

Health Care for Children and Adolescents in the Juvenile Correctional Care System

ABSTRACT. Over the past decade, there has been a dramatic increase in the population of juvenile offenders in the United States. Juveniles detained or confined in correctional care facilities have been shown to have numerous health problems. Such conditions may have existed before incarceration; may be closely associated with legal problems; may have resulted from parental neglect, mental health disorders, or physical, drug, or sexual abuse; or may develop within the institutional environment. Delinquent youths are often disenfranchised from traditional health care services in the community. For these adolescents, health care provided through correctional services may be their major source of health services. Pediatricians and correctional health care systems have an opportunity and responsibility to help improve the health of this underserved and vulnerable group of adolescents.

SCOPE OF THE PROBLEM

Epidemiologic Factors

A congressionally mandated study released in 1994 reported that yearly admissions to juvenile correctional facilities reached almost 690 000 in 1990.¹ These facilities included short-term (awaiting adjudication and placement) detention and reception centers and long-term (postadjudication and placement) training schools and ranches. Juveniles discharged from correctional facilities in 1990 spent an average of 15 days in short-term detention centers and 32 weeks in long-term training schools.¹ In 1996, US courts with juvenile jurisdiction handled an estimated 1.8 million cases in which the juvenile was charged with a delinquency offense (an offense for which an adult could be prosecuted in criminal court). This was a 49% increase, compared with the number of cases handled by juvenile courts in 1987. Nationally in 1997, 368 juveniles were in custody for every 100 000 in the population. On October 29, 1997, juvenile residential facilities held 105 790 delinquent juveniles. Public facilities housed 76 335 individuals, and private facilities held 29 455.² The number of offenders younger than 18 years admitted to adult state prisons has more than doubled from 3400 in 1985 to 7400 in 1997, consistently representing about 2% of new admissions in each of the 13 years.³

Gender demographics of the juvenile population arrested are changing. In 1996, 1 in 4 juveniles arrested was female. Increases in the percentages of

arrests between 1992 and 1996 were greater for juvenile females than for juvenile males in most offense categories, including violent crimes, property crimes, weapon offenses, and drug abuse violations.⁴ In 1997, there were 748 000 arrests of females younger than 18 years representing 26% of all juvenile arrests that year.⁵ However, the vast majority (86%) of individuals detained in residential facilities are males.²

Black and Hispanic youths account for 6 in 10 juveniles held in residential facilities. Compared with their proportion in the population, black juveniles are overrepresented at all stages of the juvenile justice system. Although they comprise only about 15% of the US population between 10 and 17 years old, they account for approximately 45% of the population in detention and residential facilities. On October 29, 1997, for every 100 000 non-Hispanic black juveniles in the population, 1018 were in a residential placement facility. For Hispanic juveniles, the rate was 515, and for non-Hispanic whites, it was 204.² The reasons for this overrepresentation of youths of color remain unclear but may relate to factors such as socioeconomic status or racial prejudices.

The rate of recidivism is high in juvenile correctional care facilities. Approximately 40% of adolescents appearing in juvenile court are repeat offenders. Repeat offenders tend to have committed more serious crimes and are younger at the time of their first offense than are first offenders.⁴

HEALTH CONDITIONS EXISTING BEFORE INCARCERATION

Adolescents entering correctional care facilities may be at higher risk than unincarcerated youths for certain problems that may affect their general health, including: 1) sexually transmitted diseases (STDs) and drug use and abuse; 2) issues regarding pregnancy and parenting; 3) human immunodeficiency virus (HIV) infection; and 4) preexisting mental health disorders.

Medical Conditions—General Health

A landmark report published in 1980 documented medical problems in 46% of incarcerated youths entering correctional care facilities.⁶ These problems included conditions occurring in any population of youth, such as asthma, hypertension, acne, and diabetes. Conditions occurring at a greater rate in incarcerated than in unincarcerated youth included a 7% prevalence of tuberculosis (confirmed by positive results of skin testing) and a 90% prevalence of dental caries or missing, fractured, or infected teeth.⁶ In

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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a more recent study, 10% of juveniles admitted to a short-term detention facility had significant medical problems (excluding drug and alcohol abuse or uncomplicated STDs) that, if left untreated, could have a major effect on the growth and day-to-day function of the juvenile. The most commonly diagnosed problems were asthma, orthopedic problems, and otolaryngologic conditions. Only one third of the detainees examined had a regular source of medical care, and only about one fifth had a private physician. More than half of the families of adolescents with a preexisting medical problem seemed to be unable or unwilling to assist in ensuring that the adolescent receive proper medical care after release.⁷

