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Warm Handoff: Fact or Fiction?

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WARM HANDOFF: FACT OR FICTION?

Warm Handoff: Fact or Fiction?

In 2016 the National Institute of Mental Health (NIMH) reported that 44.7 million Americans suffer from mental illness, representing 18.3% of the population. Of those cases, 10.4 million (4.2% of the population) were severe enough to significantly impact the individual's life (NIMH, 2016). Based on national surveys, females, younger patients, and those of mixed racial backgrounds are more likely to suffer from both "any mental illness" and "serious mental illness." Among both of those groups, female sex, increasing age, and white racial background were positively correlated with receiving treatment for behavioral health needs (NIMH, 2016). However, overall only about 43% of patients with a diagnosed mental illness actually receive treatment in a given year (NIMH, 2016; National Alliance on Mental Health, 2016).

Often people with behavioral health conditions receive care in the primary care setting (Kessler et al., 2005; Wang et al., 2006), and most prescriptions for psychotropic medications are written by general practitioners (Mark, Levit, & Buck, 2009). When patients are referred to a behavioral health provider, some studies indicate that only half (or less) of those who receive a referral even attend a first appointment (Unützer et al., 2013). Therefore, the U.S. healthcare system faces a major problem in improving patient access to behavioral health care, particularly for certain patient cohorts that have historically been less likely to seek such care.

Because most behavioral health care is received in the primary care clinic, the emerging primary care model features various iterations of "integrated care:" behavioral health providers working together with a team of primary care providers (PCPs) to provide both physical and behavioral health care to patients (Peek & National Integration Academy Council, 2013). There is a strong foundation of research supporting integrated care as an effective model for addressing

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patients' health in general (Reiter et al., 2014; Archer et al., 2012; Butler et al., 2008; Woltmann et al., 2012), and studies suggest that patients may be more likely to connect with needed behavioral health services when they receive care in an integrated setting (Bridges et al., 2017; Valleley et al., 2007).

Studies have examined whether having behavioral health providers (BHP) integrated into the primary care clinic leads to increased access to behavioral health care for patients. Previous studies have shown that, for individuals who screen positive for depression, contact with a behavioral health clinician on the same day as a primary care appointment increases the likelihood of initiating psychotherapy (Szymanski, Bohnert, Zivin, & McCarthy, 2013). Other studies have shown that same-day access to a behavioral health clinician reduces wait times and no-show rates for psychotherapy (Pomerantz et al., 2008, Pomerantz et al., 2010). Auxier et al. (2012) studied variables related to referrals by PCPs to behavioral health providers (BHPs), and found a high percentage of follow through to BHP appointments, though many of those appointments occurred on the same day as the PCP visit. A research gap is understanding how this impact translates when a clinic's resources do not allow for same day appointments. One study of a university-run community clinic noted more generally that having medical and behavioral staff working in the same space facilitated a "warm handoff" and real-time access to a behavioral health provider at the time of the primary care appointment (Sadock et al., 2014), yet this study also had significant methodological issues including no control group and it involved a single clinic with a near-exclusively minority, low-income population.

The identified research gap in the literature is evaluation of the impact of warm handoffs on patients' follow-through to subsequent (i.e., non-same day) short-term psychotherapy (i.e., 4 – 12 sessions of 50 minutes each). For the purposes of this paper, warm handoffs are defined as a

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face-to-face interaction between a patient and a BHP at the time of a primary care visit, regardless of whether the PCP actually introduced the BHP to the patient or not. In our integrated behavioral health model the content of the encounter between the patient and BHP varies, and may include a brief assessment, or providing a brief intervention, and/or facilitating initiation of follow-up psychotherapy.

In contrast to previous research, the present study involves a large, multi-clinic practice, has a diverse patient population, and has a comparison group not included in prior research. We present a hybrid model of integrated behavioral health, in which BHPs are available for warm handoffs as well as for subsequent, short-term psychotherapy addressing a variety of presenting problems prevalent in primary care patients (e.g., PTSD, panic disorder, generalized anxiety).

This study specifically seeks to examine if a brief, less than 15-minute warm handoff with a BHP at the time of referral improves rates of follow-through to a subsequent first psychotherapy appointment. Our dataset also assesses whether integrated behavioral health improves access to behavioral health care differentially for those patient cohorts that are more likely to need but less likely to receive mental healthcare (i.e., younger, minority patients) (NIMH, 2016).

