Health Status of Disadvantaged Adolescents Entering the Job Corps Program

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SYNOPSIS

The health status of 2,203 disadvantaged young people entering the Job Corps was studied by reviewing the medical information collected during examinations performed upon entering the Job Corps. The study was conducted from February 1980 through January 1981. The sample records were obtained from eight representative Job Corps centers. The Job Corps is a federally funded residential vocational training program for youths between 16 and 22 years of age. During the study period, 100 Job Corps centers were in operation, serving a population of 38,000 corpsmembers.

Long-term, chronic physical disease or disability was not prevalent among the applicants. The most common physical defect, affecting 10 percent of the youths examined, was uncorrected defective visual acuity. Obesity, defined as weight for height 20 percent or more over nationally calculated "desirable" weights, was present in 16.6 percent of the female trainees. In contrast, only 9.6 percent of a national sample of females have weights this high. Anemia, probably caused by iron deficiency, was prevalent among both sexes; sexually transmitted diseases were found to be common, especially among the females entering the Job Corps.

Findings from this study were used by Job Corps staff to make changes in the health program as well as to provide instruction to its health personnel.

In a time of general fiscal retrenchment, when health and social services provided to disadvantaged persons are being reexamined, the health of disadvantaged youth is increasingly discussed. In this paper we report the principal results of a study of the health status of disadvantaged adolescents participating in the Job Corps program. The findings thus offer a picture of the physical condition of 2,203 young people from a disadvantaged background as they prepare to enter the job market.

The Study Population

The Job Corps provides remedial education and vocational skills training to socially and economically disadvantaged young people. The program offers youth between the ages of 16 and 22 years, who are out of school and out of a job, the opportunity to obtain their Graduate Equivalency Diploma and to learn a job skill, generally in a residential setting. Most Job Corps enrollees have not completed high school. In all cases, they are supported by a range of counseling and social services. Approximately half of the male participants and a fifth of the female participants have had previous contact with the criminal justice system.

Originally in the Office of Economic Opportunity, the Job Corps is currently administered by the U.S. Department of Labor's Employment and Training Administration. All Job Corps centers, where the training is given, operate on a contract basis; the contractors include private corporations, nonprofit organizations, State and local governments, educational institutions, the Department of Agriculture, and the Department of the Interior. The program has varied in size since its inception; by the end of this study, approximately 100 Job Corps centers were in operation, serving a population of 38,000 corpsmembers.

Young people wishing to enroll in the Job Corps are screened by nonprofessional personnel, mostly in the State employment services, to ensure that they

meet income guidelines for the program, that they have no commitments which might preclude their participation (for example, if the applicant has child care responsibilities, the children must be provided for), and that they have no behavioral problems which might pose a threat in a residential living situation (*1*). In addition, applicants are screened on the basis of their medical history, supplemented if necessary with data from the person's health care providers, to determine if they have health problems that might prevent them from benefiting from educational programs or might severely tax the center's health care budget. Only about 1.5 percent of the young people who apply are excluded from the program for health reasons (*2*). Persons having significant physical disabilities, such as blindness, or conditions requiring intensive treatment, such as uncontrolled diabetes or epilepsy, are not accepted. Pregnant women may participate in the Job Corps if they are judged able to complete at least 3 months of training.

Central to the Job Corps program are remedial education and job training. In addition, as a residential program, the Job Corps provides youths who participate with a full range of support services, such as counseling and recreation. The health program within the Job Corps, in addition to its public health function, serves to enhance the corpsmember's future employability through the maintenance of health during the period of training and through the inculcation of good health habits. Corpsmembers receive complete health services—medical and dental examinations, physician and mental health care, and health education.

Study Design

Little previous work has been done to investigate the overall health status of young people in the Job Corps. The study by Hayman and Frank (*2*), published in 1979, concentrated on those health conditions serious enough to result in a corpsmember's leaving the Job Corps for medical reasons. A report prepared for the Department of Labor on the noneconomic effects on enrollees of participation in the Job Corps program did include a brief substudy evaluating health status (*3*). However, that study of 262 corpsmembers did not address the complete range of data provided by the entrance physical examination. Thus, its findings, although suggestive, were extremely limited.

