# Seven-Year Life Outcomes of Adolescent Offenders in Los Angeles

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*Objectives.* We examined important life outcomes for adolescent offenders to describe how they were faring in young adulthood.

*Methods.* We assessed 449 adolescent offenders (aged 13–17 years) in Los Angeles, CA, whose cases had been adjudicated by the Los Angeles Superior Court and who had been referred to group homes between February 1999 and May 2000. We used the Global Appraisal of Individual Needs to interview respondents at baseline and at 3, 6, 12, 72, and 87 months after baseline. A total of 395 respondents (88%) were interviewed or confirmed as dead at the final interview.

*Results.* At final interview, 12 respondents had died, 7 of them from gunshot wounds. Thirty-six percent of respondents reported recent hard drug use, and 27% reported 5 or more symptoms of substance dependence. Sixty-six percent reported committing an illegal activity within the previous year, 37% reported being arrested within the previous year, and 25% reported being in jail or prison every day for the previous 90 days. Fifty-eight percent had completed high school or obtained a GED, and 63% reported working at a job in the previous year.

*Conclusions.* The high rates of negative life outcomes presented here suggest the need for more effective rehabilitation programs for juvenile offenders. (*Am J Public Health.* 2009;99:863–870. doi:10.2105/AJPH.2008.142281)

Each year in the United States, police make more than 2 million arrests in which the arrestee is younger than 18 years of age. Juveniles arrested for more serious crimes are referred to juvenile court, and a little more than half of those referred to juvenile court are formally processed. In 2002, 144 000 youths, or 23% of those formally processed, were ordered to residential placement in a variety of facilities. Of these, 40% were held in detention centers, 12% were placed in group homes, and the remainder was dispersed among shelters, diagnostic centers, boot camps, wilderness camps, and long-term secure facilities.[1]

The juvenile justice system was established to rehabilitate juvenile offenders, and residential facilities offer a controlled environment in which rehabilitation services can efficiently be delivered. But rehabilitation is made complex by a range of problems that may contribute to youths' risk of recidivism, including mental health problems, family and peer group dysfunction, educational problems, limited vocational skills or experience, and risky behavior such as alcohol intoxication and drug use.[2–9] Residential facilities often must provide a wide range of services to address known or suspected shortcomings in delinquent juveniles' social, emotional, or educational development.

However, appropriate rehabilitative programming is not available for many in the juvenile justice system. Only half of all group homes employ mental health professionals to screen youths for mental health and substance use problems,[1,10] and only a few of those who demonstrate a need for mental health treatment actually receive it.[11,12] Furthermore, correctional education is notably inadequate,[13,14] and job-training programs are rare in the correctional system. Those that do exist vary in content and quality.[15]

Studies evaluating the effects of residential placement have found that interventions for institutionalized youths generally reduce recidivism rates, although their effectiveness varies considerably.[16] Meta-analyses have provided evidence that residential treatment can improve psychological adjustment and academic performance.[17]

Ideally, residential placements put troubled youths on a new path, increasing their chances of leading healthy, productive lives; however, long-term outcomes associated with this type of intervention are not well established.[18] Although evidence of short-term benefit is promising, the public has an interest in knowing that short-term gains are sustained through young adulthood. For instance, if most youthful offenders mature out of delinquent behavior regardless of short-term gains, time itself may effect needed rehabilitation. On the other hand, if large numbers of young offenders fail to mature into reasonably healthy and well-functioning adults, this could indicate a need for more effective rehabilitation programs to enable the juvenile justice system to fulfill its mission. Existing longitudinal studies on adolescent delinquency have focused primarily on recidivism or desistance[19–23]; many of them have indicated that youths with juvenile court contact are more likely to offend, to be criminally convicted, and to be incarcerated as young adults, even after accounting for self-reported offending behaviors.[19–21,23]

We used longitudinal data to examine important life outcomes of 449 adolescent offenders for 7 years after they were placed in group homes in Los Angeles, CA. We examined outcomes across multiple domains of theoretical interest for this high-risk population, including mortality, criminal behavior, institutionalization, workforce participation, and mental health.

## METHODS

We recruited participants from all 3 juvenile detention facilities in Los Angeles between February 1999 and May 2000. The Los Angeles Superior Court provided research participation consent for interview staff to approach all youths being referred to any of the 7 largest group homes that had contracts with the Los Angeles Probation Department to provide long-term residential care, typically for periods of 9 to 12 months. Each of these programs offered a range of services, including schooling, substance abuse treatment or education, family therapy, vocational training, and other forms of counseling.[24] The original plan for the study was to evaluate substance abuse

treatment services at 1 of the group homes, so youths entering that program were oversampled; thus, the population of substance-abusing youths in the sample was proportionally larger than would likely be found in the general population of youths sent to residential placements in Los Angeles. More details about the study can be found elsewhere.[24–26]

### Eligibility and Study Protocol

To be eligible for study participation, youths were required to: (1) be aged between 13 and 17 years old, (2) provide written informed assent, and (3) provide permission to notify a parent or legal guardian of study participation. Youths were excluded if: (1) they could not fully comprehend English-language interviews, (2) they were admitted to a residential program before being interviewed by research staff, or (3) a parent requested that his or her child be excluded.

We identified 574 young offenders as eligible to participate in the study, of whom 125 were not recruited. The primary reason for nonrecruitment was transition out of the juvenile hall before an interview could be scheduled (84% of the 125 not recruited). Other reasons included not speaking English (6.4%), refusal to participate (2.4%), and other miscellaneous reasons (7.2%). The final sample of 449 participants underwent face-to-face interviews at study entry (February 1999–April 2000). Participants were again interviewed at 3, 6, 12, 72, and 87 months after baseline. At each interview, participants were promised confidentiality and received renumeration that varied across waves, and at final interview could be up to $75.

Our data came from the 87-month follow-up, when respondents were between the ages of 20 and 24 years (May 2006–September 2007). We were able to either contact or confirm as dead 407 (90%) of the initial sample. Twelve of these 407 respondents refused to participate in the 87-month follow-up interview, yielding a final study retention rate of 88% (395 individuals).

### Measures and Analysis

At each assessment, we used the Global Appraisal of Individual Needs to interview participants.[27] Table 1 presents the outcomes we examined and how we defined each construct. The Global Appraisal of Individual Needs includes items that correspond to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*) criteria of symptoms of major depressive disorder, attention deficit hyperactivity disorder, and previous-year symptoms of substance abuse and substance dependence.[27–29]

We first examined sample characteristics at baseline, testing whether respondents in the 87-month follow-up sample (including those who had died) differed significantly from those lost to follow-up or who refused to participate. We then calculated 87-month outcomes among those interviewed at that assessment. If an individual had spent all of the previous 90 days in prison or jail, we excluded him or her from analyses pertaining to previous-90-day behaviors, which can be assumed to be at least constrained in institutional settings (e.g., car theft and many other types of crime). We calculated odds ratios to discern whether outcomes differed by gender and race/ethnicity.

## RESULTS

### Sample Characteristics at Baseline

The majority (87%) of the sample was male, more than half were Hispanic/Latino, and 35% were aged 16 years old (Table 2). At baseline, three fourths of the sample had had previous contact with the juvenile justice system. Sixty-five percent of the sample reported 3 or more symptoms of conduct disorder, the number of symptoms required for a *DSM-IV* diagnosis.[28] Approximately three fourths of the sample reported symptoms consistent with a diagnosis of a substance use disorder; half reported 3 or more symptoms of substance dependence, and an additional one fourth reported 1 or more symptoms of substance abuse. Other than illegal drug use, which 86% of the sample engaged in, the most common offenses committed during the previous year were simple assault (45%) and drug sales (25%). Youths who reported at baseline that they had committed robbery or had drunk alcohol until they were drunk were more likely to be in the follow-up assessment (i.e., confirmed as dead or a participant) than those who reported abstaining from these behaviors. There were no other significant differences between the baseline and follow-up samples.

### Outcomes at Final Interview

*Mortality.* Of the 395 respondents accounted for at 87 months, 12 were dead (3%). Deaths were confirmed by the Los Angeles County Coroner, the Los Angeles County Police, the Los Angeles County Probation Department, the Social Security Death Index, or by parental report. For 2 of the 12 dead respondents, a family member who was not a parent reported an out-of-state or out-of-country death that was not confirmable by public records in the United States, so a second contact was required to corroborate the statement (i.e., a friend or additional family member).

All of those who died were male; the ages of the deceased when they died ranged from 15 to 22 years. Seven died from gunshot wounds, 2 were victims of a homicide with no further detail given, 1 died from an overdose, 1 died in a car crash, and the cause of death for 1 was unknown. The annual mortality rate of our sample ranged from 222 per 100 000 in calendar year 2000 to 685 per 100 000 in 2006, for an average annual mortality rate of 387 per 100 000.

*Criminality and institutionalization.* At 87 months, approximately two thirds of respondents reported having done something illegal other than using alcohol or drugs in the previous year. Of the total surveyed, 37% had been arrested, charged with a crime, and booked within the previous year (Table 3). Almost half of the sample had spent time in jail or prison in the previous 90 days, and a quarter of the sample had spent all of the previous 90 days in prison or jail. Female adolescents were less likely than male adolescents to report criminal behavior, to be arrested, and to have spent time in prison or jail. Among those who had spent at least 1 day free in the community in the previous 90 days, DUI was the most common self-reported criminal behavior (29%) other than drug possession, followed by simple assault (26%), illegal gambling (19%), drug sales (15%), and theft (10%).

*Substance use and mental health.* More than half of the respondents reported using tobacco, drinking alcohol until drunk, and using drugs illegally in the previous year, and approximately one third of the sample reported hard drug use (use of illegal drugs other than marijuana), although these figures may be misleadingly low; some who might otherwise have engaged in these behaviors were prevented from doing so because they were institutionalized for the entire previous-year period

**TABLE 1—Summary of Study Outcomes, Instruments, Definitions, and Measures for Adolescent Offenders Followed Into Young Adulthood: United States**

| Outcome | Definition or Study Instrument | Reference Period | Measure |
|---|---|---|---|
| Criminality and institutionalization | | | |
| Institutionalization | Days spent in jail or prison | Past 90 days | 0 days/1-89 days/90 days |
| Criminal behavior | Last time respondent did anything that might get them into trouble or be against the law, besides using alcohol or drugs | Previous year | Yes/No |
| | 17 items about the last time they committed a specific crime type[a] | Past 90 days | Yes/No |
| Criminal justice involvement | Arrested, charged with a crime, and booked | Previous year | Yes/No |
| Substance use, substance-use disorders, and mental health | | | |
| Substance use | 13 items about the last time they used any of 13 classes of psychoactive substances[b] | Previous year | Tobacco use<br>Alcohol use until drunk<br>Illegal drug use<br>Hard drug use |
| Depression | ≥5 symptoms of depression, including depressed mood or anhedonia | Past 90 days | Yes/No |
| ADHD | ≥6 inattentiveness symptoms or ≥6 hyperactivity symptoms | Past 90 days | Yes/No |
| Substance abuse | ≥1 abuse symptoms | Previous year | Yes/No |
| Substance dependence | ≥3 dependence symptoms | Previous year | Yes/No |
| Social functioning | | | |
| Personal relationships | Marriage | Lifetime or current | Yes/No |
| | Given birth to or fathered a child | Lifetime | Yes/No |
| Living situation | Homeless | Previous year | Yes/No |
| Educational attainment | High-school completion or GED | Lifetime | Yes/No |
| Employment | Work at a job | Previous year | Yes/No |
| | Employment status[c] | Current | Per work situation |

*Note.* ADHD = attention-deficit hyperactivity disorder; GED = general equivalency diploma.
[a]Crime types were vandalism, possession of stolen goods, forgery, larceny-theft (from a store), larceny-theft (not from a store), burglary, car theft, robbery, simple assault, aggravated assault, armed robbery, rape, murder, arson, driving under the influence of alcohol or illegal drugs, drug sales, prostitution, and illegal gambling.
[b]Psychoactive substances were cigarettes (or any other tobacco use), any kind of alcohol (used until drunk), marijuana/hashish, crack/cocaine (freebase), other forms of cocaine, inhalants, heroin, painkillers/opiates/analgesics, PCP/angel dust, acid/hallucinogens, antianxiety drugs/tranquilizers, speed/uppers/amphetamines/methamphetamines/other stimulants, downers/sleeping pills/barbiturates/other downers, some other drug.
[c]Current employment statuses were employed full time, employed part time, has a job but not at work because of treatment, extended illness, maternity leave, furlough, strike, has a job but not at work because job is seasonal, unemployed/laid off and looking for work, unemployed/laid off and not looking for work, full-time homemaker, in school or training, in school or training but not currently going to classes, retired, in jail/prison, too disabled for work, or other work situation.

(Table 3). More than one fifth of the sample reported 1 or more substance-abuse symptoms, and an additional 25% reported 3 or more substance-dependence symptoms. Females and Black respondents were less likely than male and non-Black respondents to report drinking alcohol until drunk; Black respondents were also less likely to report 3 or more symptoms associated with substance dependence. One third of the sample reported 5 or more symptoms of depression, with Whites more likely than their peers to report depressive symptoms.

*Social functioning.* At 87 months, half of the respondents reported having been pregnant or impregnating someone, and 10% reported having ever been married. Female adolescents were more likely than their male counterparts to have ever been married, and more likely to report having been pregnant than male adolescents were to report having impregnated someone (Table 4). Only 59% of the sample had completed high school or had their GED, with Hispanic respondents less likely to have achieved these educational outcomes. More than one-third of the sample reported their current employment status as being in jail or prison, which reflects the institutional outcomes presented in Table 2. Thirty-two percent of the sample reported that they were employed full time, and 14% reported being unemployed but looking for a job. Fourteen percent reported being homeless at some point in the previous year; Whites were more likely than non-Whites to report this outcome.

*Positive outcomes.* We collapsed positive outcomes into 1 category to identify respondents who were living productive, crime-free

**TABLE 2—Baseline Characteristics of Original Adolescent Sample (1999) and Adult Participants Remaining at 87-Month Follow-Up (2007): Los Angeles, CA**

| | Baseline Sample, No. (%) | 87-Month Follow-Up, No. (%) |
|---|---|---|
| Total | 449 (100) | 395 (100) |
| Female gender | 57 (12.7) | 54 (13.7) |
| Race/ethnicity | | |
| Latino/Hispanic | 248 (55.2) | 211 (53.4) |
| Black/African American | 66 (14.7) | 62 (15.7) |
| White | 72 (16.0) | 64 (16.2) |
| Other | 63 (14.0) | 58 (14.7) |
| Age, y | | |
| 13 | 30 (6.7) | 26 (6.6) |
| 14 | 65 (14.5) | 58 (14.7) |
| 15 | 98 (21.8) | 88 (22.3) |
| 16 | 157 (35.0) | 140 (35.4) |
| 17 | 99 (22.0) | 83 (21.0) |
| Self-reported criminal behavior (previous year) | | |
| Vandalism | 116 (25.8) | 104 (26.3) |
| Forgery | 15 (3.3) | 13 (3.3) |
| Larceny-theft (from a store) | 153 (34.1) | 139 (35.2) |
| Larceny-theft (not from a store) | 90 (20.0) | 85 (21.5) |
| Burglary | 49 (10.9) | 46 (11.6) |
| Car theft | 60 (13.4) | 53 (13.4) |
| Robbery | 28 (6.2) | 24 (6.1) |
| Simple assault | 203 (45.2) | 182 (46.1) |
| Aggravated assault | 74 (16.5) | 68 (17.2) |
| Armed robbery | 20 (4.5) | 19 (4.8) |
| Rape | 3 (0.7) | 3 (0.8) |
| Murder | 10 (2.2) | 10 (2.5) |
| Arson | 16 (3.6) | 13 (3.3) |
| DUI | 46 (10.2) | 40 (10.1) |
| Drug sales | 114 (25.4) | 103 (26.1) |
| Prostitution | 10 (2.2) | 10 (2.5) |
| Other | 61 (13.6) | 57 (14.4) |
| Previous probation, parole, jail, or detention | 326 (72.6) | 284 (71.9) |
| Mental-health and substance-use disorders (previous year) | | |
| Depressive symptoms | 130 (29.0) | 116 (29.4) |
| Conduct-disorder symptoms[a] | 293 (65.3) | 260 (65.8) |
| ADHD symptoms | 208 (46.3) | 187 (47.3) |
| Substance-dependence symptoms | 221 (49.2) | 195 (49.4) |
| Substance-abuse symptoms | 108 (24.1) | 95 (24.1) |
| Substance use (previous year) | | |
| Tobacco use | 314 (69.9) | 279 (70.6) |
| Alcohol use until drunk | 344 (76.6) | 304 (77.0) |
| Illegal drug use | 385 (85.7) | 341 (86.3) |
| Hard drug use | 256 (57.0) | 230 (58.2) |
| Given birth to or fathered a child | 31 (6.9) | 28 (7.1) |

*Note.* DUI = driving under the influence (of alcohol); ADHD = attention-deficit hyperactivity disorder.
[a]Reporting 3 or more of 15 symptoms *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* conduct disorder.

lives at 87 months after baseline. Seventy-eight respondents (20% of those surveyed) had not committed crimes or spent time in prison in the previous 90 days, nor did they report their current employment status as unemployed or in jail, prison, or detention. Those in this category were less likely than other respondents to report 1 or more symptoms of substance abuse, 3 or more symptoms of substance dependence, or hard drug use in the previous year.

## DISCUSSION

We cannot conclude from the bleak outcomes observed 7 years after youths entered long-term residential care that these programs failed to improve our sample's life outcomes. It is possible that without those services, or with more punitive alternative services, more youths would be dead, in prison, homeless, or unemployed. Although one fifth of those we surveyed were neither criminally active nor in jail and were living productive lives, the large numbers of poor outcomes we observed should raise questions about whether juvenile justice system services are as effective in rehabilitating delinquent youths as they can be.

### Mortality

Twelve youths in our sample died before their 25th birthdays, most from violent causes. For comparison, the overall mortality rate of people aged 15 to 24 years in Los Angeles County was 78 per 100 000 in both 2002 and 2003; our sample's annual average mortality rate of 387 per 100 000 exceeded the county's rate for the same age group by 500%.[30,31] After indirect adjustment by gender and race to account for higher mortality rates among young Black and Hispanic men in Los Angeles,[30,31] men in our sample had a mortality rate nearly 3 times that of young men in the general population.

Nine of the 11 known causes of death involved gunshot wounds or murder, highlighting the dangerous conditions to which many delinquents are exposed even after long-term rehabilitative care. Supplemental analyses provided further evidence of this danger: 60% of the 383 surveyed respondents reported having been shot at with a gun, and 19% reported having suffered a gunshot wound.

**TABLE 3—Odds Ratios (ORs) for 87-Month Criminality, Institutionalization, Substance Use, and Mental Health Outcomes for Adult Participants Remaining at Final Interview: Los Angeles, CA, 2006–2007**

| | | | Race/Ethnicity[a] | | |
|---|---|---|---|---|---|
| | No. (%) | Female, OR | Black, OR | White, OR | Other, OR |
| Total | 383 (100.0) | | | | |
| Criminal behavior (previous year) | | | | | |
| Any criminal behavior | 253 (66.1) | 0.5* | 1.5 | 1.3 | 0.8 |
| Arrested, charged, and booked | 145 (37.9) | 0.2* | 1 | 1.1 | 1.1 |
| Jail or prison (previous 90 days) | | | | | |
| None | 211 (55.1) | Ref. | Ref. | Ref. | Ref. |
| 1–89 days | 78 (20.4) | 0.1* | 1.3 | 0.9 | 1.2 |
| 90 days | 94 (24.5) | 0.2* | 1.6 | 0.5 | 0.8 |
| Criminal behavior (previous 90 days)[b] | | | | | |
| Any criminal activity | 171 (59.2) | 0.6 | 1.5 | 1.4 | 0.7 |
| Vandalism | 23 (8.0) | . . . | . . . | . . . | . . . |
| Possession of stolen goods | 21 (7.3) | . . . | . . . | . . . | . . . |
| Forgery | 4 (1.4) | . . . | . . . | . . . | . . . |
| Larceny-theft (from a store) | 30 (10.4) | . . . | . . . | . . . | . . . |
| Larceny-theft (not from a store) | 21 (7.3) | . . . | . . . | . . . | . . . |
| Burglary | 8 (2.8) | . . . | . . . | . . . | . . . |
| Car theft | 6 (2.1) | . . . | . . . | . . . | . . . |
| Robbery | 7 (2.4) | . . . | . . . | . . . | . . . |
| Simple assault | 75 (26.0) | . . . | . . . | . . . | . . . |
| Aggravated assault | 23 (8.0) | . . . | . . . | . . . | . . . |
| Armed robbery | 2 (0.7) | . . . | . . . | . . . | . . . |
| Rape | 0 (0.0) | . . . | . . . | . . . | . . . |
| Murder | 1 (0.3) | . . . | . . . | . . . | . . . |
| Arson | 1 (0.3) | . . . | . . . | . . . | . . . |
| DUI | 84 (29.1) | . . . | . . . | . . . | . . . |
| Drug sales | 42 (14.5) | . . . | . . . | . . . | . . . |
| Prostitution | 7 (2.4) | . . . | . . . | . . . | . . . |
| Illegal gambling | 56 (19.4) | . . . | . . . | . . . | . . . |
| Drug use (previous year) | | | | | |
| Tobacco | 259 (67.6) | 0.8 | 0.8 | 1.8 | 1.2 |
| Alcohol until drunk | 256 (66.8) | 0.5* | 0.6* | 1.2 | 1.1 |
| Any illegal drug | 250 (65.3) | 1.1 | 1 | 1.2 | 1.1 |
| Hard drug use | 137 (35.8) | 0.8 | 0.6 | 1.7 | 0.8 |
| Substance dependence and abuse (previous year) | | | | | |
| Drug or alcohol abuse | 81 (21.1) | 0.4 | 1 | 1 | 0.6 |
| Drug or alcohol dependence | 103 (26.9) | 1.1 | 0.3* | 1.4 | 1.1 |
| Mental health (previous 90 days) | | | | | |
| Major depressive disorder | 128 (33.4) | 1.1 | 1.2 | 2.3* | 0.9 |
| Attention-deficit hyperactivity disorder | 75 (19.6) | 0.7 | 1.1 | 2.3* | 1.8 |

*Note.* DUI = driving under the influence (of alcohol). Ellipses indicate outcomes for which gender and racial/ethnic differences were not examined.
[a]Hispanics were the reference group.
[b]Persons who spent the previous 90 days in prison or jail were excluded.
*$P \leq .05$.

Similar mortality rates have been found for other groups of juvenile offenders, such as a sample of 1829 youths in Chicago followed for up to 8 years from intake at a temporary juvenile detention center, of whom 65 died.[32] These studies suggest that delinquent youths have a greatly elevated mortality risk. Implementing targeted violence-prevention programs in institutional settings for youthful offenders might increase the survival of delinquent youths,[32] but such strategies may have limited effectiveness in moderating the high rates of community violence to which youths may be exposed upon release from residential care.

## Criminality

Our results indicated that the majority of respondents were still criminally active 7 years after entering a group home, and almost half had spent time in jail or prison in the 90 days before the 87-month assessment. Thus, although some in our sample appeared to desist from criminal behavior, the facilities being studied were unsuccessful in steering most of their juvenile clients away from long-term criminal activity.

Such high rates of ongoing crime and justice-system involvement raise questions about whether the rehabilitation programs offered are having the desired effects. