Article

The Health Profile of the Juvenile Delinquent
Implications for Optometrists

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The high prevalence of visual problems in the juvenile delinquency population has been reported by many authors, however little has been said about how the visual profile compares with the general health profile of this group. This article addresses this question. Despite the emphasis by social scientists on identifying socioeconomic causal factors in this population, strong literature can be found to support a developmental biopsychosocial model of delinquency that emphasizes the predominance of medical/scholastic conditions. Health problems, in particular, are very prevalent, as high as 65%. Many have a neurological base and are related to trauma of the central nervous system. Visual processing is often affected. Because the visual system is neurologically driven, these conditions are of special concern to the optometrist in providing care to this special population.

INTRODUCTION

Several studies in the optometric literature have described the high prevalence of visual problems within the juvenile delinquency population (Laukkanen H., unpublished work, 1985).[1–18] Approaches have ranged from visual screening to comprehensive optometric evaluations, all to identify those youths who need optometric care. Little has been said in these reports, however, about the prevalence of visual disorders in relation to the overall biopsychosocial profile of this special population, especially the health conditions. Exploring this literature allows the optometric clinician to put visual problems more in a context that suggests possible linkages between overall health and vision. The aim of this article is to provide the bigger picture, to show how the visual characteristics of the juvenile delinquent fit into the other characteristics of this special population.

JUVENILE DELINQUENCY AS A SOCIAL ISSUE

Demographic experts predict that juvenile arrests for violent crime will more than double by the year 2010.[19] Juvenile courts in the United States processed an estimated 1.5 million delinquency cases in 1993; a 2% increase over the 1992 caseload and a 23% increase over the cases handled in 1989.[20] In 1992 juveniles accounted for 13% of all violent crimes reported to law enforcement agencies and 18% of all violent crime arrests.[21] Major national trends from 1978 to 1989 indicate

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that, whereas the youth population declined by 11% during this period, the number of juveniles in custody increased by 31%.[22] Data gathered from a variety of sources indicate that after a period of relative stability in the rates of juvenile crime, a turning point occurred in about 1985. Within the next 7 years, the rate of homicides committed by young people, the number of homicides they committed with guns, and the arrest rate of non-white juveniles for drug offenses all doubled.[23] This is particularly important, in light of other crime statistics for adults in which a decline was reported.

Longitudinal studies indicate that 25% to 35% of adolescents will have committed a criminal offense by the age of 19 years.[24] This rate is even greater for selected populations, such as youths with learning and developmental disabilities, adolescent parents, youths who abuse drugs or alcohol, and youths who have been abused physically or sexually.[25–30] It is clear that juvenile delinquency is increasing; in fact, it is a key social issue of today's society.

WHO IS THE JUVENILE DELINQUENT?

Juveniles and the System

The juvenile court was first established in Cook County, Illinois in 1899. An essential motivation sprang from a recognition that children differ from adults in responsibility and that more of an attitude of humanness and less one of punishment should characterize society's dealings with youthful violators of the law.[31] Legally speaking, a juvenile delinquent is one who commits a delinquent act as defined by law, and one who is adjudicated as such by an appropriate court. Most studies will indicate that the juvenile delinquent is more likely to be a boy than a girl (chances can be as high as 5 to 1) and he is generally 14 to 15 years old when referred, although he exhibited behavioral problems considerably earlier. His attitude is hostile, defiant, and suspicious. He is usually retarded in school work and reading ability and shows a chronic history of truancy.*,[32] Juveniles who are placed in correctional facilities are predominately boys (>85%) and of a racial or ethnic minority (>55%).[33] Most (82%) are between the ages of 14 and 17 years with an average age of 15.4 years and an average first arrest at 12.8 years. Overall, approximately 40% of youths referred to juvenile court are repeat offenders. Delinquents, more frequently than nondelinquents, come from homes broken by death, divorce, or desertion, or from homes lacking in understanding, self-respect, stability, affection, and moral standards.[32]

Weiner, cited by Johnson,[34] describes the heterogeneity of delinquents and separates them into: sociological delinquents, illegal behavior in which members share antisocial standards of conduct; characterological delinquents, illegal behavior that reflects an essential asocial personality orientation; neurotic delinquents, illegal behavior committed as an individualized attempt to communicate needs that he/she is unable to impress on his/her environment in other ways.

