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Behavioral Health Assessments and Interventions of Psychology Trainees and Residents During Dual Interviewing: Replication and Extension

John H. Porcerelli[1] · John R. Jones[2] · Jillian E. Grabowski[1] · William Murdoch[3]

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Abstract

The integration of psychologists and other behavioral health providers in primary care practice continues to evolve and reshape approaches to patient care. This study is a replication and extension of a 2013 study describing dual interviewing encounters involving psychology trainees and family medicine residents within an integrated primary care clinic as it relates to behavioral health assessments and interventions. Psychology trainees provided descriptions of 400 collaborative patient encounters involving 337 single and 63 repeat encounters. Psychology trainees coded the frequency of behavioral health assessments and interventions by the psychology trainee, family medicine resident, or both. Seventy-eight percent of encounters contained an assessment, and 20% contained interventions. Compared to the 2013 study, there were significantly fewer behavioral health interventions offered and a significantly greater number of psychoeducation/supportive interventions offered collaboratively. It was discovered that discussions between psychology trainees and family medicine residents immediately after patient encounters occurred 50% of the time and involved issues of case conceptualization. These informal discussions may be an important source of behavioral health education for family medicine residents. This study adds to efforts to better understand what occurs during these encounters.

Keywords Behavioral health · Dual interviewing · Assessment · Intervention · Integrated care · Primary care

Mental illness is a pervasive problem in the United States, with a significant proportion of the populace qualifying for a mental health diagnosis at some point in their lifetime (U. S. Department of Health and Human Services, 2015; Serrano-Blanco et al., 2010). Frequently, many patients initially find themselves seeking mental health care from their primary care providers (McGovern, Dent, & Kessler, 2018). Since its inception, the patient-centered medical home (PCMH) has continued to be an important first-stop for the vast majority of these patients. To more adequately meet the behavioral health needs of their patients, primary care clinics have evolved into integrated models that include behavioral health care and medical providers working collaboratively.

Within the integrated framework, patients may receive immediate, and often same-day, behavioral healthcare within the same clinic that they see their physician. Additionally, they can also be more appropriately referred to specialized care (e.g., psychiatric evaluation or outpatient mental health) when appropriate. Studies of integrated primary care clinics have found evidence for their effectiveness at treating common psychological complaints (e.g., depression or anxiety), sleep disturbance, and improving overall mental health (Bryan et al., 2012; Hunter, Goodie, Oordt, & Dobmeyer, 2017; Ray-Sannerud, et al., 2012).

✉ John H. Porcerelli
porcerjh@udmercy.edu

John R. Jones
Johnjones5672@gmail.com

Jillian E. Grabowski
grabowji@udmercy.edu

William Murdoch
William.MurdochMD@promedica.org

[1] Department of Psychology, University of Detroit Mercy, 4001 W. McNichols Road, 142 Reno Hall, Detroit, MI 48221, USA

[2] United States Air Force, 1538 Cable Ranch Road, Apt. 6203, San Antonio, TX 78245, USA

[3] Family Medicine Residency Program, ProMedica Monroe Regional Hospital, 718 N. Macomb Street, Monroe, MI 48162, USA

Among the variety of favorable factors of integrated care, interprofessional collaboration between providers, within the same clinic, is often viewed as essential (Cohen et al., 2015; Porcerelli et al., 2013a; Porcerelli, Fowler, Murdoch, Markova, & Kimbrough, 2013b). Ideally, providers are able to share patient information in an expedited and streamlined manner in order to enhance patient care. Additionally, both medical and mental health providers may also visit the patient jointly, and provide a brief assessment, behavioral intervention, or information for self-management (Porcerelli & Jones, 2017).

The way in which psychologists and physicians can work collaboratively has been explored (e.g., Ruddy & Schroeder, 2004). While guidelines exist as a framework for practice, less systematic exploration of what integrated practice looks like in real-world clinics have been conducted. From a service perspective, consultation from a behavioral health provider often proves beneficial. Primarily, behavioral health providers are often essential to the identification of mental and substance use disorders, providing consultation and treatment planning for behavior change in patients with multiple chronic health conditions, and assisting in monitoring medication or treatment effects (Miller, Brown Levey, Payne-Murphy, & Kwan, 2014). Furthermore, behavioral health providers may also assist in joint behavioral interventions or assessments alongside physicians.

Commonly referred to as dual interviewing (Blount, DeGirolamo, & Mariani, 2006), medical and mental health providers can provide treatment positioned towards positive behavioral change in tandem (e.g., smoking cessation). Systematic surveys of dual interviews have bolstered this notion by uncovering high rates of collaborative practice between the same clinic providers. For example, Porcerelli et al. (2013a, b) found that upwards of 80% of dual encounters involving a medical resident and clinical psychology doctoral students involved a behavioral health assessment and 29% included a behavioral intervention.

The current study provides an update to these previous findings. Similar to the 2013 investigation, a *behavioral health assessment* refers to any assessment of a symptom or disorder (e.g., inquiring about sleep difficulties or a detailed assessment of major depression). A *behavioral intervention* involves any attempt to reduce symptoms of a disorder through psychological or behavioral means (e.g., challenge an irrational belief, encouraging exposure to feared social situations, behavioral activation). *Lifestyle and chronic disease management* interventions include any recommendation that could maintain or improve health (e.g., recommending a regimen of daily walking for overall well-being) or the management of a chronic disease (e.g., proper blood glucose monitoring for diabetes). *Psychoeducation and supportive* interventions involve providing information verbally or through handouts or providing supportive comments to patients who are working towards engaging in change behavior. Finally, *parental intervention* involves counseling parents on the care or management of an infant, child, or adolescent. As the integration of behavioral health professionals in primary care practice has continued to evolve and reshape approaches to patient care, the present study is an update and replication of the practices performed in an integrated primary care clinic. It attempts to provide further clarity to what transpires in the examination room when physicians and behavioral health providers work collaboratively.

Methods

Participants

Health psychology practicum students ($N=11$) coded 400 patient encounters (September 2015 to May 2016) involving 337 primary care patients (63 of the 400 encounters were repeat visits) and involving 30 family medicine residents and 7 supervising physicians at a residency program in the Midwest (see Table 1 for demographics). Patients were mostly female ($N=277$; 70%) and White ($N=296$; 76%), with a mean age of 36.48 ($SD=18.88$), ranging from newborns to 92. Forty-nine (14%) encounters were with parents of newborns, children, and adolescents. The most common medical complaints involved acute pain ($N=50$, 13%), chronic pain ($N=44$, 11%), and hypertension ($N=44$, 11%). The most common behavioral health complaints included anxiety ($N=163$, 41%), depression ($N=160$, 40%), and smoking ($N=27$, 7%). A total of 277 (69%) patients had one or more

Table 1 Provider demographics

Discipline	Family medicine resident $N=37$	Psychology trainee $N=11$
Gender		
Male	18	4
Female	19	7
Race/ethnicity		
Caucasian	10	8
African American	6	0
Middle Eastern	8	1
South Asian	12	1
Hispanic	1	1
Year of training		
PGY-1	11	0
PGY-2	7	0
PGY-3	12	8
PGY-4	0	3
Faculty	7	0

behavioral health problems/complaints, with 79% ($N=312$) of patients received a behavioral health assessment and/or intervention from a family medicine resident or faculty physician, psychology trainee, or both. This study was approved by the Wayne State University IRB.

Procedures and Measures

The orientation for psychology trainees during the first month of the practicum included an overview of working collaboratively with physicians and other healthcare providers, articles on collaborative care, and weekly group discussions. An emphasis was on interprofessional collaboration in assessing, managing, and intervening with patients with psychosocial and behavioral change needs being highlighted throughout the trainings. Training involved shadowing physicians during patient care. Psychology trainees were scheduled to work with a variety of residents and not just those who were more interested in psychosocial issues. At times, the physician/psychology dyads conducted repeat visits with patients. Data were collected using encounter logs that psychology trainees completed during and after each patient encounter. The logs were used for clinical supervision and to track assessments/interventions conducted by the psychology trainees and residents. The logs included a detailed list of common medical and behavioral health problems seen in primary care patients as well as a list behavioral health activities (see Table 2).

Psychology trainees underwent reliability training using the encounter log. Trainees rated 5 (live) collaborative encounters via the clinic video system. Ratings were compared to the supervisor's ratings and scoring discrepancies were discussed. Some trainees needed additional training to reach 70% exact agreement between the student and supervisor. Once training was completed, psychology trainees rated their own collaborative encounters. Psychology trainees coded the presenting problems and interventions conducted during dual interviewing. Assessments and interventions were rated as "collaborative" when psychology trainees and physicians each participated in carrying out the assessment and/or intervention. For example, a resident may inquire about a patient's recent weight gain, while the psychology trainee inquired about depressive symptoms.

Results

In total, 400 collaborative encounters were logged in 2015–2016 as compared to 550 encounters in 2013. The fewer number of encounters in 2015–2016 were mainly due to increased responsibilities of the supervising health psychologist resulting in fewer months of data collection (7 as opposed to 11 months) as compared to the earlier study.

Table 2 Frequency of behavioral health assessments and interventions by provider type in two studies

	Family medicine residents		Psychology trainees		Both		Total		X^2 for totals	Significance level of totals
	2013[a] *N* (%)	2015–2016 *N* (%)	2013[a] *N* (%)	2015–2016 *N* (%)	2013[a] *N* (%)	2015–2016 *N* (%)	2013[a] *N* (%)	2015–2016 *N* (%)		
Assessment	148/550 (27%)	63/400 (16%)	65/550 (12%)	94/400 (24%)	227/500 (41%)	155/400 (39%)	440/550 (80%)	312/400 (78%)	0.56	0.45
Behavioral intervention	39/550 (7%)	19/400 (5%)	39/550 (7%)	39/400 (10%)	80/550 (15%)	20/400 (5%)	158/550 (29%)	78/400 (20%)	9.94	0.002
Lifestyle and chronic disease management intervention	78/550 (15%)	56/400 (14%)	28/550 (5%)	39/400 (10%)	61/550 (11%)	13/400 (3%)	167/550 (31%)	108/400 (27%)	1.79	0.18
Psychoeducation and supportive intervention	21/550 (4%)	14/400 (4%)	106/550 (20%)	235/400 (59%)	55/550 (10%)	52/400 (13%)	182/550 (34%)	301/400 (75%)	155.65	<0.0001
Parental intervention	24/550 (4%)	10/400 (3%)	12/550 (2%)	9/400 (2%)	5/550 (1%)	2/400 (0.5%)	41/550 (7%)	21/400 (0.5%)	23.95	<0.0001

An $N-1$ Chi-squared test was used as recommended by Campbell (2007) and Richardson (2011)

[a]Porcerelli et al. (2013a)

Eight third-year psychology trainees completed 260 (65%) collaborative encounters and the three fourth-year psychology trainees completed 160 (35%) collaborative encounters. The number of encounters by each resident ranged from 17 to 60. The 400 collaborative encounters involved 175 (44%) post-graduate year (PGY-3) family medicine residents, 132 (33%) PGY-2 residents, and 59 (15%) PGY-1 residents. The number of encounters by each resident ranged from 15 to 37.

Of the total 400 collaborative encounters with psychology trainees and family medicine residents, 312 (78%) behavioral health assessments were conducted (see Table 2). Approximately 50% of these assessments were conducted collaboratively (i.e., both psychology trainee and resident). When the assessment was conducted by a single provider, 60% of the time it was conducted by a psychology trainee. Differences in the percentages of behavioral health assessments from 2013 and 2015–2016 were not significantly different ($p = .45$). Behavioral health interventions were conducted in 20% of the 400 encounters. Only 5% of the interventions were done collaboratively. Differences in the percentages of behavioral health interventions from 2013 and 2015–2016 were significantly different ($p = .002$), indicating that a larger percentage of interventions were offered in 2013 as compared to 2015–2016. Psychoeducational and supportive interventions were provided in 75% of the collaborative encounters. Psychology trainees provided 59% of these interventions. Differences in the percentages of psychoeducational and supportive interventions from 2013 and 2015–2016 were significantly different ($p < .0001$), indicating that a larger percentage of psychoeducational and supportive interventions were offered in 2015–2016 as compared to 2013. Lifestyle and chronic disease management interventions occurred in 27% of the encounters. Psychology trainees conducted 10% of these encounters alone, while 3% were conducted collaboratively. Differences in the percentages of lifestyle and chronic disease management interventions from 2013 and 2015–2016 were not significantly different ($p = .18$). Parental interventions were offered in 0.5% of the encounters. Differences in the percentages of parental interventions from 2013 and 2015–2016 were significantly different ($p < .0001$), indicating that a larger percentage of interventions were offered in 2013 as compared to 2015–2016.

The mean number of behavioral health assessments and interventions (combined) by psychology trainees during first and repeat patient encounters were 1.64 ($SD = 1.28$) and 1.68 ($SD = 1.33$), respectively. The mean number of behavioral health assessments and interventions (combined) by resident physicians during first and repeat patient encounters were 1.00 ($SD = 0.92$) and 1.08 ($SD = 1.27$), respectively. The differences were not statistically significant, $F(2, 397) = 0.19$, $p = .84$. Significant changes were noted in physician behavior in repeat versus first encounters. Physicians provided fewer behavioral health assessments during repeat encounters, $F(1, 398) = 4.11$, $p = .04$, and provided a greater number of behavioral, $F(1, 398) = 5.09$, $p = .03$, and supportive, $F(1, 398) = 4.79$, $p = .03$, interventions during repeat encounters versus first encounters with patients.

Following each patient encounter, psychology trainees and family medicine residents often discuss the case in some form or another. Psychology trainees coded whether the discussion involved some form of case conceptualization, whether the psychology trainee provided advice to the resident about communication, allowed the resident to express his/her emotions about the encounter (i.e., emotional debriefing), provided positive feedback to the resident regarding their interactions with the patient, and whether the psychology trainee was asked to provided medication consultation (Table 3). These results indicate that a discussion involving case conceptualization occurred following 50% of the encounters. Following 4% of encounters, psychology trainees offered advice about the resident's style of communication. Following 12% of (difficult) encounters, residents expressed their feelings about the encounter (i.e., emotional debriefing). Following 16% of encounters, psychology trainees provided positive feedback to residents about their handling of the interaction. Following 17% of encounters, psychology trainees were consulted about (psychiatric) medication management.

Finally, psychology trainees rated the degree to which residents were open to collaborating with the psychology trainee, the degree to which the patient seemed open to dual interviewing, and the quality of the physician–patient relationship. On a 5-point Likert scale with higher scores indicating more positive ratings, a mean of 4.25 ($SD = 0.84$) was obtained for resident collaborativeness, a mean of 3.88 ($SD = 0.98$) was obtained for patient receptivity to dual

Table 3 Supportive behaviors of psychology trainees while working collaboratively with family medicine resident physicians ($N = 400$)

	Case conceptualization	Communication advice	Emotional debriefing	Positive feedback	Medication consultation
Yes (%)	199 (50%)	15 (4%)	47 (12%)	64 (16%)	69 (17%)
No (%)	201 (50%)	385 (96%)	353 (88%)	336 (86%)	331 (83%)

interviewing, and a mean of 4.03 ($SD = 0.82$) was obtained for the quality of physician–patient relationship.

Discussion

This study was an attempt to replicate and extend a 2013 study (Porcerelli et al., 2013a, b) describing 550 dual interviewing (collaborative) encounters with psychology trainees and family medicine resident physicians. In this study of 400 dual interviewing encounters, behavioral health assessments were conducted in 78% of encounters compared to 80% of encounters from the original study. These results are consistent with the high numbers of mental health and substance abuse disorders (and subthreshold disorders) in the general population (U. S. Department of Health and Human Services, 2015; Kessler & Wang, 2008; Regier et al., 1998) and in primary care (Johnson et al., 1995; Spitzer et al., 1995). Overall behavioral health interventions were conducted less often than in 2013, yet overall psychoeducation and supportive interventions were offered at a far greater frequency in 2015–2016 than in 2013. Lifestyle and chronic disease management interventions did not significantly differ across the two studies. One possible explanation for the decrease in behavioral interventions and increase in supportive interventions was an emphasis in decreasing average patient visit times for family medicine residents. This may have led to an increase in supportive interventions (e.g., handouts about self-management) instead of trying to address symptoms during dual interviewing encounters. Another possible explanation for the decrease in behavioral intervention during the 2015–2016 period may involve the increased use of referrals to psychology trainees by physicians for individual (30 min) visits. For more complicated behavioral health problems, physicians often preferred referring for individual visits for more comprehensive assessment.

The percentage of overall lifestyle and chronic disease management interventions did not change from 2013 to 2015–2016. However, psychology trainees doubled their number of interventions in this area. This increase was likely due to the emphasis on psychology trainees focusing on helping physicians work with patients with chronic disease. The 2015–2016 psychology trainees received additional training on behavioral interventions for diabetes, irritable bowel syndrome, chronic obstructive pulmonary disease and asthma, drawing on the work of Hunter, Goodie, Oordt, and Dobmeyer (2009).

This study extends the 2013 study by identifying the frequency of supportive behaviors of psychology trainees towards family medicine residents and assessing resident and patient collaborativeness during dual interviewing encounters. One surprising finding was the high percentage (50%) of discussions between psychology trainees and family medicine residents following their dual interviewing encounters with patients. During informal discussions with trainees, it appears that psychology trainees often help residents conceptualize their cases from a biopsychosocial model. This extends the role of psychology trainees in the medical education of residents regarding psychosocial assessment, interventions, and conceptualization of patients (Pingitore, 1999; Porcerelli et al., 2013a, b; Ring, 2009). It should be noted that the Accreditation Council for Graduate Medical Education (ACGME) encourages resident physicians to work with and learn from licensed healthcare providers, including psychologists, and especially require family medicine residents be educated in diagnosis and management of common psychosocial problems and illnesses (ACGME, 2017).

Psychology trainees rarely provided advice to residents about interpersonal and communication skills during dual interviewing encounters. This is not surprising given that psychology trainees during doctoral training have had less experience working within a primary care setting and have not mastered patient-centered communication skills for the purpose of resident education. In addition, psychology trainees may not feel comfortable providing advice about communication to residents who already hold a doctoral degree.

Following 12% of dual interviewing encounters, psychology trainees provided an opportunity for emotional debriefing for family medicine residents. In 16% of encounters, psychology trainees also provided positive feedback to residents. McDaniel (1995) has stated that the role of the caring primary care physician is extremely taxing and draining, and psychologists often offer "emotional support for the physicians themselves" (p. 118). To the best of our knowledge, this is the first attempt to systematically assess the frequency of these behaviors by psychology trainees within the context of dual interviewing within a primary care setting. However, similar constraints on knowledge and experience may have been a factor with psychology trainees working with residents (see Serrano, Cordes, Cubic, & Daub, 2018, for a discussion on training needs). It may be hypothesized that more seasoned clinicians would increase the instance of psychologists providing feedback to physicians.

Following 69 (17%) of dual encounters, resident physicians inquired about the psychology trainee's opinion about medication management of the patient. When such requests were made, psychology trainees were instructed to encourage the resident to seek consultation from a medical preceptor. These data suggest that residents may look to health psychologists for help with medication management for common psychiatric conditions seen in primary care. These data support the recommendation made by McGrath et al. (2004) that psychologist who wish to practice in medical settings should seek post-doctoral training in psychopharmacology.

Lastly, psychology trainees reported on the degree of resident collaborativeness, patients' openness to collaborating with dual interviews, and the overall physician–patient relationship. These data suggest that residents worked well with psychology trainees, that patients tended to be open to working with residents and psychology trainees, and that the quality of the physician–patient relationship was not compromised by the physician working collaboratively with a psychology trainee.

Limitations, Future Research, and Conclusions

A limitation of the study involves the method of data collection. All data were recorded by psychology trainees using the observation checklist. Future studies of dual encounters should use a multi-informant approach combining both trainee checklists as well as informant rating either through direct observation or from videotape encounters. This could also include ratings from resident physicians regarding what occurred from their perspective. Another limitation involves the fact the both studies were conducted with residents and psychology trainees in a single-university-based primary care residency practice. Future research should expand into other areas of specialty, such as pediatric practices and psycho-oncology.

Compliance with Ethical Standards

Conflict of interest The authors John H. Porcerelli, John R. Jones, Jillian E. Grabowski, and William Murdoch declare that they have no conflict of interest.

Human and Animal Rights All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Inform consent was not required for this study. Data were obtained through ongoing educational practices of the Clinical Health Psychology Practicum. Data for this study were placed in a de-identified data base before any analyses were performed.

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