Cherry Street Health Services

Chronic Illness Treatment: An Integrated Approach

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Objectives

Does comprehensive, fully integrated health care delivered by a multi-disciplinary team help patients with multiple chronic health problems, including serious psychiatric disorders, manage their health and improve their lives?

Study Design/Methods

The study is an Institutional Review Board approved quasi-experimental time series with a comparison group. Data are collected at enrollment and every six months for up to 42 months. Standardized instruments or tests cover: blood pressure, body mass index, HbA1c, lipid profile, depression, anxiety, substance use, perceived health status, patient activation, pain and impact of illness. Claims data is used to measure impact on costs and service utilization.

Principal Findings & Results

In the first year, the integrated team approach produced a statistically significant improvement in diastolic blood pressure, anxiety, body mass index, depression, substance use, patient activation to manage their illness, and health status.

There was a 41% reduction in psychiatric inpatient admissions and a 47% reduction in inpatient days as compared to the prior year for the team's patients who had a serious psychiatric condition. Estimated savings were $167,920.

Conclusions/Impact on Health Centers

The study, even in its early stages, shows great promise that a team based approach to treatment of multiple co-occurring chronic health conditions, including serious psychiatric conditions and substance use disorders, results in better health and patient self-management. There was also a large reduction in psychiatric hospital use.

Typical episodic outpatient care of chronic illnesses and fragmented care due to the carve out of public and private mental health and substance abuse services is often ineffective due to failure to address patient motivation, gaps in service, and inconsistent follow-up.

Health centers can use the integrated team approach for management of multiple chronic health conditions in a proactive way; removing traditional health care silos that cause us to treat the head separate from the body.

References

Blakely, T., Dziadosz, G. (2008). The chronic care model for behavioral health care. *Population Health Management, 11*(6), 341-346.

Lindly, O., Dziadosz, G., Spykerman, K., & Fantacone, J. (October 2012). Community-driven primary and behavioral health care integration: Lessons learned from Heart of the City Health Center. American Public Health Association 140th Annual Meeting Poster Presentation in San Francisco, CA. https://apha.confex.com/apha/140am/webprogram/Paper268081.html

Lindly, O., Dziadosz, G., Spykerman, K., & Fantacone, J. (June 2012). Launching Heart of the City Health Center: A qualitative study of community-driven primary and behavioral health care integration. AcademyHealth 2012 Annual Research Meeting and Behavioral Health Interest Group Poster Presentations, Orlando, FL.

Wagner, E. H., Austin, B. T., Davis, C., Hindmarsh, M., Schaefer, J., Bonomi, A. (2001). Improving chronic illness care: Translating evidence into action. *Health Affairs (Millwood),* 20(6), 64-78

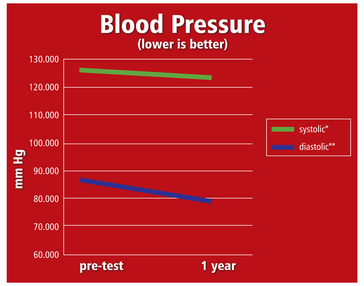
Health Outcomes

The following graphs show the health outcomes of consenting Durham Clinic patients who have provided one-year follow-up measures through June 2013. Below each graph is a description of the measure used and of the results of the statistical test of the significance of the difference in scores.

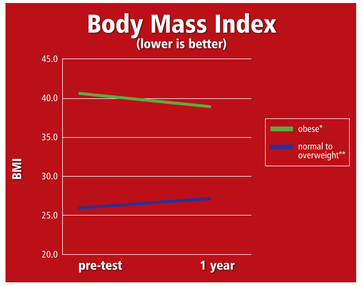
For most measures, the patients have been divided into two groups, those who were symptomatic or below the median score at the time of the pre-test, versus those who were not symptomatic or were above the median. This division separates those who had a health problem from those who did not. If the program were successful, those with a health problem would get better, and those who did not would stay well.

That is what we found. People who had symptoms of high blood pressure, obesity, depression, anxiety, and substance use showed statistically significant improvement. Those who did not have these problems stayed well. People who reported health status on the EQ5D that was below the median score for the group, reported improved health. Those above the median did not have a significant change, which means that their higher perceived health stayed that way. People who had low motivation improved while those who started with higher motivation remained motivated.

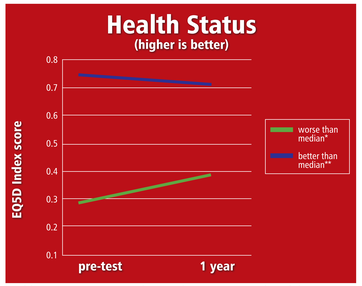
In the case of patient's report of health status, there was a statistically significant movement toward the mean for both those initially above and below the median.