Biopsychosocial Profile

The early statutes governing juveniles assumed that, whatever the immediate circumstances might be that brought a child into a juvenile court, the issues presented were essentially problems involving understanding, guidance, and protection rather than criminal responsibility, guilt, or punishment.[31] Such an orientation has proven fertile ground for years of research within the behavioral and social sciences.

Sheldon and Eleanor Glueck published a series of volumes on this subject, but they did not necessarily gain support from their peers.[35] By 1960 the US Department of Health, Education and Welfare (Children's Bureau) was sponsoring conferences on sociological theories and their implications for juvenile delinquency.[36] With the passage of the Juvenile Justice and Delinquency Prevention Act of 1974, communities throughout the nation were called on to develop local resources to serve as alternatives to training school in-

** A distinction is made between status offenders and those committing serious criminal acts. In this article we have not included the status offenders in the data reported. Also, it is important to realize that most studies are limited to known delinquents—the youth who have been processed formally by the justice system. Actual delinquency might look much different.*

carceration.[37] In 1989 two federal agencies funded demonstration projects; one such project involved a group of juveniles detained in Texas.[38] Most of these juveniles were from an ethnic or racial minority (69% Mexican American, 18% African American), and 83% were male. The average age was 15 years. About 60% lived with a parent, 43% lived with their mother only, and 18% lived with both parents. Sixty-two percent had a family member in prison; 37% had been detained previously. Eighty-three percent were sexually active, and most (56%) had been sexually active since 13 years of age. Eight percent of the sexually active juveniles reported being a parent.

Various investigators have examined what might be the predictors of deviant behavior. Tolan and Lorion[39] constructed a multivariate model to identify proneness to delinquency in male adolescents. They found that age of onset is the best predictor. Other than family functioning, psychosocial indicators added little to their predictive model.

The effects of medical, family, and scholastic conditions were evaluated by Hughes et al.[40] for the number and type of offense and test score performances of urban delinquents in 1962. Their findings support a developmental biopsychosocial model of delinquency that emphasizes the predominance of medical/scholastic conditions. They found that orphaned and one-parent delinquents with nervous system or neonatal conditions, retardation, or hyperactivity were prone to committing assault.

In contrast to the study above, Farrington[41] investigated the childhood predictors (age, 8–10 years) of teenage antisocial behavior (age, 18 years) and adult social dysfunction (age, 32 years). This longitudinal study reported that the most important childhood predictors of both outcomes were measures of economic deprivation, poor parenting, an antisocial family, and hyperactivity-impulsivity-attention deficit.

Given the biopsychosocial profile of this particular population, let us now turn to the health picture.

Health Status of the Juvenile Delinquent

General Health. Several studies have been done to assess the health status of juvenile delinquents, mostly those who are incarcerated. Such studies usually are not acknowledged by the social-problem theorizers and practitioners who serve delinquents because health is rarely identified as an element in either the cause or cure of deviance.[42] It can be argued, however, that although the causal relationships of juvenile delinquency have not been discovered, health factors do seem to put the juvenile at greater risk for deviant behavior. Therefore, the detection and subsequent elimination of health problems as a risk factor in juvenile delinquency is a sensible approach. At least health may be a risk factor that can actually be dealt with in a more straightforward manner than some of the socioeconomic concerns surrounding the juvenile delinquent population.

Litt and Cohen[43] report on the examination of 31,323 children aged 8 to 18 years who were committed to New York City juvenile centers during a 5-year period. Forty-six percent of these presumably healthy teenagers had health problems. A similar study was done on 223 male youths aged 14 to 18 years by the Maryland Department of Juvenile Services. A minimum of 65% of the youths had at least one condition that needed the attention of a health care provider. These high percentages primarily are accounted for by disorders in teeth, vision, and hearing. The large number of individuals who manifested key symptoms as part of the case history is an important factor of this study. Difficulty with vision, allergies/asthma, chest pains, and tooth/gum trouble were the most frequent symptoms noted. Carper[44] reported that in a population of delinquent boys in a Boston detention center 50% had respiratory problems, gastrointestional complaints, or skin problems. Yet another investigator compared the health status of 53 delinquent and 51 nondelinquent boys.[45] Fifty-seven percent of the delinquents compared with 20% of the nondelinquents had experienced two or more adverse health events such as hospitalization, loss of consciousness, or a serious accident by this point in their life.