The health status information we report was generated by the physical examination of youths entering the Job Corps (*4*). Each entering corpsmember is examined to ensure that he or she is physically capable of completing the training program, and each is tested for communicable disease that might pose a threat to the health of others within the center. This entrance examination is necessary because medical history information provided before entrance into the Job Corps is often inaccurate, either because the informant was unaware of a particular health condition or did not volunteer the information. The entrance examination includes a battery of standard tests and measures and a clinical examination by a physician. Results of the dental examination provided to corpsmembers, having been the subject of a previous study (*5*), are not included in this research.

Our study was limited to a purposive sample of eight Job Corps centers, selected to maximize representation across a number of programmatic variables (size of center, type of contractor) and demographic variables (sex, ethnicity of corpsmember population and geographic location of center). Each of the eight centers forwarded a sample of completed physical examination forms to the study team each month during the period February 1980 through January 1981. The sample was defined as the first 15 to 40 physicals completed by the center, beginning with the first or the second Sunday of the month. Sample sizes varied with the number of corpsmembers at the center to allow for generalization from samples to the populations with equal reliability at each center. A total of 2,211 health examination records was obtained; of these, 2,203 records were suitable for analysis.

For internal management purposes, the Job Corps centers are characterized on the basis of the center's operator and size. When the study was initiated, 29 of the 81 fully operational centers were Civilian Conservation Centers (CCCs), operated by the U.S.

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Department of Agriculture (18 centers) and the U.S. Department of the Interior (11 centers in rural and a few remote locations). As CCCs are generally small, only about 19 percent of all corpsmembers were served by such centers. The remaining centers were operated under a contract, by industry, State or local governments, or nonprofit foundations. Centers 1 and 2 (table 1) were selected from among the CCCs. Centers in the study were located in 7 of the 10 Department of Labor regions throughout the United States. Selected other characteristics of the study centers are shown in table 1, together with comparison values for the total Job Corps. The eight centers selected ranged in size from 211 to 2,618 corpsmembers. Annual expenditures for health services per corpsmember ranged from $240.74 to $705.12, compared with a Job Corps average of $422.73.

The average stay for any single corpsmember during the study period was slightly under 6 months. Variations in rates for corpsmembers' visits to physician and nonphysician health staff flow from differences in the procedures that nonphysicians are delegated to carry out, differences in medication policies (some centers require that all doses of medication be dispensed by health staff), and differences in the funds allocated for health care, as well as from differences in the health experiences of corpsmembers.

The distribution of corpsmembers according to race was difficult to acquire before the study, as these data were markedly underreported in the Job Corps central data system. Race was not recorded for 52 percent of all arrivals at the Job Corps; race was not reported for 45 percent of all arrivals at the study centers. However, adjusting for nonreporting, the racial distribution within the Job Corps during the year before the study period was 58 percent black, 29 percent white, and 13 percent "other"; for the study centers, it was 62 percent black, 33 percent white, and 5 percent "other."

Because center staffs carried out the data recording and reporting activities entailed by the study voluntarily (funds were not available to reimburse centers for their participation), the center sample was biased toward centers having personnel with an inclination toward research. Since the centers themselves had no control over the recruitment or assignment of corpsmembers, there was no reason to believe that the health status of corpsmembers arriving at study centers differed from that of corpsmembers at other centers.

Each record contained results of the standardized tests administered to each young person, accompanied by the physician's clinical findings (if any). Because records were forwarded to the study team with all identifying data removed, it was impossible to return the records for later insertion of missing data. As a result, the total number of observations for any specific test or measurement is lower than the total number of records, with the difference attributable to missing data.

