



Taking a Lesson from Usual Care: Predictors of Use of Evidence-Based Practices for Youth

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Building Bridges Between Usual Care and Evidence-Based Care

- Why study usual care (UC)?
 - *To inform improvement targets*
 - *To optimize fit between intervention and context*
 - *To inform the development of effective implementation interventions*



Building Bridges Between Usual Care and Evidence-Based Care

- What do we know about UC?
 - *Organizational structure*
 - *Consumers*
 - *Providers*
 - *Practices*



Provider Characteristics Related to Implementation-Related Variables

- Age, Gender, Race/Ethnicity
- Education
 - *Level*
 - *Discipline*
- License Status
- Awareness Knowledge
- Experience
- Theoretical Orientation
- Attitudes



Provider Characteristics Related to Implementation

- Age, Gender, Race/Ethnicity
- Education
 - *Level*
 - *Discipline*
- License Status
- Awareness Knowledge
- **Experience**
- **Theoretical Orientation**
- **Attitudes**



Study Aims & Context

- Explore youth and provider characteristics that predict use of EBPIs in UC
- Hawaii Department of Health, Child & Adolescent Mental Health Division (CAMHD)
 - *Statewide public mental health system*
 - *Services provided by contracted agencies (N=17)*
 - *Range of services (outpatient, intensive in-home, FFT, MST, residential, therapeutic foster care, MTFC)*



Study Design Overview

- Predictor Variables
 - *Youth Background Characteristics*
 - Age, gender, primary diagnosis
 - Receiving “package” EBPI (FFT, MST, or MTFC)
 - Level of care (in-home or out-of-home)
 - Functional Impairment at Episode Start
 - *Provider Background Characteristics*
 - Discipline, Experience, Training, License, Theoretical Orientation, Supervision Hours, Active Cases
 - Attitudes Towards and Knowledge of EBPIs
- Dependent Variables
 - *Practices derived from the evidence-base*
 - *Practices with minimal evidence support*



Participants

- Selection of Cases
 - *May 2006-May 2008*
 - Providers participating in statewide EBPI workshops
 - Practice data examined PRIOR to training
 - *Episodes \geq 30 days with practice data*
 - *Primary diagnoses of*
 - Anxiety
 - Attention
 - Depression
 - Disruptive Behavior
 - Trauma
- 514 youth receiving mental health services
- 74 providers of youth mental health services



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Youth Participants ($N=514$)

- 332 boys (64.6%)
- Ages 5-19 ($M=14.1$; $SD=2.9$)
- Race
 - *Multiracial* ($n=332$; 64.6%)
 - *White* ($n=54$; 10.5%)
 - *Hawaiian/Pacific Islander* ($n=52$; 10.1%)
 - *Asian* ($n=26$; 5.1%)
 - *Black* ($n=11$; 2.1%)
 - *Other/NA* ($n=39$; 7.6%)
- Primary Diagnoses
 - *Disrup Beh* ($N=239$; 46.5%)
 - *Depressive* ($N=109$; 21.2%)
 - *Attentional* ($N=84$; 16.3%)
 - *Anx/Trauma* ($N=82$; 16.0%)
- Comorbidity ($n=327$; 63.6%)
- Episode Length ($M=7.0$; $SD=5.8$)
- Service Type
 - *In Home* ($n=300$; 57.8%)
 - *Out-of-Home* ($n=219$; 42.2%)
- EBS Service
 - *EBS Service* ($n=111$; 21.6%)
 - *Non-EBS Service* ($n=403$; 78.4%)



Study Design Overview

- Predictor Variables
 - *Youth Background Characteristics*
 - Age, gender, primary diagnosis
 - Receiving “package” EBPI (FFT, MST, or MTFC)
 - Level of care (in-home or out-of-home)
 - **Functional Impairment at Episode Start**
 - *Provider Background Characteristics*
 - Discipline, Experience, Training, License, Theoretical Orientation, Supervision Hours, Active Cases
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Measurement: Youth Functioning

- Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1995, 1998; Hodges & Wong, 1996)
 - *Clinician report form (case managers)*
 - *Youth functional impairment for ages 5-19*
 - *8 scales calculated by scoring highest level of impairment (30=severe, 20=moderate, 10=mild, 0=minimal or no impairment)*
 - *Internal consistency, inter-rater reliability, temporal stability, and concurrent and predictive validity*
 - *Used CAFAS Total (summing across 8 subscales) at episode start*
 - *This Sample $M=96.0$; $SD=36.1$*