In 1990 The Council on Scientific Affairs, American Medical Association reported on the health status of detained and incarcerated youths.[33] Numerically, dental problems represented the greatest health problem: 90% of the youths had caries and missing, fractured, or

infected teeth. They reported that girls in correctional facilities become involved in sexual behavior at earlier ages and have greater rates of sexually transmitted diseases than do nondelinquent girls. This same study reported on the higher than expected prevalence of learning disabilities, conduct disorders, and depression in this population.

The public press has suggested that reactive hypoglycemia, or sensitivity to sucrose, is a possible correlate or cause of antisocial behavior. Gans and her co-workers[46] at the University of Wisconsin-Madison examined this proposition. They measured nutritional and psychological indices of delinquent male adolescents and compared them with a matched group of nondelinquents. Their conclusions did not support the notion that delinquent males are at a greater risk than nondelinquents relative to reactive hypoglycemia.

Penner[47] advocates linking the etiology of delinquency to the type of intervention approach and in this light discusses the role of selected health problems in the causation of juvenile delinquency. He challenges the social theoreticians who have offered explanations for delinquent behavior without focusing on the research that indicates a consistent relationship between health problems and delinquency. Penner suggests that the high prevalence of health problems found in incarcerated delinquents is likely to cause school or behavior problems. The connection he builds is that problems of health logically can be shown to cause or contribute to problems in early socialization, perceptions of limited opportunities, and the probability of being severely labeled. He builds his case this way. Early socialization depends on the learning of social rules and certain health problems can hamper this learning. If perceptual, motor, or thought problems are allowed to go undetected, they can result in socialization problems as well as behavioral and learning problems. Problems in these areas suggest possible neurological implications. We now turn to this literature.

Neurological Implications. Neurological problems can result in several types of behavior problems. For example, hyperactivity has been attributed to neurological causes.[47] Neurological impairment is also related to head and face trauma with the juvenile delinquency population at particular risk for such trauma. Some investigators report a high incidence of psychomotor epilepsy symptomatology along with a history of head and face trauma among delinquents, especially violent delinquents.[47] In addition, neurological problems can result in perceptual-motor dysfunctions, thus inhibiting effective learning because of poor integration of perceptual and thought processes.

In a matched study conducted at the Child Study Center, Yale University, it was found that delinquent youths were far more likely than nondelinquent juveniles to be seen for accidents, particularly head or face trauma. Also, it was found that delinquent youths made significantly more hospital visits than nondelinquents, especially before 4 years of age and between 14 and 19 years of age.[48] This was also true in a study by Palfery et al.[45] wherein head trauma occurred at a frequency nine times greater in delinquent boys than in nondelinquent boys. They found that the delinquent group was highly vulnerable to events affecting the central nervous system.

Voorhees[49] reported on neurological differences between juvenile delinquents and functional adolescents. As to motor functions, the delinquent subjects displayed a generally lower level of tolerance for the more difficult and ambiguous tasks. For example, they performed numerous echopraxic (mirror image) responses with reduced awareness or correction of incorrect responses. Fine-motor coordination was also generally lower within this group. On visual perceptual tests, delinquent subjects displayed considerably more difficulty with three-dimensional tasks and object-picture recognition than functional adolescents.

Berman[50] conducted a study on neurological dysfunction in juvenile delinquents at the Rhode Island Training School. He found that a significant number (57%) of those tested had disturbances in their functioning which were associated with various types of neurological disorders. He observed that many of the kinds of deficits from which delinquents suffer are the same kind that are encountered in nondelinquent children who have learning disabilities. These children with neurological dysfunctions will show reversals, rotations, and distortions of visual stimuli. This particular connection was studied further by Fanchiang

et al.[51] These investigators administered a group of vestibular, somatosensory- and praxis-related tests to a group of delinquency-prone and non-delinquency prone adolescents. They found statistically significant differences in sensory-integrative processing between the two groups, the delinquency-prone group scoring lower on the praxis- and vestibular-related tests.

A group of investigators from the Children's Hospital Medical Center (Boston) assessed the possible association between neurodevelopmental delays and juvenile delinquency.[52] They devised a neurodevelopmental examination composed of six different areas. In comparing 54 delinquents with 51 secondary school students (nondelinquents) they found no significant difference in the prevalence of minor neurological signs ($P = .37$) and a definite difference in gross motor function ($P = .02$) and temporal sequential organization ($P = .04$). The most significant differences were in visual processing ($P = .0002$) and auditory-language function ($P = .0001$). Eighteen percent of the delinquents and four percent of the comparison group were deficient in two or more neurodevelopmental areas.