This presentation of study results focuses on conditions ascertained mainly through the administration of standardized tests: visual defects, obesity, anemia, and sexually transmitted disease. Interphysician variation in the reporting of clinically observed defects, ranging from scoliosis and heart conditions

Table 1. Selected characteristics of study centers

Study center number	Number in study sample		Average on-board strengths (Feb. 1980–Feb. 1981)	FY 1980 cost per corpsmember year		FY 1980 rates per corpsmember year	
	Male	Female		Health services	Medical services	Physician visits	Nonphysician health staff visits
1	95	0	234	$277.55	$193.02	3.53	28.71
2	228	0	212	326.14	239.94	7.37	24.00
3	145	94	211	[1] 644.48	[1] 561.24	6.28	30.05
4	140	85	294	337.76	259.26	4.69	27.06
5	143	97	367	290.59	202.02	3.21	22.62
6	82	257	431	388.74	281.29	4.74	26.92
7	172	189	485	705.12	564.88	9.89	56.04
8	407	69	2,618	240.74	193.81	2.87	16.22
All study centers	1,412	791	4,852	337.00	261.72	4.38	25.54
All Job Corps centers			38,184	422.73	323.12	5.18	27.22

[1] First year of operation; health costs disproportionately large.

to acne and dermatophytoses, proved to be too great for reasonable analysis. This variation itself is currently being explored by Job Corps practitioners to determine if greater uniformity is desirable and obtainable.

Findings

Defective visual acuity. Defective visual acuity is fairly common among young people. National data show that only 77.6 percent of youths 12–17 years of age reach or exceed a 20/40 visual acuity level in their best eye (*6*). In most cases, these visual acuity problems are fully corrected by lenses. Nationally, 96.5 percent of youths 12–17 years of age have their visual acuity corrected to the 20/30 level, and 98.5 percent have their vision corrected to the 20/40 level. While young men tend to have better uncorrected visual acuity than young women (80.7 percent of young men, but only 74.4 percent of young women have visual acuity of 20/40 or better), the corrected visual acuity of both sexes is virtually identical.

Specialized studies of low-income youth have found levels of defective visual acuity similar to the national levels, but researchers have noted that the proportion of such youths with adequately corrected vision is much lower than is the case nationally. Brunswick and Josephson (*7*), in their study of adolescent youth in Harlem, found that 21 percent of the youth examined had "defective vision" (not otherwise defined). However, one-third of the youths with corrective lenses had lenses that corrected their vision only to 20/30 or less. Salisbury and Berg, in a study of low-income youths entering a summer job program, found that 18.8 percent of these young people (ages 14–16) had visual acuity less than 20/40 in one or both eyes; of these persons, 17 percent had "inadequate care" (not otherwise defined) (*8*).

Defective visual acuity, if uncorrected, can have serious educational and occupational consequences. To ensure that this problem is detected and corrected, all incoming corpsmembers are screened for visual acuity, and young people with uncorrected poor vision are given corrective glasses.

For the sample as a whole, uncorrected defective visual acuity was the most common health problem, affecting 10 percent of the total group. Defective visual acuity was defined using Job Corps standards (*9*). Distant vision was deemed deficient if the corpsmember's uncorrected vision was 20/40 or worse in the best eye. Near vision was deemed deficient if the corpsmember's vision was J6 or worse in the Jaeger notation or 14/35 or worse in the best eye. Youths having poor vision in one eye but acceptable vision in the other (for example, 20/30 in the right eye, 20/70 in the left) were not included in the tabulations, although private practitioners would probably recommend corrective lenses for such persons. Thus, the data presented here represent a conservative estimate of the prevalence of defective vision.

The Job Corps youth were found to have a rate of defective visual acuity similar to the national data. Of the 2,078 corpsmembers for whom visual screening data were obtained, 363 corpsmembers, or 17.5 percent, had defective visual acuity according to the standard outlined previously. Defective vision was more common among young women (26.5 percent) than among young men (12.5 percent). The proportion of youths whose defective visual acuity was not adequately corrected, however, was much higher in our study than in previous national data or previous studies of low-income youth. Only 33 percent of the youths with defective vision arrived at the centers wearing adequate corrective glasses. Adequate correction rates were similar among young men (32.1 percent) and young women (34.4 percent). An additional 9 percent reported having worn glasses at one time, but were not wearing them at the time of examination. The remaining corpsmembers with visual acuity defects, 210 individuals, had no corrective lenses or had lenses that did not adequately correct their problems. Corpsmembers with untreated or inadequately treated defects of visual acuity constituted 10 percent of all corpsmembers examined, making poor vision the most common defect encountered.