It is worth noting that many other models of integrated behavioral health exist, and other papers have devoted substantial attention to the variable terminology used in the literature (Hunter & Goodie, 2010). We therefore acknowledge that the frequently studied Primary Care Behavioral Health (PCBH) model involves primary care clinics with integrated BHPs, yet they typically lack more intensive follow-up psychotherapy (i.e., patients must be referred to outside providers if they need more care than can be provided by a few, brief meetings with BHPs). In contrast, our clinical model features not only BHPs available for consultation and interventions

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at the time of a PCP visit, but also structured, evidence-based follow-up psychotherapy for those who need it.

Aims:

1. Compare characteristics of patients in which a BHP was involved in any manner in a patient's visit to those who did not have any BHP involvement in their visit.
2. Compare follow-through rates after referral to psychotherapy for patients who did versus did not have a warm handoff (i.e., face-to-face interaction with a BHP) at the time of the patient's visit to a PCP.

Methods

Overview

The present study evaluates data from three primary care Family Medicine clinics at the University of California, San Diego (UCSD). At the time of data collection, clinics were certified as [Patient Centered Medical Home \(PCMH\)](#) level 2 sites, adhered to an integrated behavioral health model, and used Epic as the Electronic Health record (EHR) universal to the UCSD health system. All 3 clinics follow the same model of integrated care and treatment protocols. (This study was reviewed and approved by U-CSD's Human Research Protection Program, HRPP; #16-1283).

Primary care providers include more than 40 physicians and 18 family medicine residents. Two psychiatrists, eight licensed behavioral health providers, and 12 pre-licensed behavioral health clinicians served as BHPs. Those serving as BHPs include licensed psychologists, licensed marriage and family therapists, Clinical Psychology graduate students (Ph.D./Psy.D. candidates), and Marriage and Family Therapy (MFT) student/interns. BHPs are each typically

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in clinic approximately four half-days (i.e., sessions) per week, spending one half-day available for warm handoffs while the remainder of their time is providing follow-up psychotherapy.

When there is a BHP dedicated to providing warm handoffs, the BHP is available and visible in the same clinic space as the rest of the primary care providers and staff. They are immediately accessible for consults and brief interventions. Although the program strives to have a dedicated BHP available for warm handoffs over all clinic sessions, resources often do not allow for such universal coverage; currently, a BHP is available for warm handoffs approximately 70% of the time each clinic is open. When BHPs are asked to consult on a patient, either for a face-to-face brief encounter or for a “curbside consultation” with the PCP, these consultations are performed at the time of the primary care appointment. Previous quality improvement projects have shown over 95% of our PCPs request BHP consultations and refer patients for brief psychotherapy.

BHPs also provide follow-up short-term psychotherapy (i.e., 4-12 sessions of 50 minutes each), though some patients’ level of functioning demands longer-term supportive services. These visits also occur in the primary care clinic space, in exam rooms and dedicated offices. Patients must be referred to follow-up psychotherapy, and usually a BHP will contact the patient by phone to schedule the initial follow-up appointment. Patients are usually contacted by a BHP within five business days and scheduled for an initial psychotherapy appointment (i.e., evaluation for services) within two weeks. Note that this call for scheduling is independent of the warm handoff. Unfortunately, due to staffing shortages, patient preferences and availability, and other factors, there is often a delay between referral for care and the scheduled psychotherapy appointment (average of nearly three weeks). Our review of referrals also

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suggests that approximately 25% of patients contacted by phone by a BHP never return calls to schedule an appointment.

Design

Retrospective matched comparison design. Data was gathered by extracting data from the Epic electronic health record (EHR) into spreadsheets and then analyzed with SPSS software.

Analyses focused on 1) comparison of characteristics of patients in which a BHP was involved in any manner in a patient's visit to those who did not have any BHP involvement in their visit , and 2) comparison of patient attendance at an initial psychotherapy visit after referral for those patients exposed to a warm handoff compared to those without such exposure.

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Results

Data Collection

In 2015, flowsheets in the EHR were piloted to collect data about the nature of the warm handoffs with BHPs (See Figure 1). The data presented here was extracted from the EHR from all 3 primary care clinics and all visits between September 1, 2016, through May 15, 2017. In this time there were 37,131 adult Primary Care visits, 365 involved a BHP in some way, as evidenced by the presence of a flowsheet in the chart linked to that day's PCP notes. In cases where the PCP made a referral to psychotherapy, data were further analyzed as to whether a patient scheduled for an initial psychotherapy appointment completed that appointment within 60 days. Thus all data collection ended on July 14, 2017 (See Figure 2).