Kandel et al.[53] took a unique approach to investigating the relationship between neurodevelopmental measurements and violent behavior. They structured their research around the hypothesis that disruptions in fetal neural development may increase the predisposition to adult mental illness, specifically violent behavior. Disturbances in fetal neural development are difficult to ascertain, but there is an indirect index of prenatal disturbances that is observable by the trained observer. It is based on small but noticeable aberrations in external physical characteristics, eg, placement of ears, crooked fingers, etc. These are termed minor physical anomalies (MPA) and have been identified as predictors of various neuropsychological impairments. The research in this area suggests that MPA reflect disturbances in fetal neurological development. Perhaps the resulting brain anomalies are reflected in hyperactivity, impaired impulse control, or other functional disorders that increase the likelihood of violent criminal behavior. This approach is based on the hypothesis that an increase in violent behavior is partly caused by deficits in the central nervous system or is part of the pattern of poorly controlled behavior. In this study the number of MPA were measured at ages 11 to 13 years and then compared with police records at ages 20 to 22 years. Recidivistic violent offenders evidenced a greater level of MPA than subjects with one violent offense or no violent offense ($P < .05$). There can be confounding variables such as socioeconomic status, age, gender, and parental psychiatric diagnosis. Even when these variables were accounted for, the results demonstrated that the level of MPA significantly predicts violent behavior.

Rantakallio and associates,[54] looked for confirmation of such a connection. They studied the association of perinatal events, childhood epilepsy, and central nervous system trauma with juvenile delinquency. Central nervous system trauma was the only health factor which had a statistically significant association with delinquency, especially with that seen in violent crimes, and it remained significant when the data were standardized for many of the background variables.

Homicide in the juvenile population has also received attention. Lewis and her colleagues[55] studies the biopsychosocial characteristics of a sample of 13 juvenile murderers compared with 14 violent, incarcerated delinquents, all compared with 19 nonviolent delinquents. Their work acknowledged that learning disabilities, mental retardation, and neurological impairment are all prevalent in the juvenile murderer population. All subjects received a psychiatric and neurological examination. Most "New Juvenile Murderers" had suffered severe insults to the central nervous system, including a traumatic childbirth delivery, encephalitis with aphasia and ataxia, car accidents with loss of consciousness, and severe blows to the head with objects such as bats and hammers. The New Juvenile Murderer group had measurements remarkably similar to the Violent Incarcerated Delinquents. Both groups differed significantly from the Ordinary Incarcerated Delinquents.

Controversy has been present in the fields of psychology, psychiatry, neurology, and related areas concerning the amount of voluntary control the delinquent child is capable of exerting over his/her behavior. Advances in neurology, neuropsychology, and the psychology of perception have suggested that sig-

nificant numbers of delinquents may have brain disturbances.[50] And from this work, specific brain syndromes have been identified as causes of behavioral disturbances.

In summary, the research literature repeatedly reports direct relationships between selected health problems (vision, hearing and speech, neurological, prenatal and perinatal complications) and juvenile delinquency. Palfrey et al.[45] describe delinquency as the end-stage of such developmental and behavioral dysfunction. Often, the problems are of the sort that definitely precede the onset of delinquent behavior. That is, they are largely related to pregnancy or childbirth, usually develop in the early childhood years (speech and hearing), or tend to develop in the years just preceding delinquent behavior (visual problems). Several studies cited have addressed the precedence question and have sought to establish that these sorts of health problems usually occur before the onset of delinquent behavior, thus making these conditions potential causes of juvenile delinquency.[47]

Health Care Delivery Issues. Each year in the United States, approximately 1 million children are incarcerated. Fewer than half are held in juvenile facilities; the remainder in adult jails.[56] The conditions under which many children are confined and the results of their incarceration are often damaging to the child's health and to society.[57] In 1980 the American Academy of Pediatrics, Committee on Adolescence, developed a set of standards emphasizing the most critical aspects of health care for incarcerated youth. The opening paragraph of this document states, "Physical conditions and physical disability often contribute toward the delinquent orientation of the young person. Many adjudicated delinquents, because they come from poor families and areas with insufficient health care services, have a backlog of medical and dental needs. Basic health needs must be met if the delinquent is to improve his behavior."[58]

There is little doubt that there are high health care needs in the juvenile delinquent population. Various health problems put these youth at greater risk for coming in contact with the justice system. Persons in this population, because of their behavioral problems, tend to be disfranchised from traditional medical services in the community, leaving correctional care as their major source of health services.[33] A key question remains concerning how well their health care needs are actually met once they are within the justice system.