The degree to which uncorrected visual defects are present among the youth who enter the Job Corps was dramatically illustrated when only corpsmembers with severe visual impairment—distant vision of 20/200 or worse, near vision of 14/140 or worse in the best eye, or both—were analyzed. Sixty-six corpsmembers had severe visual impairments, and 28 of these youths (37 percent) did not have corrective lenses.

Obesity. Within the Job Corps, obesity is a problem of particular significance. First, discrimination against obese persons may affect their ability to secure employment. To the extent that corpsmembers' obesity can be controlled, their chances of obtaining and retaining employment can be assumed to improve. Second, obese persons in the Job Corps can be detected at a young age. Intervention to improve their health is possible before the sequelae of mor-

bid obesity become manifest. Accordingly, the study team examined height-to-weight ratios to determine the prevalence of obesity among entering corpsmembers. While more sensitive measures of potential obesity, such as triceps and subscapular skinfolds, are available, our study was limited to the measurements routinely in use.

In previous studies of the health of adolescents, researchers have not found a high prevalence of obesity. Brunswick and Josephson, for example, found "nutritional problems, chiefly obesity" among only 7 percent of the adolescent males and 8 percent of the adolescent females whom they examined. Eisner and co-workers (*10*) and Salisbury and Berg (*8*) do not list obesity among the defects observed in the low-income youth whom they studied. Other studies have suggested, however, that obesity is more common among low-income youth than among the more economically advantaged (*11*).

Height and weight data were provided for almost the entire study population: 2,027 records contained this information. Examination of weight for height offered an index to possible nutrition problems. Numerous standards for appropriate weight to height ratios have been defined. For this study we used the desirable weight chart employed by the Vital and Health Statistics Reports of the National Center for Health Statistics (*12*). This standard was selected because comparable data on a national population had been used to calculate desired weights.

Table 2 shows the distribution of corpsmembers exceeding desirable weights. Female corpsmembers were considerably more likely to exceed desirable weights than were their male counterparts. This was particularly true in the highest weight category (20 percent or more above desirable), where females were present at five times the rate for males.

Table 2. Persons 10 and 20 percent or more above desirable weight, by sex

Sex and sample	Population 10 percent over desired weight		Population 20 percent over desired weight	
	Number	Percent	Number	Percent
Males				
United States, 20–24 years ..	[1]	18.5	[1]	7.4
Job Corps, 16–22 years	89	7.0	41	3.2
Females				
United States, 20–24 years ..	[1]	19.4	[1]	9.6
Job Corps, 16–22 years	207	27.4	126	16.6

[1] See technical notes to reference 12.

Although national population data also show that females have a greater tendency toward overweight than males, in the younger age groups the differences between sexes were relatively small. Young women in the Job Corps were more likely to exceed desirable weights than their counterparts nationally, and young men in the Job Corps considerably less likely to exceed such weights.

Iron deficiency anemia. Hemoglobin or hematocrit measurements were taken for each corpsmember to detect anemia. This step represented a departure from routine procedures, which at the time called for such screening only for young women. Centrifuges to allow this testing at all-male centers were funded under the study budget. Hematocrit was the more commonly used measurement; all eight study centers reported hematocrit data. Hemoglobin values were also recorded by three participating centers.

Hematocrit or hemoglobin screening does not provide a definitive diagnosis of iron-deficiency anemia. Other measurements, such as serum iron concentration, percentage saturation of transferrin, free erythrocyte protoporphyrin, or serum ferritin, provide information for establishing the probable cause of anemia. However, budgetary limits precluded the inclusion of expensive tests for all corpsmembers with low hematocrit or hemoglobin readings. The usefulness of hemoglobin or hematocrit screening for obtaining population-based data, coupled with the availability of national data, lead us to believe that these measures are of value (*13*).

