scores on the mean number of condoms distributed and that were excessively affecting the regression coefficients.

When all of these changes were made, the model became much more stable. The results of the final model indicate that school characteristics alone explained 19% of the variance in the distribution of condoms across schools. Table 5 shows that both in alternative schools and in small schools the provision of condoms was independently increased. In addition, the number of condoms obtained was greater in high schools than in middle schools. These results are consistent with many of the data seen in Table 4.

The proportions of students in each school who were white, black or Hispanic were not significantly related to the number of condoms obtained. However, the percentage of students in each school who were members of ethnic minorities other than black or Hispanic was statistically significant.

When program characteristics were added to the model, its explanatory power was doubled, to 39% (not shown). This highly significant increase strongly indicates that program characteristics have an important impact on the number of condoms distributed. (However, other, unmeasured school characteristics might have reduced the explanatory power of the program characteristics if they had been measured and included in the regression.)

Three program characteristics were highly related to the number of condoms obtained by students. The schools that made condoms available in baskets or bowls provided significantly more condoms than did other schools. Of all schools and program characteristics measured in our study, making condoms available in baskets or bowls was the single most important: After adjusting for other school and program characteristics, we found that schools with condoms in baskets or bowls provided significantly more condoms than did other schools.

Having a school clinic was the second most important program characteristic that increased condom use; after adjusting for other factors, we found the presence of a clinic to be associated with an increase of 1.5 condoms per student.

In contrast, making condoms available in vending machines reduced the number of condoms obtained by 3.1 per student, after adjustment for the effects of other measured characteristics. Only 12 schools had condoms in vending machines; thus, these results should be interpreted with caution. Three of these 12 made condoms available only in vending machines; in these, a mean of 1.0 condoms were obtained per student. The remaining nine schools also offered condoms through other mechanisms; in those, fewer than one in four condoms obtained by students were purchased through vending machines.

Although requiring parental consent and placing restrictions on condoms appeared to reduce the number of condoms distributed and having more staff provide condoms and having supportive activities seemed to increase distribution, none of the regression coefficients for these program characteristics were statistically significant. Notably, when we restricted the analysis to schools that provided 10 or fewer condoms per student per year (i.e., when we excluded several small alternative schools that provided many condoms), we found that the requirement of active parental consent significantly reduced the number of condoms obtained by students (not shown).

Discussion and Conclusions

Our estimate that only 0.3% of school districts have condom programs is much smaller than that of a previous national survey of school districts. We may have failed to find some school condom programs, although we do not believe this to be likely, given our exhaustive search and the multiple methods with which we sought out programs. It may also be that the previous national survey overestimated the proportion of school districts with condom programs. Although that study randomly selected a reasonably large sample of school districts (299), high-population districts were oversampled. To the extent that school districts in large cities are more likely than those in smaller towns or cities to have school condom programs, the previous study may have overestimated the number of districts with condom programs.

Of the 431 schools that we determined to have condom availability programs, nearly all offered condoms as part of a more comprehensive program, with program components such as counseling, sex education or HIV education, or other educational activities. The breadth of these programs clearly demonstrates that when schools make condoms available to students, the provision of condoms is typically only part of a larger effort to reduce unprotected intercourse. The considerable and often heated debate about the provision of condoms may sometimes obscure these programs’ comprehensiveness.

Most school programs had some barriers or restrictions to condom access. Many limited condom distribution by requiring passive or active parental consent, by requiring counseling, by making condoms available only during selected times or by limiting the number that can be taken at one time. Only 5% of the schools made condoms available through baskets or bowls, the most barrier-free and nonrestrictive approach to condom provision.

Our findings suggest dramatic variability in the success of condom availability programs (at least as measured by the mean number of condoms obtained by students). In the 45% of the schools where students obtained an average of less than one condom per student per year, condom availability programs do not appear to have been particularly effective; however, in the 14% of schools where students obtained six or more condoms per student per year, these programs do appear to have been effective.

Students’ receipt of condoms was high-