STDs

Adolescents in correctional care facilities report having become involved in sexual behavior at earlier ages and having had greater rates of STDs than do nondelinquent adolescents.⁸ Two recent studies of adolescent males in detention centers substantiated previously documented findings of high rates of STDs in this population. In one study,⁹ evidence of at least 1 current STD was found in 15% of male detainees, and 34% of male detainees had a history or current evidence of at least 1 STD. Detainees reported frequent sexual and drug use behaviors.⁸ In another study,¹⁰ an STD was identified in 12% of male detainees screened at time of admission to a detention facility. In this group, more than 50% of the gonorrheal infections and 90% of the chlamydial infections identified were asymptomatic and detectable only by screening. The entire population of screened detainees reported initiating sexual intercourse at an early age (median, 13 years), having numerous sexual partners (median, 8 partners), and inconsistently using condoms (only 37% reported always using a condom).¹⁰

A study published in 1990 documented high rates of cervicitis, vaginitis, and complaints of vaginal discharge in female juvenile correctional populations.¹¹ In a study published in 1998 that used urine-based DNA amplification tests to identify unsuspected *Neisseria gonorrhoeae* and *Chlamydia trachomatis* infections in detained females at the time of their initial medical screening, it was determined that *C trachomatis* infection existed in 28%, and *N gonorrhoeae* was present in 13%.¹² Overall, 33% of adolescent females evaluated had positive test results for one or both infections.¹² Additionally, reports from Chicago and San Francisco have confirmed the existence of high rates of STDs among incarcerated females.¹³

Pregnancy and Parenthood

As the number of females entering the juvenile justice system increases, the number who may be pregnant increases. Approximately 6% of adult women entering prison are pregnant.¹⁴ Corresponding data are not available for adolescents. However, a national survey involving juvenile facilities found that approximately two thirds of 261 correctional facilities housed between 1 and 5 pregnant adolescents on any given day.¹⁵ Only about one third (31%)

of responding correctional facilities provide prenatal services, and only 30% provide parenting classes.¹⁵

One quarter of juvenile male detainees have fathered a pregnancy, and 40% of the detainees who are fathers report responsibility for more than 1 pregnancy.¹⁶ A majority of respondents believed that fathering a child would be desirable, that they would be capable of being a father to a child, and that they could be responsible for the child and mother.¹⁶ In another study of adolescent detainees, fathers were more likely than nonfathers and blacks were more likely than non-Hispanic whites to report that they, their parents, and their friends would be pleased if they were to father a child.⁷

HIV Infection

At the present time, few cases of HIV infection or acquired immunodeficiency syndrome (AIDS) are being identified in juvenile correctional facilities. Results of a 1994 National Institute of Justice and Centers for Disease Control and Prevention survey reported a cumulative total of 60 incarcerated juveniles (50 boys and 10 girls) with known AIDS in 73 state and city or county correctional care systems that responded.¹⁷ Similarly, the rate of HIV seropositivity among confined juveniles seems to be low. Multiple states have reported far less than a 1% prevalence rate of seropositivity for HIV among incoming screened juveniles.¹⁷ Despite these data, the population of juvenile detainees is at high risk for developing HIV infection or AIDS in the future because of high rates of risk-taking behaviors, including drug use, initiation of sexual intercourse at a young age, having multiple sexual partners, and inconsistent use of condoms.⁸

Preexisting Mental Health Conditions

Mental health problems, predominantly attention-deficit/hyperactivity disorder, conduct disorder, oppositional-defiant disorder, and depression, have been found to be common among incarcerated youths. In 1992, a report reviewing the mental health needs of youth in the juvenile justice system documented the following¹⁸: 1) at least 20% and perhaps as many as 60% could be diagnosed as having a conduct disorder; 2) attention-deficit/hyperactivity disorder may exist in up to 50%; 3) affective disorders may exist in between 32% and 78%; 4) between 2% and 17% had a personality disorder; 5) previous suicide attempts occurred in up to 28%; and 6) psychotic disorders existed in between 1% and 6%. This study also reported that higher rates of psychiatric hospitalizations occur in juvenile offenders than in the general population of adolescents. Inpatient psychiatric hospitalization rates before detention ranged from 12% to 26%. In addition, juveniles reported previous outpatient contacts or treatment at rates ranging from 38% to 66%.¹⁸ A high rate of posttraumatic stress disorder in incarcerated juveniles also has been demonstrated in more recent research.¹⁹ The broad prevalence ranges of many of these mental health diagnoses among juveniles in correctional care systems may reflect a lack of consistent and

comprehensive evaluations, the variety of settings, or different populations (eg, male or female, urban or rural).