Study Design Overview

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 - Functional Impairment at Episode Start
 - *Provider Background Characteristics*
 - Discipline, Experience, Training, License, Theoretical Orientation, Supervision Hours, Active Cases
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Provider Participants ($N=74$)

- 48 females (64.9%)
- Ages 25-61 ($M=42.4$; $SD=10.9$)
- Race
 - *White* ($n=34$; 45.9%)
 - *Asian* ($n=11$; 14.9%)
 - *Hawaiian/Pacific Islander* ($n=5$; 6.8%)
 - *Missing/Other* ($n=24$; 32.4%)
- Experience 1-22 yrs ($M=7.5$; $SD=5.5$)
- Training 1-24 yrs ($M=6.6$; $SD=5.3$)
- Licensed ($n=23$; 31.1%)
- Professional Discipline
 - *Marriage & Fam* ($n=35$; 47.3%)
 - *Social Work* ($n=15$; 20.3%)
 - *Counseling* ($n=11$; 14.9%)
 - *Psychology & Psychiatry* ($n=7$; 9.5%)
 - *Other* ($n=5$; 6.8%)
- Theoretical Orientation
 - *Cog-Behavioral* ($n=10$; 13.5%)
 - *Eclectic* ($n=64$; 86.5%)
- Active Cases 0-23 ($M=7.9$; $SD=5.5$)
- Weekly Supervision Hrs 0-4 ($M=1.8$; $SD=1.1$)



Study Design Overview

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Measurement: Provider Attitudes

- Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004; Aarons et al., 2010)
 - *15-item self-report measure of attitudes towards EBPIs*
 - *5-point Likert scale (0=not at all to 4=to a very great extent) agreement with statements*
 - *Good internal consistency*
 - *Four factor structure (openness, appeal, requirements, and divergence)*
 - *Used EBPAS Total score for this study*
 - *Overall Sample: Range=1.6-4.0; M=2.9; SD=0.49*



Measurement: Provider Knowledge

- Knowledge of Evidence-Based Services Questionnaire (KEBSQ; Stumpf et al., 2009)
 - *40-item awareness knowledge of youth EBPI for anxiety, depression, disruptive behavior, attention/hyperactivity*
 - *Items or practice elements are discrete therapy techniques*
 - *Circle all problem areas for which an item is an EBPI*

1. Introducing the child to a stimulus, either directly or through imagined experience, with the aim of decreasing the child's fear of the object or situation.

| | | | | |
|----------|----------|----------|----------|----------|
| A | D | B | H | N |
|----------|----------|----------|----------|----------|

- *Items scored 0 to 4 with scores from 0 to 160*
- *Test-retest reliability (.56); discriminates graduate students and community clinicians; sensitive to change*
- *Overall Sample: Range=69-109; M=91.5; SD=9.4*



Study Design Overview

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 - Level of care (in-home or out-of-home)
 - Functional Impairment at Episode Start
 - *Provider Background Characteristics*
 - Discipline, Experience, Training, License, Theoretical Orientation, Supervision Hours, Active Cases
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- Dependent Variables
 - *Practices derived from the evidence-base*
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Measurement: Provider Practices

- Monthly Treatment Progress Summary (MTPS; CAMHD, 2003; Daleiden et al., 2004; Orimoto et al., 2012)
 - *Treatment targets, progress ratings*
 - *55 Practice Elements (PEs)*
 - Distillation and Matching Model (Chorpita et al. 2005)
 - Yes/no provided PE in previous month of service
 - One- and three-month test retest reliability (.65, .50)

