Factors Associated with Meaningful Engagement in Collaborative Care

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Introduction

Background
Collaborative Care (CC) is an evidence-based method of treating behavioral health conditions in primary care that reduces healthcare disparities[1]. With an emphasis on proactive follow-up, the model requires routine interaction between patients and the CC team. Understanding how CC programs can meaningfully engage patients is central to promoting positive outcomes.

How has "meaningful engagement" been defined in CC literature?

- 2 or more visits within 18 months[2]
- Completion of CBT homework and clinician assessment of patient's commitment to CBT[3]
- Attending 5 or more (out of 15) CC sessions[4]
- 2 or more visits with the CC team within 30 days of the initial visit[5]

What factors are associated with meaningful engagement?

- Female gender[2, 3, 5]
- Diagnosis of chronic pain[2]
- Non-homeless, individuals with AUD, and individuals who identify as Black[5]
- No difference in baseline characteristics of engaged/poorly engaged patients[4]

Study Goals

1) Propose an operationalized definition of meaningful engagement in CC

2) Identify factors associated with meaningful engagement in CC

Method

Data

- Program evaluation data from Collaborative Care at UW Health
- Adult primary care patients with depression and/or anxiety
- Episodes of care completed between May 2019 and July 2021
  - 6,481 episodes; 6,049 distinct patients; 4,017 intakes completed
  - Primarily White (88.7%), non-Hispanic/Latino (95.0%), and female (67.9%)

Measures

- Demographic information
- Initial PHQ-9 and GAD-7 scores
- Episode of care data
  - Warm handoff completed
  - Time to intake and team psychiatry
- Intake data
  - Comorbid psychiatric symptoms
  - Previous psychiatric medications, psychotherapy, psychiatry
  - RN Care Coordinator assignment

Analyses

Meaningful Engagement

- Three or more PHQ9/GAD7 administrations
  - PHQ9/GAD7 administration is an indicator of contact with CC team
  - Initially considered an additional parameter of episode length >60 days, but this excluded a substantial portion of patient population who are seen regularly and improve within two months

Predictors of Meaningful Engagement

- Chi-square tests:
  - All episodes of care (Table 1; n=6,481)
  - Episodes with completed intake (Table 2; n=4,017)
  - Continuous variables (e.g., GAD and PHQ scores, time to intake) split into stratified groups for analysis

Table 1. Results of Chi-Square Tests – All Patients

Variable	DF	X^2	Φ	V	Sig.
Gender	**1**	**5.819**	**.030**	--	**.016**
Race	**1**	**26.204**	**.064**	--	**<.001**
Ethnicity	**1**	**7.896**	**-.035**	--	**.005**
Age Group	3	1.021	--	.013	<.796
Warm Handoff	**1**	**17.040**	**.051**	--	**<.001**
Initial PHQ-9 Score	**4**	**84.414**	**--**	**.124**	**<.001**
Initial GAD-7 Score	**3**	**46.483**	**--**	**.092**	**<.001**

Table 2. Results of Chi-Square Tests – Patients Who Completed Intake

Variable	DF	X^2	Φ	V	Sig.
Time to Intake	4	2.727	--	.026	.605
Time to Case Review	**5**	**127.621**	**--**	**.178**	**<.001**
PTSD Symptoms	1	.565	-.012	--	.452
Hallucinations/Delusions	1	.278	-.008	--	.598
Bipolar Symptoms	1	2.654	-.026	--	.103
Prior Psych Meds	1	.327	.009	--	.567
Prior Therapy	1	1.133	-.017	--	.287
Prior Psychiatry	1	.000	.000	--	.990
RN Care Coordinator	1	2.382	-.024	--	.123

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Results

Meaningful Engagement

- 3,700 episodes with meaningful engagement (57%); 2,781 episodes without meaningful engagement

Predictors of Meaningful Engagement

- Given size of dataset, a number of statistically significant findings emerged
- Among all patients:
  - Men, patients who identify as White, patients who identify as non-Hispanic or Latino were more likely to be engaged
  - Patients who had a warm hand-off were more likely to be engaged
  - Greater symptom severity on PHQ9 and GAD7 was associated with greater likelihood of meaningful engagement
- Among patients who completed intake:
  - Patients who never received a psychiatric case review are less likely to be meaningfully engaged

Discussion

More severe initial symptoms were associated with increased engagement in CC. While more severely symptomatic patients are traditionally thought of as being less engaged due to greater functional impairment, it is possible the proactive nature of and frequent outreach in CC allowed for greater engagement of these patients.

Having a warm hand-off was also associated with meaningful engagement, although the effect size was minimal. We believe the warm-handoff, where the PCP introduces the patient to the CC care manager upon referral to CC, facilitates a transfer of the patient's trust in the PCP to the CC team. The more effectively this transfer of trust can occur, the more accepting the patient may be of the CC team and intervention. As these data include a period of time during which warm handoffs could not occur due to COVID-19 precautions, it is possible a more robust effect would occur when examining only episodes before/after the pandemic.

Presence of a case review by the CC psychiatrist was significantly associated with meaningful engagement in CC and had the largest effect size (moderate-large). This was true regardless of the time it took for the patient to receive a case review. Case review of the patient by both the CC care manager and psychiatrist likely provides an opportunity to re-evaluate the patient's treatment plan, including barriers, thereby facilitating optimal engagement. This result may be confounded by our findings that CC is more helpful for patients with greater symptom severity.