PARENTAL NEGLECT, FAMILY DISSOLUTION, ABUSE, MENTAL RETARDATION, AND LEARNING DISORDERS

Many reports have documented that a large percentage of delinquent youths have experienced significant emotional or physical trauma before admission to a correctional care facility. Children involved in the juvenile justice system are more likely to have a history of child abuse and neglect than those in the general population. Rates of abuse and neglect have consistently ranged between 25% and 31% of the incarcerated juvenile population.¹⁸

The prevalence of mental retardation among juveniles has consistently been reported as between 7% and 15%. The rate of learning disabilities and specific developmental disorders that exist among juvenile offenders ranges from 17% to 53%.¹⁸ These may be gross underestimates or overestimates, because most mentally retarded adolescents do not receive appropriate evaluations by the juvenile justice system unless or until they have committed the most serious or violent offenses.

RISK BEHAVIORS ASSOCIATED WITH LEGAL PROBLEMS

Handgun Ownership

The risk of violent death among youth who have been incarcerated previously is 76-fold greater than that in the general population.²⁰ A study of urban high school youths showed that handgun ownership was highest in youth reporting participation in criminal behavior.²¹ Another study²² of juvenile detainees reported handgun ownership by almost 60% of respondents. Adolescents who often heard gunfire in their neighborhoods reported rates of handgun ownership of almost twice the rate for other youth. Almost 50% of detainees and 68% of handgun owners reported shooting at another person. Of the detainees, 78% reported having been threatened by someone with a weapon. Perceived improved personal safety far exceeded recreational reasons as the motivation for handgun ownership (52% vs 4%).²²

Substance Use

Since 1990, the Drug Use Forecasting program conducted by the National Institute of Justice has shown an increase in illicit drug use (alcohol use not included) by detainees or arrestees at almost all sites in the 12 jurisdictions they evaluate in the United States.²³ The rate of juveniles with positive test results for at least 1 drug ranged from 19% to 58% in 1995. The Drug Use Forecasting program also found that boys arrested for drug offenses (sales or possession) had the highest rate of positive drug test results, compared with youth arrested for other types of crimes.²³ A high rate of drug use also was found among youth who committed violent, property, and other crimes.^{23,24}

CONDITIONS ACQUIRED WITHIN THE INSTITUTIONAL ENVIRONMENT

Juveniles acquire a range of health care problems during the period of confinement. In one study,²⁵ almost 60% of boys and 35% of girls in a juvenile correctional care facility required care for an injury acquired during incarceration. Almost half of these injuries were associated with recreational or miscellaneous causes, whereas 20% were associated with fighting, 13% were accidentally self-inflicted, and 9% were intentionally self-inflicted.²⁵

The high rate of mental health disorders among juveniles is associated with a high rate of suicide and suicide attempts during incarceration.²⁶ The risk of suicide is especially great for youths detained in adult jails or lockups and for youths with a history of psychiatric illnesses.²⁷ A 1984 survey on health services for juveniles found that approximately 16% of facilities reported at least 1 death during the preceding 5 years and that approximately 67% of those deaths were suicides.²⁸

Other common medical problems within the confined juvenile population include contagious diseases, somatic complaints, menstrual disorders, and skin problems.^{6,29} In addition, youths may be victims of physical and sexual abuse perpetrated by other inmates or staff while incarcerated. Such incidents may result from overcrowding, poor supervision or behavioral management, excessive use of restraints or isolation, or the stress of confinement.¹¹

FINANCING CORRECTIONAL HEALTH CARE SERVICES

Most funds used to pay for correctional health care services are derived from the same budget pool as those for operating the correctional institution. Other sources of revenue include separate funds from county or state health departments, grants for pilot projects, and reimbursement for services provided. Federal guidelines prohibit the portion of Medicaid that comes from the federal government to be used for health services within a correctional facility. However, some states have been able to use state Medicaid funds to provide services to adolescents awaiting adjudication or for inpatient services.

HEALTH CARE STANDARDS—THE AMERICAN ACADEMY OF PEDIATRICS RESPONSE AND THE NATIONAL COMMISSION ON CORRECTIONAL HEALTH CARE

Since 1973, the American Academy of Pediatrics (AAP) has published policy statements about health care for correctional care facilities.^{30,31} The AAP is 1 of more than 30 organizations represented on the Board of Directors of the National Commission on Correctional Health Care, a not-for-profit organization that comprises representatives from the fields of corrections, law, law enforcement, and medical, dental, and mental health care. Its primary purpose is to work with correctional facilities to assist in improving their systems for providing health care. The commission publishes national standards for correctional health services, offers a voluntary accreditation program,^{32,33} and publishes official position statements.