Intervention Strategies Used This Month (check all that apply):

| | | | | | | | | | |
|--------------------------|------------------------|--------------------------|-----------------------|--------------------------|-----------------------------------|--------------------------|------------------------|--------------------------|--------------------------------|
| <input type="checkbox"/> | Activity Scheduling | <input type="checkbox"/> | Emotional Processing | <input type="checkbox"/> | Line of Sight Supervision | <input type="checkbox"/> | Personal Safety Skills | <input type="checkbox"/> | Stimulus or Antecedent Control |
| <input type="checkbox"/> | Assertiveness Training | <input type="checkbox"/> | Exposure | <input type="checkbox"/> | Maintenance or Relapse Prevention | <input type="checkbox"/> | Physical Exercise | <input type="checkbox"/> | Supportive Listening |
| <input type="checkbox"/> | Attending | <input type="checkbox"/> | Eye Movement, Tapping | <input type="checkbox"/> | Marital Therapy | <input type="checkbox"/> | Play Therapy | <input type="checkbox"/> | Tangible Rewards |
| <input type="checkbox"/> | Behavioral Contracting | <input type="checkbox"/> | Family Engagement | <input type="checkbox"/> | Medication/ Pharmacotherapy | <input type="checkbox"/> | Problem Solving | <input type="checkbox"/> | Therapist Praise/Rewards |
| <input type="checkbox"/> | Biofeedback | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> | Psychoeducation | <input type="checkbox"/> | Thought Field |



Measurement: Provider Practices

- Scoring MTPS – Practicewise.com search engine (PWEBS)
- Practices Derived from the Evidence-Base (PDEB)
 - *Level 1 (Well Established) or Level 2 (Probably Efficacious)*
 - *Included problem areas specific to this study*
 - *PEs present in 30% or more protocols*
 - *Summed PDEB and divided by total PEs*
- Practices with Minimal Evidence Support (PMES)
 - *PEs present in less than 8% of Level 1 or Level 2 protocols*
 - *Removed common factors (e.g., supportive listening)*
 - *Removed PEs determined evidence-based for other problems not studied (e.g., motivational interviewing)*
 - *Summed PMES and divided by total PEs*

Data Analysis

- MVA and Multiple Imputation in SPSS 19.0
- Correlation between Predictor Variables
 - *Removed highly correlated predictor variables (Experience, Active Cases, Supervision Hours) to reduce multicollinearity*
- MLM in SPSS 19.0 (Heck et al., 2010)¹
 - *Null Models (no predictors models)*
 - *Level 1 Models (youth predictors)*
 - *Level 2 Models (provider predictors, youth nested within providers)*
- Alpha set a prior at .05

Null (No Predictors) Models

| Dependent Variable | Intercept | Residual | ICC | Wald Z Intercept | Wald Z Residual |
|--------------------|-----------|----------|-------|------------------|-----------------|
| PDEB | 0.003 | 0.005 | 0.367 | 3.290*** | 14.136*** |
| PMES | 0.001 | 0.001 | 0.547 | 4.977*** | 14.851*** |



INDIVIDUAL YOUTH (LEVEL 1) MODELS

Individual Youth (Level 1) Parameter Estimates for **PDEB** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|-------------------------|----------|-----------|----------|----------|
| Age | 0.001 | 0.001 | 0.710 | 0.478 |
| Gender | 0.001 | 0.008 | 0.105 | 0.917 |
| Anxiety ¹ | -0.025 | 0.016 | -1.578 | 0.115 |
| Trauma ¹ | 0.009 | 0.012 | 0.745 | 0.457 |
| Depression ¹ | 0.001 | 0.010 | 0.080 | 0.937 |
| Attention ¹ | 0.009 | 0.010 | 0.859 | 0.390 |
| CAFAS Total | 0.000 | 0.000 | -0.549 | 0.583 |
| EBS Service | -0.007 | 0.016 | -0.412 | 0.680 |
| Level of Care | -0.020 | 0.014 | -1.360 | 0.174 |
| Episode Length | 0.000 | 0.000 | 1.100 | 0.271 |

Individual Youth (Level 1) Parameter Estimates for **PMES** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|-------------------------|----------|-----------|----------|----------|
| Age | 0.002 | 0.001 | 3.607 | 0.000 |
| Gender | -0.010 | 0.004 | -2.496 | 0.013 |
| Anxiety ¹ | 0.006 | 0.007 | 0.836 | 0.403 |
| Trauma ¹ | 0.005 | 0.006 | 0.940 | 0.347 |
| Depression ¹ | -0.006 | 0.004 | -1.482 | 0.138 |
| Attention ¹ | -0.002 | 0.005 | -0.381 | 0.703 |
| CAFAS Total | 0.000 | 0.000 | 1.996 | 0.046 |
| EBS Service | -0.025 | 0.008 | -3.308 | 0.001 |
| Level of Care | 0.041 | 0.007 | 5.911 | 0.000 |
| Episode Length | 0.000 | 0.000 | 1.437 | 0.151 |

