

More Evidence to Support "Outsourcing" of Diabetes Care

MAYER B. DAVIDSON, MD

In the January issue of *Diabetes Care*, there were three articles that provided additional support for "outsourcing" diabetes care to improve outcome measures (1). In the first (2), individual, self-planned, intensive programs were established in 19 community health centers. Most health centers performed at least 30 different interventions during the year. The most common ones were to 1) provide a diabetes flow sheet (100%), 2) collaborate with community organizations that represented the health center's population (89%), 3) provide a patient self-management or goal sheet to track his or her progress (63%), 4) redesign the delivery system to include group cluster visits (63%), and 5) use computer information systems to follow-up on examination and laboratory data (37%). A comparison of the results in 989 patients before and after the interventions were established and revealed statistically significant improvements in the process measures of A1C, lipid, and microalbuminuria testing, foot and dental exams, and referrals to podiatrists, dietitians, and ophthalmologists. However, the outcome measure of A1C values was a disappointing 0.2% reduction. Lack of time was cited as a problem.

In contrast, in two randomized controlled studies in which nurses following algorithms delivered diabetes care to low-income ethnic minority patients, outcome measures improved significantly more than those of the usual care control groups. In the first study (3), 188 type 2 Medi-Cal patients from three California sites were randomized to nurse-directed care and compared with 174 patients randomized to the usual care control group. The average duration of follow-up was 25.3 months. A1C levels fell sig-

nificantly more in the patients followed by the nurses at all time points. At the end of the study, the decrease was 1.9 vs. 1.1% ($P < 0.01$). Furthermore, while there were significant reductions in diastolic blood pressure and total and LDL cholesterol levels in the nurse group, these changes did not reach statistical significance in the control group. HDL cholesterol levels increased significantly in both groups.

In the second study (4), 153 high-risk, mostly Hispanic, type 2 diabetic patients were referred for case management by nurses following protocols from six community clinics. The control group was 76 referred similar patients who could not be accommodated because of lack of space and resources and whose initial A1C levels were $\geq 9\%$ (assuring no difference in baseline values between the two groups, which were 11.8 vs. 11.5%). After 1 year, A1C levels were 8.3% in the nurse-managed group and 10.4% in the control group ($P < 0.0001$). There were statistically significant improvements in diastolic blood pressure and total and LDL cholesterol and triglyceride levels in the nurse group, but no significant changes in the control group. In terms of the American Diabetes Association's process measures, appropriately timed measurements of A1C, lipid panels, albumin-to-creatinine ratios, and foot and monofilament examinations were carried out in 100% of the nurse-managed patients, whereas eye examinations occurred in 81%. The corresponding figures in the patients in the control group were 28, 46, 31, 33, 14, and 6%, respectively.

Thus, an extensive literature exists (1–6) that demonstrates that unless knowledgeable professionals are given

the time to care for diabetic patients, outcome measures do not improve very much. Patient and physician education and reminders, feedback of data, and system design changes may be necessary to improve patient satisfaction, knowledge, and some process measures, but they are not sufficient to improve the important glycemic, lipid, and blood pressure outcomes that translate into enhanced patient health. To paraphrase Gertrude Stein, "a difference to be different must make a difference." Isn't it time that we started to funnel our resources to improve diabetes care into programs that provide the knowledgeable health professional the time to implement appropriate clinical management decisions? Approaches without both of these elements simply haven't worked.

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From the Clinical Trials Unit, Charles R. Drew University, Los Angeles, California.

Address correspondence and reprint requests to Mayer B. Davidson, MD, Director, Clinical Trials Unit, Charles R. Drew University, 1731 East 120th St., Los Angeles, CA 90059. E-mail: madavids@cdrewu.edu.

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