The standards are categorized into the following 6 sections that provide guidelines and an explanation for implementation of each of the approximately 70 standards: 1) administration; 2) managing a safe and healthy environment; 3) personnel; 4) care and treatment; 5) health records; and 6) medical-legal issues. An updated *Standards of Services in Juvenile Detention and Confinement Facilities* is available from the Commission.³²

RECOMMENDATIONS

1. Children and adolescents confined in correctional care facilities should be provided with health care services as recommended by the AAP (*Guidelines for Health Supervision III*³⁴) and at least equivalent to those accepted as standards of care in the community. Because many of these children and adolescents do not have a medical home, special attention should be focused on immunization status, developmental and psychosocial issues, and establishing a medical home before release.
2. Children and adolescents confined in correctional care facilities should receive recommended comprehensive preventive pediatric and adolescent health services during the period of incarceration. The circumstance of incarceration can be used as an opportunity to provide health maintenance for the adolescent, including a complete medical history and physical and dental examinations; STD testing for the most common pathogens, including *N gonorrhoeae* and *C trachomatis*; and gynecologic examinations for teenage girls. Other examinations should be conducted as needed and as ordered by the medical provider, including child and adolescent psychiatry; psychopharmacology; other mental health and substance abuse evaluations; neuropsychologic, educational, and projective testing; and pediatric neurology assessments. Immunizations should be provided as recommended by the AAP, the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, and the American Academy of Family Physicians.³⁵
3. Prenatal services, parenting classes, and tobacco, alcohol, and drug cessation programs should be available for males and females during their period of incarceration.
4. Pediatricians and adolescent health care specialists should be consulted about health care policies and procedures governing all correctional care facilities in which children and adolescents are incarcerated.
5. Children and adolescents should be detained or incarcerated only in facilities with developmentally appropriate programs (or structure) and staff trained to deal with their unique needs. If children and adolescents must be housed in adult correctional care facilities, they should be separated from the adult population by sight and sound and provided with a developmentally appropriate environment.
6. Pediatricians should work with their AAP chapters, the juvenile justice sections of their state judiciary and bar associations, and state legislators

to make certain that the medical, educational, and emotional needs of juveniles are appropriately addressed while they are confined and that appropriate state funding (including continued eligibility for Medicaid) is available for provision of these needed services.

7. Pediatricians should encourage all correctional care facilities to adopt and comply with the National Commission on Correctional Health Care's *Standards for Health Services in Juvenile Detention and Confinement Facilities*.³²

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REFERENCES

1. Parent DG. *Conditions of Confinement: Juvenile Detention and Corrections Facilities. Research Summary*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice; 1994
2. Snyder HN, Sickmund M. *Juvenile Offenders and Victims: 1999 National Report*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice; 1999
3. Strom KJ. *Profile of State Prisoners Under Age 18, 1985–97 (Fact Sheet)*. Washington, DC: Office of Justice Programs, US Department of Justice; 2000
4. Snyder HN. *Juvenile Arrests, 1996*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice; 1997
5. Acoca L. *Investing in Girls: A 21st Century Strategy*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice; 1999
6. Hein K, Cohen MI, Litt IF, et al. Juvenile detention: another boundary issue for physicians. *Pediatrics*. 1980;66:239–245
7. Feinstein RA, Lampkin A, Lorish CD, Klerman LV, Maisiak R, Oh MK. Medical status of adolescents at time of admission to a juvenile detention center. *J Adolesc Health*. 1998;22:190–196
8. Morris RE, Harrison EA, Knox GW, Tromanhauser E, Marquis DK, Watts LL. Health risk behavioral survey from 39 juvenile correctional facilities in the United States. *J Adolesc Health*. 1995;17:334–344
9. Shafer MS, Hilton JF, Ekstrand M, et al. Relationship between drug use and sexual behaviors and the occurrence of sexually transmitted diseases among high-risk male youth. *Sex Transm Dis*. 1993;20:307–313
10. Oh MK, Cloud GA, Wallace LS, Reynolds J, Sturdevant M, Feinstein RA. Sexual behavior and sexually transmitted diseases among male adolescents in detention. *Sex Transm Dis*. 1994;21:127–132
11. American Medical Association, Council on Scientific Affairs. Health status of detained and incarcerated youths. *JAMA*. 1990;263:987–991
12. Oh MK, Smith KR, O'Cain M, Kilmer D, Johnson J, Hook EW III. Urine-based screening of adolescents in detention to guide treatment for gonococcal and chlamydial infections. *Arch Pediatr Adolesc Med*. 1998;152:52–56
13. Centers for Disease Control and Prevention. High prevalence of chla-

