Diabetes Guidelines Project
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Observational Study

Project Description:
In view of enhancing the care provided to diabetic patients, the new diabetes guidelines prepared by New York City Health and Hospitals Corporation, were applied to a study group. The guidelines consist of an aggressive medication treatment algorithm and nurse-care management. The selected control group received conventional treatment of diabetes.

The providers selected 212 patients for the study group and 212 patients for the control group. Patients in both groups were matched for similar demographics and hemoglobin A1c levels. There were three (3) inclusionary criteria and one (1) exclusionary criterion.

The project started in May 2008 and ended in October 2008. Throughout the span of the study, an interdisciplinary approach was followed involving the providers, registered nurses, PCAs, nutritionist and social worker.

Outcomes::

		May 2008	Oct. 2008
Hgb A1c < 7.0	Study group:	0%	18%
	Control group:	0%	10%
Lipid Level <100	Study group:	51%	62%
	Control group:	47%	51%
Depression Screening	Study group:	40%	100%
	Control group:	60%	64%
Average Hgb A1c < 7.0	Study group:	--	--
	Control group:	--	--
Average Hgb A1c < 9.0	Study group:	--	--
	Control group:	--	--

Quality Improvement:
The aim was to prove the clinical effectiveness of the guidelines, by showing improvement in specific patient care measures. These included the continuing

improvement in Hgb A1c levels, LDL control (<100), BP control (<120/80) and the development of self-management goals.

Success Story:
Type II diabetes has reached epidemic proportions affecting approximately 8% of the United States population and 12.5% in New York City. The new guidelines that coalesce self-titration of medications, nurse care-management and patient self-care management have offered great promise in the improvement of diabetic care.

The NYCHHC diabetes guidelines, with the emphasis on the use of specific types of medications in initial treatment, based on the hemoglobin A1c levels; self-titration of medications; self-management support; on-site and home care management, have provided a new modality to treat patients with diabetes.

After completing staff education and selection of patients for the study group and control group; the interdisciplinary team, consisting of providers, RN-care managers, PCAs, nutritionist and social worker, was available to provide care during daily diabetic sessions. Each of the six providers in the medical unit had one diabetic session per week, to allow them to concentrate on their study patient group. Providers aggressively managed patient medications and referred all patients for care-management at each visit. Each patient made an initial visit with the nutritionist and follow-up visits, as necessary. Referral to the social worker was made, as needed. Following a care-management visit, the care manager would make phone calls to each patient to assess understanding of instructions and applications of lessons learned. Patients were also able to call the care manager seven days a week. Most patients were encouraged with the dedicated attention. The care managers were also impressed with the patients' increasing dedication to compliance. Interestingly, the providers, in addition to becoming more comfortable with the guidelines, developed a silent and healthy competition among themselves, using improvement outcome data as a gauge of success.

Methodology:
To facilitate teamwork and efficiency, a streamline process was followed, to include:

- Reviewing the guidelines with all involved staff;
- Patient selection for the study group and the control group;
- Creation of a separate registry for the study group and control group;
- Inclusionary criteria:
    - HgA1c value of 7 or greater
    - Compliance with medications
    - Compliance with follow-up appointments
- Exclusionary criterion:
    - Psychiatric disorder
- Development of a diabetic session, for each provider, for the study group;
- Ensuring availability of all medications in the algorithm, in the on-site pharmacy, for uninsured patients;

- Teaming-up with managed care companies to provide nurse-care management for patients enrolled in their system;
- Provision of nurse-care management for uninsured patients;
- Data collection and analysis;
- Bi-weekly, interdisciplinary meetings, including leadership, to discuss progress, barriers, solutions and next steps.

Process and Outcome:

In a five-month period, multiple aspects of improvement were achieved:

1) Comparing pre-study and post-study data, the hemoglobin A1C level improved from 0% to 18% for the study group and from 0% to 10% for the control group. LDL control improved from 51% to 62% for the study group; from 47% to 51% for the control group. Likewise, self-managed goals improved from 40% to 100% for the study group, from 60% to 64% for the control group.

2) Comparison between the study group and the control group showed that the study group had an 8% improvement in HgA1c over the control group. Improvement in LDL control of 10% was noted for the study group over the control group. For self-managed goals, the study group showed 40 % improvement over the control group.