The health problems of detained and incarcerated youths require skilled assessment and intervention efforts. Special emphasis needs to be placed on the nature of the problems that present. To accomplish this correctional facilities generally use one of three models of health care delivery: an on-site, comprehensive care model; an on-site, limited care model; and an off-site model.[33] In the first model, the institution uses a medical team composed of physicians (including a psychiatrist) and nurses. In the second model, the staffing is primarily nurses. In the third model, routine care is provided by non-health care staff.

Health care standards for juvenile correctional institutions were established in 1979 by the American Medical Association (AMA) and were later revised by the National Commission on Correctional Health Care. Both the National Commission on Correctional Health Care and the American Correctional Association maintain an accreditation procedure for juvenile correctional facilities, but compliance with these standards is voluntary.[33] The AMA standards have been challenged by some health care delivery researchers, however, because they were written without any substantive knowledge of the status of health care services in juvenile facilities.[59] In 1984 Anno[59] conducted a study on the availability of such health services for juvenile offenders in the 464 short-term and 551 long-term juvenile custody facilities in the United States. Using the AMA standards as a measure, Anno determined that almost one fifth of the institutions did not provide a regular sick call, and even those who did often did not use qualified health care professionals. Two fifths of the institutions did not conduct an initial medical screening on admission, and more than a fourth did not provide a follow-up physical examination within the first week of the youth's confinement. About half did not provide on-going mental health care, and almost three fifths did not provide on-going dental services. No data were collected on the provision of vi-

sual care because the AMA has no standard for such care, despite the high prevalence of visual anomalies in this population.

An underlying assumption in each of the delivery systems described above is that a general primary-care delivery model of care is well designed to meet the needs of this special population of adolescents. Lewis and her coworkers[60] examined the effectiveness of the medical assessment of seriously delinquent boys. She compared examinations conducted by the pediatrician, psychiatrist, and neurologist with hospital records. She found that the pediatrician significantly overlooked a history of perinatal problems, major accidents or injuries, severe head injuries, neurological abnormalities, epilepsy-blackouts-fainting, family psychotic problems, and abuse. The other specialists missed major illnesses and severe head injuries. Lewis concludes her analysis with the comment, ". . . in the case of the pediatrician, a focus on immediate life threatening medical problems may have diverted them from seeing the patient as a product of a lifetime of physical insults." And, indeed, many juvenile delinquents are likely to have experienced a lifetime of physical insults.

And so the partitioning of medical care—the separation of specialty care from primary care—shows how ineffective the current primary care model can be. According to the literature the pediatrician, serving as the primary care physician, is likely to miss the key neurological problems that are the very backdrop for the behavioral dysfunctions in this special population of adolescents. That the juvenile delinquent can slip through the cracks within the health care system is illustrated by other studies. Hein et al.[61] report on the development of a medical program for a detention center in New York, a program in conjunction with an academic health center. Statistics kept at the center show that a medical problem was found in 46% of the young people, although all were considered medically healthy by court authorities. The conditions ranged from minor injuries to life-threatening stages of acute and chronic illness. Even prior awareness of a medical problem was frequently unassociated with previous care because of the inaccessibility of health services.

The Wake County (North Carolina) Area Health Education Center developed a delivery model for juvenile offenders using a detention facility as the original point of access.[37] Physical examinations of this population revealed one or more health problems in 87%, averaging two problems per patient. The most common were dental (48%), dermatologic (24%), and musculoskeletal, including trauma (19%). Aggressive referral and tracking was done of patients needing special care. Despite these efforts, dental, learning, and visual problems accounted for two thirds of those conditions that did not receive the necessary follow-up attention. In discussing this project the author states, "For most of the youth incarcerated . . . health care is not a priority, nor is it a priority in the lives of their families. . . . Prior to the project, health care was not in the thinking of the juvenile court personnel . . . there has developed a behavioral/emotional mind-set among juvenile court personnel, which excludes disease as a relevant factor in the lives of the youth in their charge. While there were frequent requests for neurological evaluations there was little understanding that vision and hearing deficiencies, for example, might be contributing to 'acting out behavior' or poor school performance."