Mean hemoglobin and hematocrit values were found to vary with the sex and race of the corpsmember in a pattern that could be anticipated, based on a review of national data. In general, *mean* hemoglobin or hematocrit values in each age group were higher for males than for females and for white corpsmembers than for black corpsmembers. At the lowest end of the distribution, however, our findings were somewhat surprising. Within the Job Corps, proportions of persons at or below the national fifth percentile value ranged, according to age and sex, from 6.9 to 27.6 percent. Altogether, 16 percent of the young people screened fell at or below the fifth percentile based on national data (table 3).

While a high prevalence of probable iron-deficiency anemia was expected among young women, it was not anticipated that the deficiency rates among young men would reach the levels indicated. Overall, 21 percent of the young men had hematocrit readings of 40 or lower, the point at which current Job Corps

Table 3. Number and percent of corpsmembers with hematocrit or hemoglobin values less than the 5th percentile, based on national data

Race-sex group	5th percentile value	Corpsmembers at or below value	Percentage of all corpsmembers measured
Hematocrit: [1]			
White males	41.2	67	27.6
Black males	40.4	67	18.9
White females ...	37.0	67	22.2
Black females ...	33.1	15	6.9
Hemoglobin: [2]			
White males	14.3	12	15.2
Black males	12.6	7	11.1
White females ...	12.1	38	24.5
Black females ...	10.6	20	14.4

[1] Reference 15; values for 17 years of age used.
[2] Reference 14; values for 20–24 years of age used.

standards recommend that further assessment be instituted, and 11 percent of young women had hematocrit readings of 35 or lower, the Job Corps standard for females. Before this study, the prevalence of low hematocrit readings among young men was believed to be minimal; accordingly, routine hematocrit or hemoglobin testing was required only for young women entering the Job Corps. As a result of this study, all Job Corps centers have been instructed to begin screening young men as well as young women for anemia at the time of the entrance physical examination.

Our finding of a high prevalence of potential iron deficiency is consistent with previous studies of hematocrit and hemoglobin values, which have found that such values vary with family income (*15*). Job Corps enrollees, by the intent of the program, come from families with low annual incomes. Clearly, the youth entering the Job Corps were at greater risk for iron deficiency than persons in the general population.

Sexually transmitted diseases. There is a significant amount of information about the rates of venereal disease in specialized populations such as users of family planning clinics (*16*), but information on the prevalence of such disease among less specialized populations of low-income young persons is less common. Brunswick and Josephson did not test for venereal disease in their study of adolescent youth, although clinical examinations given as part of the study did yield some cases. Similarly, Salisbury and Berg did not test for venereal disease in their population of 14–16 year old adolescents. Eisner and coworkers, who looked at the health of enrollees in the Neighborhood Youth Corps, recorded positive gonorrhea cultures for 2.3 percent of the male and 3.0 percent of the female applicants; two persons (sex not specified), or 1.2 percent, had positive serologies.

All corpsmembers are tested for both syphilis and gonorrhea upon entrance into the Job Corps. In addition, the clinical examination serves as a vehicle for identifying other genital health problems.

Positive findings upon screening for syphilis were rare. (Generally, the Venereal Disease Research Laboratories test was used.) Only 7 of the 1,553 cases for which data were available, or 0.45 percent, showed positive results; only one diagnosis of active syphilis was recorded.

Gonorrhea was a relatively common condition, particularly among females. Gonorrhea screening results are presented in table 4. Overall, just under 2 percent of all corpsmembers screened were positive; however, rates were sharply higher for females than for males ($\chi^2 = 15.34$, 1 df, $P < .001$). Racial differences were not statistically significant.

