HIV case managers think about incorporating empirically supported interventions into their current practice? Are there group differences in attitudes toward ESIs by demographic and experiential (i.e., education and work history) variables?



## Method

### *Participants and procedure*

To ensure human subject protection, the authors obtained approval from the institutional review board at (redacted for blind review). All surveys were anonymous, and participation in this study implied consent.

A challenge in conducting this research is that there is no database identifying all case managers specializing in HIV/AIDS care. To access the study population, we obtained a copy of the attendee list of the 2008 National Conference on HIV and Social Work. Using the tailored design method of survey administration (Dillman, Smyth, & Christian, 2009), we e-mailed the entire sampling frame ( $N = 387$ ) several months after the conference. Recipients were encouraged to forward the e-mail and link to the survey to any known Ryan White Program-funded case manager, and instructions requested that only case managers currently in practice complete the survey. Fifty-two e-mail addresses (13.4%) were kicked-back as invalid, reducing the sampling frame ( $N = 335$ ). No controls were in place to prevent individuals who were not on the mailing list from taking the survey, and in fact, this was encouraged. Therefore, it is not possible to calculate a true response rate.

### *Measures*

We measured attitudes toward ESIs by using the Evidence-Based Practice Attitude Scale (EBPAS, Aarons, 2005), which was originally developed to identify the attitudes of mental health providers toward adopting evidence-based practices. In this instrument, the term “evidence-based practice” is used synonymously with empirically supported intervention. Fifteen items on a 5-point Likert-type scale capture four domains of provider attitudes (e.g., *Appeal* of ESIs, provider *Openness* to innovation, *Requirements* to adopt ESIs by mandate, and perceived *Divergence* between current practices and ESIs) (Aarons, 2004, 2005). Mean scores were calculated for each domain with items on the Divergence subscale needing to be reverse scored before calculating a global score. Higher scores on the Appeal, Openness, and Requirements domains reflect more favorable attitudes toward incorporating ESIs. In contrast, higher scores on the Divergence domain reflect attitudes that value “clinical experience and knowledge over research-derived knowledge” (Patterson et al., 2013, p. 97), while lower scores on the Divergence domain reflect more favorable attitudes toward ESIs. (For a full description of the EBPAS including prompts, see Aarons, 2005.)

Initial testing of the EBPAS on a sample of adolescent and child mental health clinicians, case managers, and program managers revealed a Cronbach  $\alpha$  of .77 for the entire scale, and domain  $\alpha$  values ranging from .90 for the Requirements domain to .59 for the Divergence domain (Aarons, 2004).



Further testing on a sample of community mental health providers showed improved  $\alpha$  values on each domain of the EBPAS and for the entire scale (Aarons, McDonald, Sheehan, & Walrath-Greene, 2007). Additionally, a national study of more than 1000 mental health clinicians provided further evidence confirming the factor structure and reliability of the EBPAS and supporting the use of this instrument to assess provider attitudes toward implementing ESIs in different practice settings (Aarons et al., 2010). However, Melas, Dimopoulou, Zampetakis, and Moustakis (2012) administered the EBPAS to a sample of physicians and nurses in Greece and found that while the instrument remained psychometrically sound, the Cronbach  $\alpha$  for each domain and the entire instrument was slightly less than previously assessed.

### **Demographics**

Previous studies have linked provider demographic characteristics and experiential characteristics to scores on the EBPAS (Aarons et al., 2010; Patterson et al., 2013). For the present study, participants provided demographic data including gender and race, as well as experiential data including education level, primary source of training for working with PLHA, length of time working with PLHA, length of time as a case manager, and length of time at current agency.

### **Analysis**

Data collected through Survey Monkey were managed using IBM SPSS Statistics Version 21 and analyses included descriptive statistics, which allowed us to describe the sample of case managers and assess their attitudes toward incorporating ESIs into their current practice. Means, standard deviations, and factor loadings for both the entire scale and each subscale were calculated. Methods of imputing or estimating missing data were not used, and analyses therefore varied across variables in terms of  $n$ . We dichotomized the demographic variables gender (i.e., male versus female) and race (i.e., white versus nonwhite), as well as the experiential variables primary source of training (i.e., formal training or education versus on the job), years as case manager, years working with PLHA, and years at current agency (i.e., greater than or equal to mean years versus less than the mean years). After these variables were recoded, we conducted independent-samples  $t$ -tests. Analyses of variance were conducted to identify group differences for setting type (i.e., hospital or university, community health center or health department, community-based service organization, or other) and educational level (i.e., less than a bachelor's degree, bachelor's degree, or master's degree).