Ris[62] describes an integrated delivery model between the Wisconsin School for Girls and the University of Wisconsin Medical School. The health care staff includes a pediatrician, nurses with expertise in the problems of adolescents, psychiatrists, a dentist, social workers, and psychologists. This team is supported by house counselors, recreation specialists, and educators. The aim of the medical department is to render high-quality, comprehensive multidisciplinary care with consideration of the social, emotional, and intellectual problems of the juvenile. It includes prevention, health education, diagnosis/treatment of disease as well as rehabilitation of long-standing disabilities including sequelae of past accidents. Ris states, "There is no doubt that some of the medical problems, such as physical disabilities and handicaps, are at the root of the students' delinquent behavior." There are times when a student on parole is admitted to the school solely for the purpose of diagnostic and therapeutic care when such a service is not available in the community. "It

is an indictment of our society that a child has to be admitted to a correctional institution with a quality medical program to get adequate medical care. . . . For many of our students the medical care rendered at the school represents their first thorough examination," states Ris.

Juvenile offenders represent a population at high risk because of prenatal/perinatal complications and head trauma. They show an unusually high prevalence of dental problems, neurological problems and vision/hearing anomalies. As a group, they have underutilized traditional health care models and end up in the justice system with special health care needs. Published standards for health care of incarcerated youth exist, but studies show these standards are not met in many facilities. Also, these standards are framed around a primary care model of care. This type of model is inadequate in addressing the multiple needs of this population. This is especially true regarding neurological, vision, and hearing problems. Moreover, it is the areas of neurological function, along with vision and hearing, in which rehabilitative services can make a real difference in the lives of these juveniles, such as in school performance. A multidisciplinary team that is focused on integrating the health, social, and emotional needs of these youths is called for.

The following comments from authorities in the field reinforce this view.

> Society has an obligation to juveniles with crippling functional, medical, or emotional problems. These juveniles have a right to reasonable efforts to have such dysfunctions identified and diagnosed at an early age and to be provided appropriate and adequate care treatment. . . . The screening, diagnosis and planning of treatment, as well as the delivery of treatment which is geared to juveniles with special problems, should be available to the juvenile services system.
> —David J. Berkman and R. W. Lippold, National Juvenile Justice Assessment Center of the American Justice Institute[48]

> . . . it is clear that delinquent youths represent a vastly underserved population with greater than average health needs. . . . The majority of youths in correctional institutions are not perpetrators of serious crimes. Many have underlying, undiagnosed or untreated physical and emotional disorders, and most lack a coordinated source of regular care . . . maximum health care intervention should be provided with the hope that through better health these youths would become better citizens.
> —Council on Scientific Affairs, American Medical Association[33]

> It is a fallacy to expect the traditional health care delivery system to meet the health needs of these youngsters . . . who can rarely avail themselves of existing community based medical care due to real or perceived barriers to easy access, confidentiality and money.
> —Committee on Adolescence, American Academy of Pediatrics[58]

SUMMARY AND CONCLUSIONS

Juvenile delinquency is increasing; it is a key social issue of today's society. Various social scientists have established that factors such as age of onset, economic deprivation, poor parenting, and an antisocial family can be predictors of proneness to delinquency. In a parallel sense, the health care community has established several health factors associated with delinquent behavior. These are particularly important to the optometric clinician. Many of these are neurologically based and occur at a time in life that precedes the deviant behavior. The visual system is also neurologically based. So, as we probe and assess the effectiveness of visual functions this assessment reflects neural function. Or, in other words, many visual dysfunctions could be viewed as neural dysfunctions. They become risk factors in juvenile delinquency and are strongly suspected of being causal factors given the right set of circumstances.

The health problems of this special population are complex. The basic primary health care model is poorly suited to these adolescents. Controlling the health care risk factors associated with juvenile delinquency is best done with a multidisciplinary model of health care delivery. Along with the primary care physician, members of the team should include a dentist, an optometrist, and a full complement of providers from the mental health disciplines.

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VISUAL VIGNETTE

TO SEE AS I SHOULD SEE

I pray for a gift which perhaps would be miraculous: simply to be able to see that field of waving grass as I should see it if association and the "film of custom" did not obscure it.

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