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JeffCARE Diabetes Mellitus Abstract Study

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JeffCARE Diabetes Mellitus Abstract Study

JeffCARE, in collaboration with The Center for Research in Medical Education and Health Care (CRMEHC), developed a survey instrument, and conducted a chart review study of selected patients with diabetes mellitus during the spring of 1999. This effort is one of the first major cooperative projects of the Jefferson Health System's Disease Management Committee, a subset of the Jefferson Health System (JHS) Quality Council led by Stanton N. Smullens, MD, Chief Medical Officer, JHS. Diabetes was chosen as the focus of this project because of its significant prevalence in our region, the high direct and indirect costs of this disease, and the consensus that outcomes can be improved with "population-based" disease management principles. American Diabetes Association (ADA) guidelines were used as the basis for the instrument.

The goals of the project were threefold: 1) To provide baseline information on the diabetic full risk sub-population within the Jefferson Health System. 2) To provide feedback to physicians/practices on their conformity to recommended ADA guidelines. 3) To create a patient database which would allow reevaluation after a fixed period of time, and additionally provide a resource for further study. In addition, Aetna US Healthcare's research and data division, US Quality Algorithms, has expressed interest in a collaborative research effort.

The study questionnaire was designed with multidisciplinary clinical input from throughout the JHS. The survey explored the major ADA/NCQA (National Committee on Quality Assurance) collaborative provider recognition components: glycemic control, lipid management, urinary microalbuminuria levels, use of ACE inhibitors when necessary, HbA1c levels, and dilated eye exams yearly, as examples. Demographic data and linking codes for follow-up, as well as practice/MD/system identifiers for easy sorting and report generation was included.

The form was developed at the CRMEHC using newly available technology, which allows for hand written data, e.g., dates and lab values, to be scanned directly into a data file for processing. There are significant advantages of this system, compared to the standard "bubbling" method. These data are easier to enter and take up less space on the form. More importantly however, study questions based on time intervals and threshold values can be reviewed and modified after all the data have been collected. Easy access to actual, rather than circumscribed, information greatly expands the research possibilities. Pertinent questions regarding adherence to national guidelines can be asked. For example, dates can be recorded to determine if the patient had an eye or foot exam within one year.

Selection of patients for inclusion in this study was done by various methods. The JeffCARE and Main Line Health Aetna US Healthcare risk patients were sorted using an algorithm that filters claims information from among ICD-9 diagnoses, laboratory data such as hemoglobin A1c, and pharmacy information, such as scripts for insulin or oral hypoglycemic. Such information can be derived directly from the insurer/partner or internal practice management information such as IDX. JeffCARE chose to study its entire population of diabetics in the risk population. The other partners in the system limited their reviews to certain large practices, usually 100-200 total patients.

Overall, a database of 1,016 patients was reviewed: 569 from JeffCARE, 142 from Main Line Health, 202 from Albert Einstein Medical Center and 103 from Frankford Health System. More than 50% of patients were in the practice for at least 5 years. Over 70% were seen in the office within 3 months of the chart review date. While the age range of patients was 3 to 97, 83% were between 40-80. Insulin is prescribed for 39%, while 67% are using oral hypoglycemic agents.

It is possible that incomplete record keeping contributed to the study results, which may understate the actual numbers of laboratory tests ordered, and of screening examinations being performed for diabetic complications. This is particularly important where care may be provided by another physician, such as an ophthalmologist performing a dilated eye exam, or a test that a patient has had performed at a lab outside of the system.

We have shared the results of each office's performance with our providers. Initial feedback has been excellent. Providers have appreciated the help in identifying areas for improvement. This has led to innovative new chart maintenance strategies. Office staffs have become more familiar with the network care management team, which is an additional spin-off benefit of this effort. It has also opened the door for the facilitation of provider and patient education models over the next year.

Future efforts will involve more uniform randomization of charts throughout the health system. This will also benefit the Quality Council's efforts to include specific measures of improvement in the ambulatory setting. We are also studying a similar model for asthma management. For additional information about this study design and related disease management matters, please contact Dr. Jeffrey Lenow at JeffCARE (Physician Hospital Organization of Thomas Jefferson University Hospital) (215-955-8774), email: jeffrey.lenow@mail.tju.edu. For more general information on the survey instrument development and scanning technologies employed please contact Kaye Maxwell at the Center for Research in Medical Education and Health Care (215-955-6907).

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Jeffrey L. Lenow, MD, JD is Medical Director of JeffCARE, Inc. Stanton N. Smullens, MD, is Chief Medical Officer of the Jefferson Health System. Daniel Z. Louis, MS, is Managing Director; Carol Rabinowitz is a Programmer Analyst; and Kay E. Maxwell is Research Coordinator, all at the Center for Research in Medical Education and Healthcare, Jefferson Medical College, Thomas Jefferson University.