Individual Youth (Level 1) Parameter Estimates for **PMES** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|-------------------------|----------|-----------|----------|----------|
| Age | 0.002 | 0.001 | 3.607 | 0.000 |
| Gender | -0.010 | 0.004 | -2.496 | 0.013 |
| Anxiety ¹ | 0.006 | 0.007 | 0.836 | 0.403 |
| Trauma ¹ | 0.005 | 0.006 | 0.940 | 0.347 |
| Depression ¹ | -0.006 | 0.004 | -1.482 | 0.138 |
| Attention ¹ | -0.002 | 0.005 | -0.381 | 0.703 |
| CAFAS Total | 0.000 | 0.000 | 1.996 | 0.046 |
| EBS Service | -0.025 | 0.008 | -3.308 | 0.001 |
| Level of Care | 0.041 | 0.007 | 5.911 | 0.000 |
| Episode Length | 0.000 | 0.000 | 1.437 | 0.151 |



GROUP PROVIDER (LEVEL 2) MODELS

Group Provider (Level 2) Parameter Estimates for **PDEB** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|--|----------|-----------|----------|----------|
| Years Trained | 0.000 | 0.002 | -0.256 | 0.798 |
| Licensed | -0.030 | 0.019 | -1.538 | 0.124 |
| Discipline: Counseling ¹ | -0.035 | 0.037 | -0.947 | 0.344 |
| Discipline: Marriage & Family ¹ | -0.052 | 0.033 | -1.548 | 0.122 |
| Discipline: Other ¹ | -0.068 | 0.071 | -0.955 | 0.340 |
| Discipline: Psychology/Psychiatry ¹ | -0.007 | 0.034 | -0.216 | 0.829 |
| Theoretical Orientation: Eclectic ² | -0.056 | 0.024 | -2.366 | 0.018 |
| KEBSQ Total | 0.000 | 0.001 | 0.200 | 0.842 |
| EBPAS Total | 0.001 | 0.017 | 0.051 | 0.960 |

Group Provider (Level 2) Parameter Estimates for PDEB Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|--|----------|-----------|----------|----------|
| Years Trained | 0.000 | 0.002 | -0.256 | 0.798 |
| Licensed | -0.030 | 0.019 | -1.538 | 0.124 |
| Discipline: Counseling ¹ | -0.035 | 0.037 | -0.947 | 0.344 |
| Discipline: Marriage & Family ¹ | -0.052 | 0.033 | -1.548 | 0.122 |
| Discipline: Other ¹ | -0.068 | 0.071 | -0.955 | 0.340 |
| Discipline: Psychology/Psychiatry ¹ | -0.007 | 0.034 | -0.216 | 0.829 |
| Theoretical Orientation: Eclectic ² | -0.056 | 0.024 | -2.366 | 0.018 |
| KEBSQ Total | 0.000 | 0.001 | 0.200 | 0.842 |
| EBPAS Total | 0.001 | 0.017 | 0.051 | 0.960 |

Group Provider (Level 2)¹ Parameter Estimates for **PMES** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|--|----------|-----------|----------|----------|
| Years Trained | 0.000 | 0.001 | 0.280 | 0.780 |
| Licensed | 0.003 | 0.010 | 0.273 | 0.785 |
| Discipline: Counseling ² | -0.008 | 0.019 | -0.399 | 0.690 |
| Discipline: Marriage & Family ² | 0.003 | 0.018 | 0.147 | 0.883 |
| Discipline: Other ² | 0.026 | 0.038 | 0.691 | 0.490 |
| Discipline: Psychology/Psychiatry ² | -0.004 | 0.018 | -0.227 | 0.820 |
| Theoretical Orientation: Eclectic ³ | 0.021 | 0.013 | 1.653 | 0.098 |
| KEBSQ Total | 0.000 | 0.000 | -0.598 | 0.551 |
| EBPAS Total | -0.002 | 0.008 | -0.260 | 0.795 |