Insert Figure 1 Here

Insert Figure 2 Here

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Aim #1

Our first objective was to compare the characteristics of patients who had a warm handoff with a BHP during a PCP visit to the general clinic population. As shown in Table 1 below, of the total of 37,131 primary care visits evaluated, 365 had a warm handoff with a BHP. Notably, in those 365 cases, the BHP may have had direct patient contact for a brief intervention, or may have merely provided resources as part of a “curbside consult” to the PCP.

Insert Table 1 about here

Chi-square and t-test analyses revealed that BHPs were more likely to be involved in a patient’s visit if the patient was female, younger, or of minority/mixed backgrounds. BHPs were also significantly more likely to be involved in care when a patient had a diagnosis of depression or anxiety linked with the PCP’s note for that day ($p \leq .001$). Though depression and anxiety are two of the most common mental health conditions presented to a PCP, BHP consultations may also address issues presented by medically complex patients (Hunter & Goodie, 2010). Therefore we ran an independent t-test comparing patient visits with versus without a warm handoff on the total number of chronic conditions patients had in their Problem List or Encounter diagnosis. This analysis revealed that patients with BHP involvement had more chronic illness diagnoses (mean = 3.1) compared to those without BHP involvement (mean=2.7), ($p < .001$).

Aim #2

Our second aim was to compare patient follow-through with referrals to psychotherapy when a warm handoff was versus was not included during the patient’s visit. Our sample for analysis included the 964 referrals to psychotherapy made during the study period, 826 of which were made without BHP involvement. Of the 138 referrals associated with BHP involvement, 19 were excluded from analysis as, based on flowsheet information, they likely did not involve face-

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to-face contact with the patient (i.e., no warm handoff). Therefore, as shown in Figure 2 below, our analysis compared 826 referrals without BHP involvement to the 119 referrals with a BHP warm handoff.

Insert Figure 2 about here

As shown in Table 2, Chi-Square and t-test comparisons did not find significant differences in patient characteristics in rates of referrals to psychotherapy between those who did versus did not experience a warm handoff with a BHP. Yet more specifically to Aim #2, binary logistic regression analyses (Table 3) show that neither patient variables nor the presence of a warm handoff significantly explained the variance in follow-through with referrals to psychotherapy. The only factor that appears to have influenced follow-through with referrals by patients was the length of the delay (i.e., number of days) between referral and when the initial psychotherapy appointment was scheduled. This is similar to results reported by Pace, Gergen-Barnett et al, (2018). To further understand this, Table 4 shows results of a t-test comparing those patients who had warm handoffs to those without on the average number of days between referral and scheduled psychotherapy appointment (only for those patients scheduled for such appointments). This shows that warm handoffs for were associated with significantly shorter delays between referral and scheduled psychotherapy appointment, and thus have an indirect influence on improved follow-through rates.

Insert Table 4 about here

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Discussion

We sought to understand not only the circumstances in which a BHP warm handoff occurs, but also whether a BHP warm handoff affects follow-through to subsequent follow-up psychotherapy.

Aim #1:

When comparing patient variables between those involving a with a warm handoff versus those without, our data show that BHP involvement of a warm handoff was more likely when patients were female, younger, of minority/mixed racial background, more medically complex, and with a current depression or anxiety diagnosis. Females, younger patients, and those of minority/mixed racial background match the demographics reported by the National Institute of Mental Health as those more likely to suffer from behavioral health conditions (National Institute of Mental Health, 2016). Interestingly, in the general population it is usually more common for female, older, and white patients to actually receive the help they need (National Institute of Mental Health, 2016), suggesting that the presence of BHPs in primary care clinics may help better align treatment recipients with those who need it.

In addition, our results confirm that BHP interventions go beyond prevalent mental health issues such as depression and anxiety, and also are likely to address multiple behavioral medicine needs of those with multiple chronic medical conditions. Perhaps most interesting is that nearly half the time when a BHP was involved, there was no depression or anxiety diagnosis associated with that visit's primary care notes. While some of these patients could certainly qualify for such diagnoses and simply do not have an official diagnosis in the chart, it also suggests that there are other issues at hand and that our BHPs are consulted for other behavioral medicine concerns (e.g., sleep medicine, diabetes management, pain management, grief, etc.).

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Quantitative analyses of the interventions offered to these medically complex patients are sparse in the literature, but they are likely rendered most often in an integrated behavioral health setting. Our team's ongoing studies are directed at better understanding the frequency of these interventions and their impact on patient well being.