Upon clinical examination, relatively high rates of other genital disorders were encountered among young women. Pelvic inflammatory disease was noted in 22 records, or 3.7 percent of all corpswomen examined. Trichomoniasis was the most common disorder, noted in 27 corpsmembers, or 4.5 percent of all female corpsmembers examined. Leukorrhea (not specified), vaginitis and vulvovaginitis, and a range of other female genital disorders were also noted. Statistical summaries are not provided, since one young woman could have more than one condition.

These young women and men, while sexually active, were not sexually knowledgeable. This study

Table 4. Gonorrhea screening results for total sample by race and sex

Race-sex group	Gonorrhea culture results		
	Negative	Positive	Percent positive
White male	208	0	0
Black male	420	4	0.9
Other male	44	0	0
White female	264	6	2.22
Black female	187	10	5.08
Other female	28	2	6.67
Race not stated:			
Male	10	0	0
Female	14	1	6.67
Total	1,175	23	1.92

can offer no insight into the question of how to motivate young people to reduce their chances of contracting sexually transmitted disease, but it serves to confirm the widespread existing problem.

Discussion

Our findings delineate a mixed but generally optimistic picture. In terms of long-term, chronic physical disease or disability, the young people examined in this study were healthy. While they suffered some long-term complaints associated with adolescence, such as acne, few had functional disability. Such areas of both disease and disability as were present, however, reflect strongly the influence of poor economic background upon health.

The most common physical defect among the young people in the Job Corps was uncorrected defective visual acuity, which afflicted 10 percent of the youths examined. Either because visual screening programs were not available to these young people, or because the necessity of obtaining and using corrective lenses had not been communicated, these young people did not have adequate vision when they first entered the Job Corps. It may be hypothesized that these visual defects contributed, in part, to the poor school and employment history which led these youths to Job Corps training.

While obesity was not common among male trainees, 16.6 percent of the female trainees exceeded desirable weights by 20 percent or more. The prevalence of overweight among Job Corps women was 73 percent greater than among young women of similar ages nationally. Anemia, probably caused by iron deficiency, was extremely prevalent. Twenty-one percent of all males had hematocrit values of 40 percent or lower; 11 percent of all females had hematocrit values of 35 percent or lower.

Finally, sexually transmitted diseases were present among the youth at the time of their entry into the Job Corps, particularly among females. Overall, nearly 4 percent of the women screened were positive for gonorrhea; 3.7 percent of the women were found to have pelvic inflammatory disease. Disorders of the female genital organs were also significantly represented in this population; for example, trichomoniasis was noted in 4.5 percent of the young women. Such findings point to the need for continued education in sexual hygiene among women of this age and educational background.

Our study also demonstrated that low-cost data collection procedures are capable of developing programatically useful information. All health status information was acquired through routinely performed testing (except, as noted, that two all-male centers were provided with machines for hematocrit testing). Onsite data collection costs were limited to photocopying of sample records. This relatively simple study nonetheless has already had far reaching results:

- Requirements for hematocrit or hemoglobin screening were extended to cover young men when the study revealed their previously unsuspected high rates of probable iron deficiency anemia.
- A manual on detection of obesity and initiation of weight control for use by staff at the Job Corps centers was initiated and is currently nearing completion. Staff training in this area is scheduled for 1983.
- Findings of this study were used to guide the curriculum for the biannual continuing education program offered by the Job Corps to its health personnel.
- A bulletin describing principal study findings was distributed to all staff. In addition to the points just noted, the importance of careful screening for visual acuity, including the necessity of testing for both near and far vision problems, was emphasized.