### **Results**

Due to our sampling methodology, we were unable to calculate a true response rate, though we were able to assess a completion rate. A total of 91 individuals



started the survey. Individuals completing fewer than 75% of the items were excluded from the analyses. The completion rate for the survey was 86.8% as 79 individuals completed at least 75% of the items.

Table 1 presents the racial composition and educational background of the sample, as well as their primary source of training for working with PLHA and primary practice setting. The sample was predominantly female (65.6%) and white, and the majority of the sample completed a bachelor's degree and over two-thirds of the sample possessed a master's degree. Despite this educational attainment, the majority of respondents did not receive their primary training to work with this population during their undergraduate or graduate education. Rather, three-quarters of the sample received their primary training for work with PLHA on the job. A combined 50.0% of the sample reported working at either a community health center, health department, or a hospital or university, while 42.4% of respondents reported working at a community-based social service organization. Respondents reported working with PLHA ( $M = 10.32$  years,  $SD = 6.54$ ) longer than they had worked as case managers ( $M = 7.89$  years,  $SD = 4.98$ ). The average length of time employed at their current agency was 7.47 years ( $SD = 6.00$ ).

Reliability scores for the EBPAS Total and subscales are presented in Table 2. Results for the EBPAS scale Total and each subscale are distributed normally as confirmed by histograms (not shown) and skewness and kurtosis statistics. Subscale reliabilities ranged from .90 to .62 and the EBPAS Total scale had

**Table 1.** Selected demographics, education, and experiential variables ( $N = 79$ ).

	<i>n</i>	%	Valid percent
	Race		
White	44	55.7	67.7
Nonwhite	21	26.6	32.3
Total	65	82.3	100
Missing	14	17.7	
	Educational Background		
Less than bachelor's degree	5	6.3	7.7
Bachelor's degree	18	22.8	27.7
Master's degree	42	53.2	64.6
Total	65	82.3	100
Missing	14	17.7	
	Primary Source of Training		
Formal training or education	15	19.0	24.2
On the job	47	59.5	75.8
Total	62	78.5	100
Missing	17	21.5	
	Primary Practice Setting		
Hospital or university	18	22.8	27.3
Community health center/health dept.	15	19.0	22.7
Community-based service organization	28	35.4	42.4
Other	5	6.3	7.6
Total	66	83.5	100
Missing	13	16.5	
	79	100.0	



$\alpha = .74$ . This is consistent with findings evaluating the reliability of the EBPAS in other samples (Aarons, 2004, 2005; Aarons et al., 2010; 2007; Melas et al., 2012). Table 2 also presents the means and standard deviations for the EBPAS scores for the entire sample.

Analyses of variance were conducted to identify differences on EBPAS (Total and subscale) scores for setting type and educational level. There were no significant differences for any of these analyses. Independent-samples *t*-tests were conducted to identify group differences on EBPAS (Total and subscale) scores by race, gender, primary source of training, time working at current agency, time working as a case manager, and time working with PLHA. There were no significant differences between white and nonwhite case managers. There was only one significant difference on the EBPAS by gender for the Appeal dimension of the EBPAS between male and female case managers (see Table 3). Specifically, females scored higher on this dimension ( $M = 2.90$ ,  $SD = .57$ ) than males ( $M = 2.59$ ,  $SD = 0.56$ ). Female case managers reported a greater likelihood than male case managers of adopting an ESI if they found the practice changes associated with this ESI to be appealing.