Aim #2

In terms of behavioral health care access, previous studies have noted generally increased treatment efficacy when primary care and behavioral health specialists collaborate, and greater access to services when they are offered on the same day as the patient's visit to their PCP. However, limited clinic resources will not often allow for such same-day access. To date there are limited studies specifically examining the impact of brief, same-day BHP interventions (i.e., warm handoffs) on utilization of subsequent behavioral health care. While it has been argued that the impact of the "warm handoff" would be nearly self-evident, to our knowledge there is sparse data demonstrating such impact.

Our data showed that when all variables are considered, it is the delay between referral to behavioral health care and when that care is scheduled that best predicts a patient's completion/follow-through with that referral. However, further analyses showed that a warm handoff had a significant effect on this delay, and therefore appears to have an indirect effect on completion of an initial psychotherapy visit.

Limitations and Further Areas of Study

We refer to our integrated behavioral health model as Primary Care Behavioral Health (PCBH) Plus. This means we offer behavioral health services that most other clinics may not, including brief psychotherapy to many patients. Thus our results may not be translatable to clinics that are more limited in their service offerings (i.e., standard PCBH model). One of the

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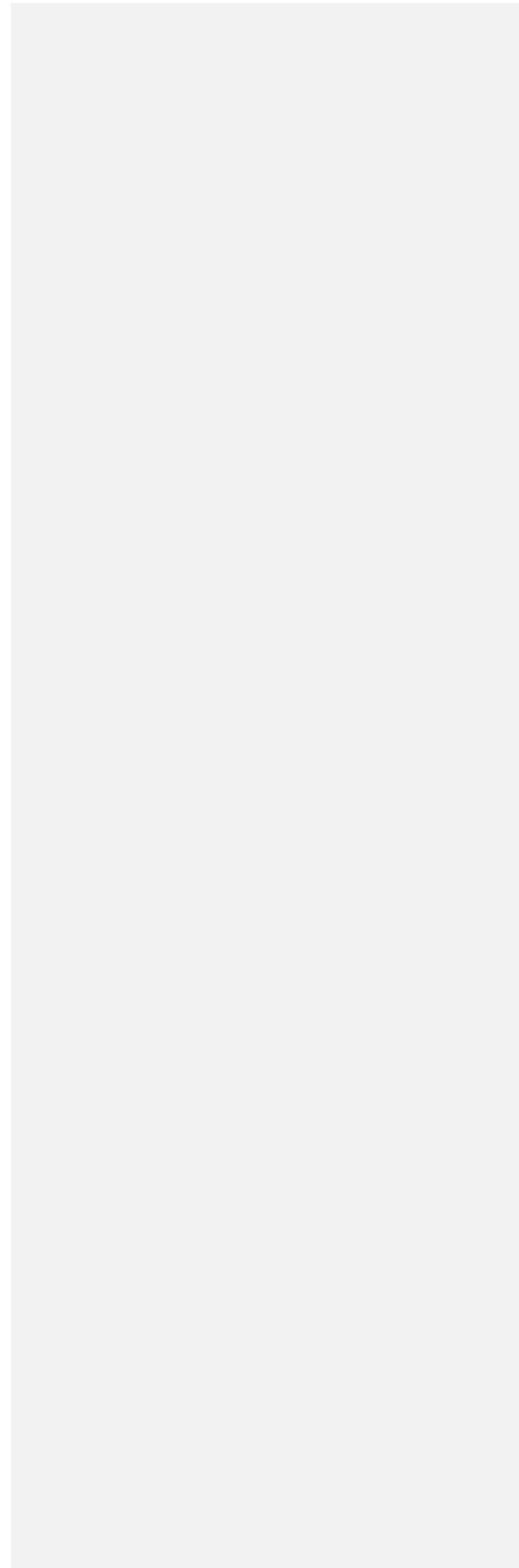
factors we could not control for in our analyses was the presence of a BHP in clinic during any given patient's PCP appointment. That is, while we could ascertain whether a BHP was likely involved with a patient's care, if no flowsheet was completed by a BHP, we could not tell if that was because no BHP was present in the clinic at that time or if they were present but simply not utilized. Another limitation of this study is that we do not know the frequency at which patients refused a warm handoff; documenting this in a reliable manner would likely increase the burden on the PCP. However, including such variables in future analysis would better clarify the effect of a warm handoff on referrals.