References

1. Employment and Training Administration: Job Corps screening and admissions guide. ET Handbook No. 333. U.S. Department of Labor, Washington, D.C., April 1976.
2. Hayman, C. R., and Frank, A.: The Job Corps experience with health problems among disadvantaged youth. Public Health Rep 94: 407–414, September-October 1979.
3. Goldberg, J. F., et al.: The noneconomic impacts of the Job Corps. R&D Monograph 64. U.S. Department of Labor, Washington, D.C., 1978.
4. Employment and Training Administration: Physical standards and health evaluations (TS-C). ET Handbook No. 330. U.S. Department of Labor, Washington, D.C., May 1976.
5. Avery, K. T., Moore, J. E., and Hamby, C. L.: An analysis of onsite versus offsite dental care for an institutionalized population. J Public Health Dent 42: 337–344 (1982).
6. National Center for Health Statistics: Visual acuity of youth 12–17 years. Vital and Health Statistics Series 11, No. 126. DHEW Publication No. (HSM) 73–1609, Washington, D.C., May 1973.
7. Brunswick, A. F., and Josephson, E.: Adolescent health in Harlem. Am J Public Health, Vol. 62 (supp), October 1972.
8. Salisbury, A. J., and Berg, R. B.: Health defects and need for treatment of adolescents in low-income families. Public Health Rep 83: 705–711, August 1969.

9. Employment and Training Administration: Ocular care (TS-O). ET Handbook No. 330. U.S. Department of Labor, Washington, D.C., May 1976.
10. Eisner, V., Goodlett, C. B., and Driver, M. B.: Health of enrollees in Neighborhood Youth Corps. Pediatrics 38: 40–43 (1966).
11. Forbes, G. B.: Prevalence of obesity in childhood. *In* Obesity in perspective, edited by G. A. Bray. DHEW Publication No. (NIH) 75–708, Bethesda, Md., October 1973.
12. Abraham, S., and Johnson, C. L.: Overweight adults in the United States. Advancedata from Vital and Health Statistics, No. 51, Hyattsville, Md., Aug. 30, 1979.
13. Baker, S. J.: Nutritional anemia—a major controllable public health problem. Bull WHO 56: 659–675 (1978).
14. Hemoglobin and Selected Iron-Related Findings of Persons 1–74 Years of Age: United States, 1971–1974. Advancedata from Vital and Health Statistics, No. 46, Hyattsville, Md., Jan. 26, 1979.
15. National Center for Health Statistics: Hematocrit values of youths 12–17 years. Vital and Health Statistics Series 11, No. 146. DHEW Publication No. (HRA) 75–1628. Rockville, Md., December 1974.
16. Chacko, M. R., Phillips, S., and Jacobson, M. S.: Screening for pharyngeal gonorrhea in the urban teenager. Pediatrics 70: 620–623 (1982).

Containing the Cost of Third-Molar Extractions: A Dilemma for Health Insurance

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SYNOPSIS

No known scientific studies support the extraction of third molars (wisdom teeth) to prevent future disease. Yet, third-molar surgery for this purpose has become so common that in at least one major U.S. health insurance plan, the cumulative cost exceeds that for every other kind of major surgery. Many third molars that are developing normally in adolescents are classified as impacted and removed before they erupt, a practice that results in large expenditures for unnecessary surgery. In addition, the difficulty of the extractions is frequently exaggerated, so that patients and insurance plans are overcharged.

Third molar surgery is not without risk of iatrogenic injury. Fracture of the jaw, permanent numbness of the lip (paresthesia), and injury to other teeth may occur.

This paper presents a mechanism for containing the cost of third-molar surgery by elimination of payment for nonessential extractions and of the related overcharges. Adoption of this policy by administrators of dental insurance plans would save millions of dollars each year, money that could be better used in providing care for more people with real dental disease.

EXTRACTION OF THIRD MOLARS (wisdom teeth) is often based on the principle of prevention, although this principle is not ordinarily applied to surgical procedures.

Long before dental insurance became common, many medical-surgical insurance plans covered the removal of third molars when the surgery was performed in a hospital. With the advent of dental insurance, third-molar surgery also became a covered benefit when performed in a private dental office.

The most frequent reasons given for these extractions are that the teeth are impacted, or if not impacted, then they are likely to become impacted. The assumption is that an impacted wisdom tooth will cause serious pathological conditions in the future that could be damaging or even life-threatening. My objective is to demonstrate that this assumption is false and therefore that preventive third-molar sur-

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