**Table 2.** EBPAS subscale and item means, standard deviations, and reliability estimates.

Subscale and Total	<i>N</i>	<i>M</i>	<i>SD</i>	$\alpha$	Skewness	Kurtosis
If you received training in an intervention that was new to you, how likely would you be to adopt it if:						
It was required by your agency	79	2.71	0.92		-.08	-.88
It was required by your supervisor	78	2.56	1.02		-.21	-.46
It was required by your state	79	2.87	0.96		-.61	-.10
Requirements Total	79	2.71	0.88	.90	-.19	-.60
It "made sense" to you	79	2.87	0.86		-.71	.69
It was intuitively appealing	79	2.65	0.89		-.56	.65
It was being used by colleagues who were happy with it	79	2.61	0.75		-.10	-.25
You felt you had enough training to use it correctly	79	3.06	0.77		-.79	1.71
Appeal Total	79	2.79	0.63	.76	-.00	-.48
I am willing to try new types of interventions even if I have to follow a manual	79	2.28	0.90		.05	-.38
I am willing to use new/different types of interventions developed by researchers	79	2.32	0.70		.34	.12
I like trying new types of interventions to help my clients	79	2.25	0.80		.10	.25
I would try a new intervention even if it were different from what I am used to	79	2.13	0.85		.13	-.25
Openness Total	79	2.24	0.65	.80	.20	.32
Research-based interventions are not clinically useful	75	3.23	0.92		-.78	-.63
I would not use manualized interventions	79	3.15	0.91		-.52	-1.09
Clinical experience is more important than using manualized treatment	79	1.99	0.95		-.15	-.33
I know better than academic researchers how to care for my clients	78	2.26	1.02		-.32	-.42
Divergence Total	79	2.65	0.64	.62	-.26	-.21
Total		2.25	0.42	.74	.39	.50

Note. Response options are on a 5-point Likert scale (0 = Not at all, 1 = To a slight extent, 2 = To a moderate extent, 3 = To a great extent, 4 = To a very great extent).

**Table 3.** Differences in attitudes toward ESIs by gender and experience.

	Male		Female		<i>t</i> (62)	<i>p</i>	95% Confidence Interval		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			Lower	Upper	
Requirements	2.53	.90	2.75	.85	-0.97	.335	-.68	.23	-.25
Openness	2.10	.71	2.32	.69	-1.19	.239	-.58	.14	-.31
Appeal	2.59	.56	2.90	.57	-2.07	.043	-.61	-.01	-.54
Divergence	2.51	.75	2.72	.53	-1.25	.213	-.53	.12	-.32
Total	2.16	.38	2.28	.44	-1.18	.242	-.35	.09	-.29
Years as Case Manager	≥7.89		<7.89						
Requirements	2.82	.78	2.51	.96	1.42	.160	-.12	.75	.35
Openness	2.21	.59	2.28	.81	-0.39	.694	-.42	.28	-.09
Appeal	2.64	.56	2.96	.59	-2.21	.031	-.60	-.03	-.55
Divergence	2.48	.64	2.79	.57	2.00	.049	-.61	.00	-.51
Total	2.26	.41	2.23	.45	0.35	.728	-.17	.25	.07
Years working with PLHA	≥10.32		<10.32						
Requirements	2.70	.91	2.62	.90	0.36	.717	-.38	.55	.08
Openness	2.12	.60	2.34	.78	-1.20	.233	-.59	.14	-.31
Appeal	2.75	.53	2.84	.66	-0.51	.609	-.39	.23	-.15
Divergence	2.46	.56	2.83	.56	-2.55	.013	-.66	-.08	-.66
Total	2.25	.40	2.22	.44	0.30	.763	-.18	.25	.07
Years at agency	≥7.47		<7.47						
Requirements	2.74	.82	2.61	.93	0.56	.572	-.32	.57	.14
Openness	2.17	.72	2.31	.70	-0.75	.456	-.49	.22	-.19
Appeal	2.71	.58	2.87	.60	-1.09	.277	-.46	.13	-.27
Divergence	2.49	.62	2.74	.61	-1.62	.109	-.57	.06	-.40
Total	2.25	.46	2.24	.40	1.02	.919	-.20	.23	.02

While there were no significant differences on the EBPAS by years at current agency, there were significant differences on the outcome for the two remaining time variables. Using the mean years as a case manager ( $M = 7.89$ ,  $SD = 4.98$ ) as the cutoff, differences on the EBPAS were examined. Differences on the Appeal scale reveal that case managers with more years of experience scored lower ( $M = 2.64$ ,  $SD = 0.56$ ) on the Appeal scale than those with fewer years of experience ( $M = 2.96$ ,  $SD = 0.59$ ), suggesting that more experienced case managers would be less inclined than case managers with less experience to adopt an ESI if they found it appealing. Case managers with more years of experience scored lower on the Divergence domain ( $M = 2.48$ ,  $SD = .64$ ) than those with less experience ( $M = 2.79$ ,  $SD = .57$ ), indicating that the more experienced case managers perceived less divergence or discrepancy between clinical judgment and ESIs than their less experienced counterparts. Using the mean years working with PLHA ( $M = 10.32$ ,  $SD = 6.54$ ) as the cutoff, the same pattern is seen on the Divergence scale, where those case managers with more years of HIV/AIDS practice experience ( $M = 2.46$ ,  $SD = 0.56$ ) scored lower than those case managers with fewer years of HIV/AIDS practice experience ( $M = 2.83$ ,  $SD = 0.56$ ). This means that case managers with more years of HIV/AIDS practice experience reported less divergence between clinical judgment and ESIs than those with fewer years working with PLHA.