An additional limitation of our study is the delay between when a patient was referred for follow-up psychotherapy and when that initial appointment was scheduled. This delay was often more than two weeks and thus the urgency and motivation of the patient may have waned, resulting in an overall rather disappointing follow-through rate. It remains an operational challenge to reduce wait times for services, yet we have already used this data to conduct quality improvement cycles to enhance the patient experience. We were also only able to track follow-up psychotherapy with our Collaborative Care team, but some patients could certainly have sought therapy with other providers outside of our system.

Future studies may focus on other factors with potential to affect follow-through rates, such as whether the BHP who delivered the warm handoff was the one to ultimately conduct the follow-up psychotherapy visit. Lastly, as our data suggests that warm handoffs occur more frequently for medically complex patients, other outcomes of warm handoffs could be analyzed such as changes in patient utilization rates of medical services, clinical biomarkers (e.g., vitals, Hemoglobin A1C, etc.), or health behaviors (e.g., physical activity, diet). While this study may begin to provide insight into the benefits and limitations of warm handoffs, it also points to how

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integrated behavioral health programs may refine their data collection so as to better align resources to patient needs.



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Table 1. Factors involved in BHP consultations

	PCP visit only	PCP visit + BHP	Pearson Chi-Square	p-value
TOTAL	36,766	365		
Female (%)	61	69	10.998	< .001
Race (%)			29.486	< .001
Non-Hispanic White	55	48		
Black	6	8		
Hispanic	12	17		
Asian	17	10		
Other	11	13		
Depression diagnosis linked with PCP note (%)	4.0	19.6	244.337	< .001
Anxiety diagnosis linked with PCP note (%)	5.4	33.9	601.780	< .001
			t-test (t)	p-value
Average # Chronic Illness[^]	2.66	3.06	3.282	< .001
Average Age (years)	52	46	-6.77	< .001

[^]= # of diagnoses in either the patient's Problem list or visit encounter during the study period out of 27 chronic illnesses tracked by EHR: Coronary Artery Disease, Diabetes, Hyperlipidemia, Hypertension, Osteoarthritis, Atrial Fibrillation, COPD, Asthma, DVT/PE, Stroke, Multiple Sclerosis, Seizure Disorder, Chronic Kidney Disease, Obesity, Irritable Bowel Disease, Chronic Hepatitis, GERD, Irritable Bowel Syndrome, GI Bleed, Cancer, Endometriosis, Rheumatoid Arthritis, Connective Tissue Disease, Sleep Apnea, Depression, Anxiety Disorder, Substance Abuse

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Table 2. *Patient characteristics associated with referrals, with and without a BHP warm handoff*

	Referral alone	Referral + BHP	Pearson Chi-Square	p-value
TOTAL	826	119		
Female (%)	70	73	.026	.872
Race (%)			3.043	.551
Non-Hispanic White	56.2	54.6		
Black	5.0	4.2		
Hispanic	15.6	22.7		
Asian	9.9	7.6		
Other	13.3	10.9		
Depression diagnosis linked with PCP note (%)	29.0	26.1	.755	.686
Anxiety diagnosis linked with PCP note (%)	36.4	43.7	2.729	.256
			t-test (t)	p-value
Average # Chronic Illness[^]	2.51	2.58	-.501	.347
Average Age (years)	44	41	1.552	.121

[^]= # of diagnoses in either the patient's Problem list or visit encounter during the study period out of 27 chronic illnesses tracked by EHR: Coronary Artery Disease, Diabetes, Hyperlipidemia, Hypertension, Osteoarthritis, Atrial Fibrillation, COPD, Asthma, DVT/PE, Stroke, Multiple Sclerosis, Seizure Disorder, Chronic Kidney Disease, Obesity, Irritable Bowel Disease, Chronic Hepatitis, GERD, Irritable Bowel Syndrome, GI Bleed, Cancer, Endometriosis, Rheumatoid Arthritis, Connective Tissue Disease, Sleep Apnea, Depression, Anxiety Disorder, Substance Abuse

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Table 3. *Logistic regression predicting follow-through with referral to psychotherapy*

		B	S.E.	Wald	df	P value
Step 1 ^a	TCARE(1)	.135	.304	.197	1	.657
	Age	-.005	.008	.424	1	.515
	Sex (1)	.252	.241	1.096	1	.295
	White (reference)			1.769	4	.778
	Asian	.080	.442	.033	1	.856
	Black	-.433	.550	.620	1	.431
	Hispanic	-.314	.288	1.193	1	.275
	Other	-.028	.353	.006	1	.936
	Days Referral to CC Appointment	-.019	.009	4.757	1	.029
	# Chronic Illnesses	-.018	.063	.084	1	.771
	Constant	1.307	.439	8.856	1	.003

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Table 4. Mean time to scheduled visit for patients with vs. without warm handoff

	Warm handoff	N *	Mean	Std. Dev	SEM
Days_Referral_to_CCAppt	0	348	23.60	12.48	.669
	1	69	15.57	11.45	1.378

Independent sample t-test: t=4.953 (1, 415); p < .000

* Note. Sample only includes patients who scheduled an initial psychotherapy appointment.