- mydial and gonococcal infection in women entering jails and juvenile detention centers: Chicago, Birmingham and San Francisco, 1998. *MMWR Morb Mortal Wkly Rep.* 1999;48:793–796
14. Snell TL, Morton DC. *Women in Prison: Survey of State Prison Inmates.* 1991. Washington, DC: Bureau of Justice Statistics, US Department of Justice; 1994
 15. Breuner CC, Farrow JA. Pregnant teens in prison: prevalence, management, and consequences. *West J Med.* 1995;162:328–330
 16. Nesmith JD, Klerman LV, Oh MK, Feinstein RA. Procreative experiences and orientations toward paternity held by incarcerated males. *J Adolesc Health.* 1997;20:198–203
 17. Widom R, Hammett TM. *HIV/AIDS and STD in Juvenile Facilities.* Washington, DC: National Institute of Justice, US Department of Justice; 1996
 18. Cocozza JJ, ed. *Responding to the Mental Health Needs of Youth in the Juvenile Justice System.* Seattle, WA: National Coalition for the Mentally Ill in the Criminal Justice System; 1992
 19. Steiner H, Garcia IG, Matthews Z. Posttraumatic stress disorder in incarcerated juvenile delinquents. *J Am Acad Child Adolesc Psychiatry.* 1997;36:357–365
 20. Yeager CA, Lewis DO. Mortality in a group of formerly incarcerated juvenile delinquents. *Am J Psychiatry.* 1990;147:612–614
 21. Callahan CM, Rivara FP. Urban high school youth and handguns: a school-based survey. *JAMA.* 1992;267:3038–3042
 22. Callahan CM, Rivara FP, Farrow JA. Youth in detention and handguns. *J Adolesc Health.* 1993;14:350–355
 23. National Institute of Justice. *1995 Drug Use Forecasting: Annual Report on Adult and Juvenile Arrestees.* Washington, DC: National Institute of Justice, US Department of Justice; 1996
 24. Crowe AH. *Drug Identification and Testing in the Juvenile Justice System.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention, US Department of Justice; 1998
 25. Woolf A, Funk SG. Epidemiology of trauma in a population of incarcerated youth. *Pediatrics.* 1985;75:463–468
 26. Miller ML, Chiles JA, Barnes VE. Suicide attempters within a delinquent population. *J Consult Clin Psychol.* 1982;50:491–498
 27. Flaherty MG. *An Assessment of the Incidence of Juvenile Suicide in Adult Jails, Lockups, and Juvenile Detention Centers.* Urbana-Champaign, IL: Community Research Forum, University of Illinois at Urbana-Champaign; and Washington, DC: Dept of Justice, Office of Juvenile Justice and Delinquency Prevention; 1980
 28. Anno BJ. Availability of health services for juvenile offenders: results on a national survey. *J Prison Jail Health.* 1984;4:77–90
 29. Anderson B, Farrow JA. Incarcerated adolescents in Washington state: health services and utilization. *J Adolesc Health.* 1998;22:363–367
 30. American Academy of Pediatrics, Committee on Youth. Health standards for juvenile court residential facilities. *Pediatrics.* 1973;52:452–457
 31. American Academy of Pediatrics, Committee on Adolescence. Health care for children and adolescents in detention centers, jails, lock-ups, and other court-sponsored residential facilities. *Pediatrics.* 1989;84:1118–1120
 32. National Commission on Correctional Health Care (US). *Standards for Health Services in Juvenile Detention and Confinement Facilities.* Chicago, IL: National Commission on Correctional Health Care; 1999
 33. National Commission on Correctional Health Care. Health services to adolescents in adult correctional facilities [position statement]. Available at: <http://www.ncchc.org/statements.html>. Accessed November 5, 1999
 34. American Academy of Pediatrics, Committee on Psychosocial Aspects of Child and Family Health. *Guidelines for Health Supervision III.* 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997
 35. American Academy of Pediatrics, Committee on Infectious Diseases. Recommended childhood immunization schedule—United States, January–December 2001. *Pediatrics.* 2001;107:202–204

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