Group Provider (Level 2)¹ Parameter Estimates for **PMES** Fixed Effects

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|--|----------|-----------|----------|----------|
| Years Trained | 0.000 | 0.001 | 0.280 | 0.780 |
| Licensed | 0.003 | 0.010 | 0.273 | 0.785 |
| Discipline: Counseling ² | -0.008 | 0.019 | -0.399 | 0.690 |
| Discipline: Marriage & Family ² | 0.003 | 0.018 | 0.147 | 0.883 |
| Discipline: Other ² | 0.026 | 0.038 | 0.691 | 0.490 |
| Discipline: Psychology/Psychiatry ² | -0.004 | 0.018 | -0.227 | 0.820 |
| Theoretical Orientation: Eclectic ³ | 0.021 | 0.013 | 1.653 | 0.098 |
| KEBSQ Total | 0.000 | 0.000 | -0.598 | 0.551 |
| EBPAS Total | -0.002 | 0.008 | -0.260 | 0.795 |

Summary of Findings

- Youth characteristics
 - *None predict use of practices derived from the evidence-base*
 - *Several predict use of practices with minimal evidence support*
 - Older Age, Male Gender, Greater Functional Impairment, Non-EBS Service, Out-of-Home Level of Care
- Provider characteristics
 - *Only Theoretical Orientation predicts use of practices derived from the evidence-base*
 - *None predict use of practices with minimal evidence support*



Implications for Dissemination and Implementation

- Usual care can inform implementation
- Emphasize the importance of decreasing practices with limited evidence-based support
- Theoretical orientation – focus on pre-service training (vs. training direct service providers)
- Examine other provider characteristics (e.g., perceived behavioral control)

Limitations & Future Directions

- Did not examine dose/intensity of practices
- Provider self-report of practices
 - *Providers over endorse practices (Borntrager et al., 2013)*
 - *Finding the balance between gold-standard observation with feasible measurement models*
- EBPAS scores had a restricted range
- Selection bias – provider data from those who opted to attend the CAMHD trainings in EBPIs
- Lack of organizational measurement, client outcomes, other service and implementation outcomes

Mahalo!

- helpyourkeiki.com

The screenshot shows the website's header with navigation links: HOME, ABOUT, CONTACT, RESOURCES. A Facebook icon is in the top right. The main title is "Help Your Keiki" in a stylized font, accompanied by a silhouette of a child and an adult. Below the title is a video player showing a document titled "ADDRESSING Mental Health CONCERNS IN PRIMARY CARE A CLINICIAN'S TOOLKIT". The document includes an introduction and a table of evidence-based treatments.

ADDRESSING Mental Health CONCERNS IN PRIMARY CARE A CLINICIAN'S TOOLKIT

This report is intended to guide practitioners, educators, youth, and families in developing appropriate interventions for children and adolescents with mental health concerns. This report is part of the Evidence-Based Child and Adolescent Mental Health (PWEBS) Database, available at www.practicewise.com. If this is not the most current version, please check the database for updates.

| Problem Area | Level 1- BEST SUPPORT | Level 2- Good Support |
|---------------------------------------|---|--|
| Anxious or Avoidant Behaviors | Cognitive Behavior Therapy (CBT), CBT and Medication, CBT with Parents, Education, Exposure, Modeling | Assertiveness Training, CBT for Child and Family Psychoeducation, Hypnosis, Relaxation, Inoculation |
| Attention and Hyperactivity Behaviors | Behavior Therapy and Medication, Self-Verbalization | Biofeedback, Contingency Management, Parent Management Training, Problem Solving, or with Teacher Psychoeducation, Exercise (with or without Relaxation), Working Memory |

02:35 HD vimeo



Practices Derived from the Evidence-Base List

Activity Selection

Behavioral Contracting

Cognitive

Commands

Communication Skills

Exposure

Goal Setting

Ignoring or DRO

Maintenance/Relapse Prevention

Modeling

Parent Teacher Monitoring

Personal Safety Skills

Praise

Problem Solving

Psychoeducation - Caregiver

Psychoeducation - Child

Relaxation

Response Cost

Self-Monitoring

Self-Reward or Self-Praise

Social Skills Training

Tangible Rewards

Therapist Praise/Rewards

Time Out



Practices with with Minimal Evidence Support List

Catharsis

EMDR or Tapping

Free Association

Hypnosis

Interpretation

Line of Sight Supervision

Mentoring

Milieu Therapy

Thought Field Therapy

Twelve Step Program