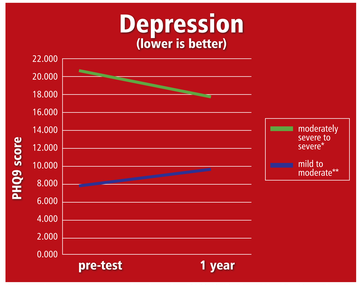
* n = 64, t-test probability, two-tailed, matched pairs = 0.343, not significant
** n= 64, t-test probability < 0.001



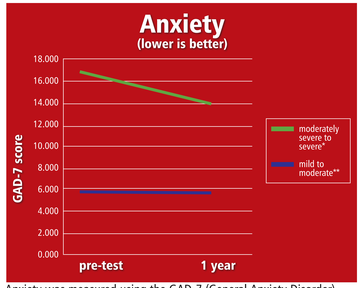
Body Mass Index (BMI) A BMI of 30 or above is considered to be obese
* n = 41, t-test probability, two tailed, matched pairs = 0.027
** n = 22, t-test probability = 0.188, not significant



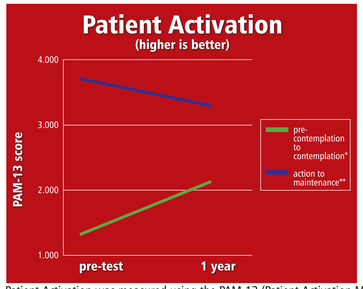
Health Status was measured using the composite Index of the EQ-5D (EuroQol) standardized self-report
*n = 36, t-test probability two tailed, matched pairs < 0.001
**n = 36, t-test probability = 0.355, not significant



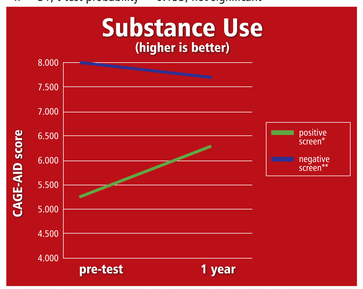
Depression was measured using the PHQ-9 (Patient Health Questionnaire). A score of 15 or higher indicates moderately severe to severe depression.
*n = 45, t-test probability two tailed, matched pairs = 0.003
** n = 23, t-test probability = 0.283, not significant



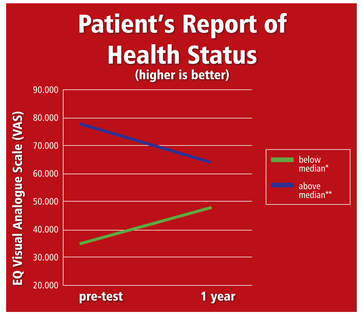
Anxiety was measured using the GAD-7 (General Anxiety Disorder). A score of 11 or higher indicates moderately severe to severe anxiety.
*n = 45, t-test probability two tailed, matched pairs = 0.001
**n = 24, t-test probability = 0.866, not significant



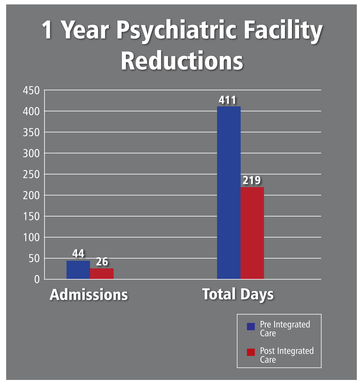
Patient Activation was measured using the PAM-13 (Patient Activation Measure). A score of 1 indicates pre-contemplation, 2 contemplation, 3 action, and 4 maintenance stage of change.
*n = 43, t-test probability two tailed, matched pairs < 0.001
**n = 31, t-test probability = 0.133, not significant



Substance Use was measured using the CAGE-AID (Cut-down, Annoyed, Guilty, Eye-opener). A 'yes' answer to any one of the four questions is a considered to be a positive screen.
*n = 30, t-test probability two tailed, matched pairs < 0.001
**n = 29, t-test probability = 0.161, not significant



Patient's Report of Health Status was measured using the EQ VAS (EuroQol Visual Analogue Scale) which is a scale of 1 to 100 on which the patient marks their health in relation to the best and worst health status they can imagine.
*n = 37, t-test probability two tailed, matched pairs = 0.002
**n = 35, t-test probability < 0.001



n = 140 patients