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Impact of Budget Cuts on Diabetic Control in Urban Adult Diabetes Clinic

Funding cuts are a fact of life of health-care delivery in the United States. Whereas much debate has centered on the impact of such cuts on patients, few, if any, studies have been published that demonstrate an impact or lack of one on health care after services have been eliminated or curtailed. The opportunity to study the impact of cuts occurred in May 1986, when the frequency of visits to our adult diabetes clinic located in a neighborhood family-care center administered by the New York City Health and Hospital Corporation was halved. Appointments were made such that the total frequency of clinic visits remained unchanged. The reduction in diabetes clinic visits was "compensated" by an equal increase in general medical clinic visits. Non-specialty visits took place in primary-care (general medical) teams; patients might be seen by an internist, a family-practice physician, or a nurse practitioner. Well before the frequency of diabetes clinic visits was halved, all primary-care providers were given materials explaining diet calculation and containing algorithms for adjustment of insulin dosage and lectures on diabetes management.

Glycohemoglobin before halving the frequency of subspecialty visits and at least 120 days after was then determined by high-performance liquid chromatography at a reference laboratory. Pre- and postreduction glycohemoglobin were compared by paired *t* test. Correlation of pre- and postreduction glycohemoglobin was by linear regression. The pre- and postreduction glycohemoglobin levels are shown in Fig. 1. Mean (\pm SE) glycohemoglobin rose from 8.8 ± 0.6 to $12.0 \pm 0.8\%$ (normal range 4.4-8.2%) after diabetes-clinic frequency was halved ($P < .001$). Baseline and postreduction glycohemoglobin did not correlate significantly ($r = .319$, $P > .05$).

In humans, the quality of diabetic control is negatively associated with the incidence and rapidity of progres-

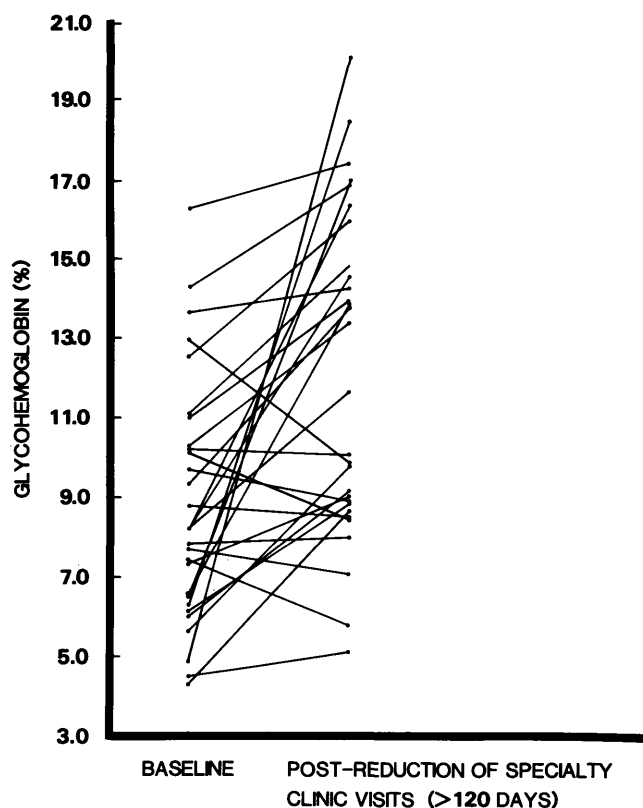


FIG. 1. Change in glycohemoglobin in 29 patients after halving frequency of diabetic clinic visits.

sion of several complications, including adverse outcome of pregnancy (1), retinopathy (2), neuropathy (3), nephropathy (4), and left ventricular dysfunction (5). Thus, deteriorations in control cannot be taken lightly.

Inspection of the data does not permit prediction of which patients would maintain the same level of control, which patients would deteriorate, and which patients would improve (Fig. 1). Those who performed self-monitoring of blood glucose regularly and those who did not might either deteriorate or improve when subspecialty clinic exposure was reduced.

Review of primary-care provider encounters revealed several factors that might have contributed to a deterioration of control. 1) Patients were less likely before primary-care provider clinic encounters to have performed our complete laboratory profile, consisting of fasting blood glucose, 1130 and 0400 h serum glucose, glycohemoglobin, serum creatinine, fasting serum total cholesterol, and high-density lipoprotein. In some cases, this was because the provider did not order the profile and in others because the patient failed to have it performed. 2) There was a greater tendency to order only fasting or casual serum glucose determinations between clinic visits. 3) There was an apparent reluctance by many, although not all, primary-care providers to adjust the therapeutic plan for mild to moderate hyperglycemia, i.e., serum glucose 140-300 mg/dl. 4) There

was a willingness on the part of some providers to consider mild hyperglycemia, i.e., serum glucose 140–200 mg/dl, as good or adequate control.

Reductions in the frequency of diabetes clinic visits were accompanied by significant deterioration in diabetic control despite the fact that the overall frequency of visits (general medical plus diabetes) remained constant. Authorities in charge of budgetary decisions that curtail aspects of health-care provision would benefit by performing meaningful short-term impact studies before finalizing their decisions.

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