Interprofessional Education (IPE) Clinics Result in Improved Outcomes for Patients with Diabetes Mellitus Type 2

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Background

- Out-patient opportunities for health professions students to participate in interprofessional collaboration are rare.
- The University of Maryland's Schools of Nursing, Pharmacy and Social Work have developed biweekly IPE clinics at three local safety net clinics serving underserved, low-income patients in Montgomery County, MD.

Aims

- To evaluate if IPE Clinics can assist patients with uncontrolled diabetes mellitus type 2 to lower their glycosylated hemoglobin A1C (HbA1C) levels.
- Other patient outcomes of interest were blood pressure, Patient Health Questionnaire (PHQ-9) scores, and number of emergency department (ED) visits.

Methods

- In 2014 a team of nursing, pharmacy & social work faculty and students started an IPE clinic in a safety net clinic.
- In 2017 this IPE model was expanded* to two more safety net clinics, and graduate nursing was added.
- Following a half-day IPE orientation (covering IPEC Core Competencies, clinic demographics, diabetes mellitus, team-building, and a standardized patient encounter), student teams under faculty supervision saw complex medical patients in IPE clinic one or two half days a week at three clinics over two years.
- Healthcare providers referred patients to the multidisciplinary IPE clinic, focusing on patients with uncontrolled diabetes and/or concomitant psychosocial conditions such as depression.
- Students discussed patient cases prior to visits and developed a collaborative plan of care with the patient.
- Patient outcomes studied included HbA1C levels, blood pressure, PHQ-9 scores, and ED visits in the six months before and after IPE Clinic participation.

Results – Patient Outcomes

- The average decrease in hemoglobin A1C in 22 out of 40 patients with follow up data thus far = 3.4%.
- Change in Hemoglobin A1C in Patients Seen in IPE Clinic

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\begin{array}{l|c|c|c|c}
\text{Patient Outcome} & \text{Pre-IPE Clinic} & \text{Post-IPE Clinic} & \text{Average Change} & \text{Significance} \\
\hline
\text{Mean HbA1C} & 11.4\% & 8\% & -3.40 & p < 0.00001^* \\
\text{# Emergency Department Visits} & 6 & 1 & -5 & N/A \\
\text{Mean Systolic BP} & 118 & 102 & -16.42 & p = 0.006391^* \\
\text{Mean Diastolic BP} & 74 & 69 & -5.27 & p = 0.009531^* \\
\text{Mean PHQ-9} & 0.7 & 0 & -0.7 & p = 0.147708 \\
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Data is preliminary and will continue to be evaluated through Fall 2018.

Discussion/Conclusions

- Interprofessional education and collaborative care in primary care settings can improve quality of care and outcomes for patients with complex care needs.
- Patient participation in IPE clinic visits at these three safety-net clinics has resulted in significantly lower HbA1C levels, lower blood pressure levels, and decreased numbers of ED visits.
- Although no significant changes in PHQ-9 / PHQ-2 scores have been noted, patients have been diagnosed with depression and those diagnosed have reported increased satisfaction with mood.
- The lack of significant change in PHQ-9 scores may be due to lack of cross-cultural sensitivity of the PHQ-9.

Contact Information

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