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Figure 1. Sample BHP Flowsheet

Mode: Accordion Expanded View All			
No department found			
	1201 - 1300	1301 - 1400	1401 - 1500
Initial Encounter			
Length of Session			
Session Number			
Unit of Consultation			
Mode of Consultation			
Consultation Focus			
Mood Disorder or PHQ Follow-Up			
Anxiety Disorder or GAD Follow-Up			
Substance Use			
Psychosocial			
Medication Adherence			
Medical Concerns			
Goal of Consult (Intake)			
Exercise			
Advise			
Type of Advisement			
Arrange			
Plan of Action			
Referral to (If Applicable)			
Align			
What providers collaborated with T-CARE clinician during encounter?			
How was the visit initiated?			
What providers will be involved in patient follow-up?			
Patient social support network involved or to be included			
Mode used to collaborate about patient			

Examples of response options include:

Options for Unit of Consultation: Individual, Couple, Family, Group

Options for Mode of Consultation: In office follow up on positive screen, In office BHC initiated assessment, In office consult requested by medical provider, In office crisis management, In office follow-up visit brief psychotherapy

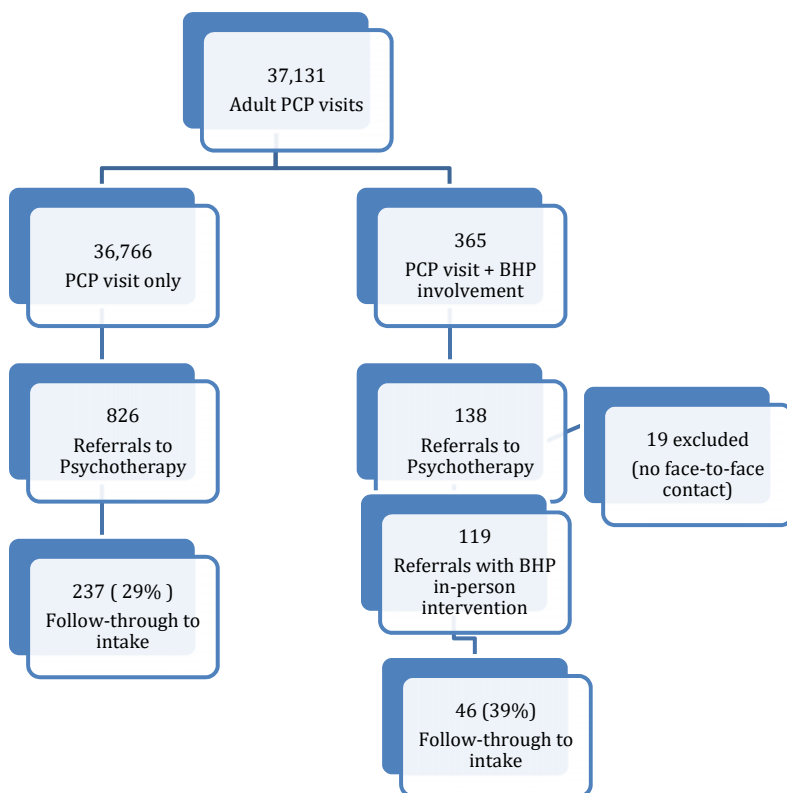
Options for Medical Concerns: Obesity, Hypertension, Type 2 Diabetes, Chronic pain, Sleep Concerns

Options for Goal of Consult (Intake): Diagnosis, Support, Referral, Resources, Skills, Psychoeducation, Health behavior change, Adherence to regimen, Symptom reduction

Options for Type of Advisement: Psychoeducation and Information Sharing, Motivational interviewing, Resource and care management, Brief psychotherapy and support

WARM HANDOFF: FACT OR FICTION?

Figure 2. Flow diagram of study sample



WARM HANDOFF: FACT OR FICTION?