## Discussion

Overall, the sample reported moderate attitudes toward incorporating ESIs into their current practice. Regarding the Requirements subscale, case managers reported that they were somewhat likely to adopt a new intervention for which they had received training if that intervention was required by the state, their agency, or their supervisor. Similarly, regarding the Openness and Appeal subscales, case managers were fairly open to trying new empirically supported interventions and indicated a moderate willingness to adopt an appealing new intervention if they thought they had enough training to use it correctly. On the other hand, results on the Divergence subscale indicated that HIV case managers do not perceive ESIs to be clinically useful or valuable compared with their “practice wisdom.” The findings here are congruent with those found in other studies of community-based mental health workers (Patterson et al., 2013), as well as a national sample of mental health service providers (Aarons et al., 2010; 2007), clinical service workers providing mental health services to children, adolescents, and their families (Aarons, 2004), and a sample of physicians and nurses in Greece (Melas et al., 2012).

There were no significant differences between white and nonwhite case managers. This finding is contrary to research by Aarons et al. (2010), who found that nonwhite mental health providers have less positive views toward ESIs than their white counterparts. Nonwhite individuals represented a larger percentage of our sample in comparison to that of Aarons et al. (2010). Normative data on the characteristics of HIV case managers are not known. Future research should identify the demographic background, professional preparation, and experience of HIV case managers, which may be different than those of mental health providers. If there are differences between these groups, research should explore systemic and individual factors that may explain those differences.

Gender-related differences identified in our study are also dissimilar to those found in the literature. For example, Patterson et al. (2013) found that females scored higher on the EBPAS Total than did males but found no gender differences on any of the subscales. In contrast, we found a moderate difference between male and female case managers regarding the appeal of ESIs, with female case managers reporting that they would be more likely to adopt an ESI if they found it appealing; however, we found no gender differences in the Total EBPAS score. On the other hand, although Patterson et al. (2013) and our study had different findings regarding gender, it is noteworthy that both studies found significant differences in the direction of females being more supportive of ESIs than males. Our sample included more males than the study conducted by Patterson et al. (2013) further research is needed to explore reasons for these differences.

Our study also identified differences based on years of experience as a case manager and years of experience in HIV/AIDS practice. In particular,



less-experienced case managers reported being more likely than more-experienced case managers to adopt ESIs if they found them appealing. Additionally, those case managers with fewer years of experience working as case managers and fewer years of experience working with PLHA reported a greater perceived discrepancy between their clinical judgment and empirically supported interventions. Contrary to our results, Aarons et al. (2010) found significant differences based on years of experience in terms of scores on the Requirements, Openness, and Divergence subscales, with more experienced workers having more negative views toward ESIs. In contrast, Patterson et al. (2013) did not find any significant relationship between years of human service work or years at current agency and attitudes toward ESIs. Further research is necessary to identify why the disparities in our sample exist. Perhaps practitioners with more years of HIV experience are better able to connect ESIs with their extensive practice experience and clinical wisdom. On the other hand, it may be possible that the growing emphasis on ESIs in higher educational programs for the helping professions is not well integrated in clinical and field practicum experiences in HIV/AIDS service settings.

Finally, the present study found no significant differences by practice setting type, primary source of HIV/AIDS training, or educational level. While this confirms the findings of Patterson et al. (2013), Aarons et al. (2010) found significant differences suggesting that “higher educational attainment was associated with both a lower likelihood of adopting an ESI if required and also a greater willingness to adopt given the appeal of an ESI, which is consistent with the original EBPAS scale development study (Aarons, 2004)” (p. 361). This discrepancy may be due to the small sample size of our study. A larger sample may have provided results which confirmed the Aarons’ (2004, 2010) studies, since our findings in relation to education, while nonsignificant, were in the direction of these studies’ findings.

Several limitations need to be recognized in our study. First, while the sampling frame was intended to represent Ryan White Program–funded HIV/AIDS case managers, this study used a nonprobability, purposive sample of case managers. Those attending the conference may not be representative of the typical Ryan White Program–funded HIV/AIDS case manager. Furthermore, it is possible that not all conference attendees were identified on the attendee list and, of those on the list, 13% of the e-mail addresses were no longer valid. Moreover, it is possible that not all participants who completed the survey were Ryan White Program–funded HIV case managers. As a result of these potential limitations, we cannot assume that results will be generalizable to all Ryan White Program–funded case managers who work with PLHA. Further, our sampling frame captured only a small fraction of Ryan White Program–funded HIV case managers in the United States. The sample size itself is small, limiting our ability to detect significant differences. A larger, probability sample would be necessary to be representative of all case managers working with PLHA.



Despite these limitations, the results of this study provide insight into HIV case managers' attitudes toward adoption of ESIs. Our sample indicated that ESIs would be more appealing if case managers had adequate training to implement them. Our study also revealed that the vast majority of this sample had received their primary training to work with PLHA on the job, not during formal education. This is important to note given that previous research has found HIV/AIDS case managers to have deficits in theoretical concepts and training about evidence-based practice relative to "HIV counseling-substance abuse assessment, prevention counseling, mental health assessment, and adherence counseling" (Kukafka, Millery, Chan, LaRock, & Bakken, 2009, p. 107). The consideration of our data and this previous research suggests the need for HIV case managers to receive on-the-job training about the overall rationale and importance of adopting ESIs, as well as training in specific interventions. For example, current evidence supports the use of cognitive behavioral interventions to promote treatment adherence and to address depression, stress, and anxiety among PLHA (Wilson et al., 2013, p. 1623). Additionally, HIV case managers should recognize that ESIs are not static; it is important to stay abreast of the research regarding the interventions they are using and to cease the use of approaches that research has found to be ineffective. Therefore, we also recommend training HIV case managers on how to conduct literature searches, assess study rigor, and evaluate their own practice. To this end, we strongly suggest that AIDS service organizations invest in subscriptions to peer-review journal articles so that case managers can have access to up-to-date literature.

There is a need for additional development of empirically supported HIV/AIDS case management interventions. At the same time, the use of ESIs can be controversial and ESIs have received a variety of criticisms (for a helpful overview, see Marquis & Douthit, 2006). Among these criticisms is the suggestion from many practitioners that manualized interventions developed and tested in tightly controlled research settings are too constraining for skillfully handling the nuances and variations seen in real-world clinical practice (Marquis & Douthit, 2006; Messer, 2004). Researchers and practitioners are well aware of the divide that too often exists between their worlds. To help bridge this divide, it is essential that agency practitioners perceive ESIs to be relevant, helpful, and adaptable enough for addressing the complexity of real-world practice situations (Aarons & Palinkas, 2007; Manuel, Mullen, Fang, Bellamy, & Bledsoe, 2009). This highlights "the need for researchers and practitioners to work together to develop and implement approaches that are feasible, flexible, sustainable, and relevant to agency practice contexts" (Manuel et al., p. 623).

Several suggestions for future research emerge from our study. First, it should be noted that the Divergence subscale had poor reliability in this and previous studies. Further research should examine the psychometric properties or explore



modifications of this subscale. Second, there is a need for research to evaluate currently used and newly developed interventions to establish an evidence base for them specific to implementation with PLHA. These could be interventions such as cognitive behavioral therapies for various purposes (e.g., mental health concerns, treatment adherence, smoking cessation, sleep hygiene), that are brokered by case managers, or are integrated into case management and delivered by the case managers themselves. There is a pressing need for the development and testing of specific case management intervention models as well. Third, a significant body of research is developing regarding attitudes toward ESIs; however, little is known about the extent to which these attitudes will shape actual adoption of ESIs. Future research should examine the linkages between attitudes and ESI adoption, including mediators and moderators of these linkages. Finally, this study yielded intriguing findings regarding differences in attitudes toward ESIs based on gender, years of experiences as a case manager, and years of experience in HIV/AIDS. Future research should explore the reasons for these differences to shed light on how to encourage more positive practitioner views of ESIs. Certainly people living with HIV and AIDS deserve the best services available; implementing the practice and research recommendations highlighted here are important steps toward accomplishing this goal.

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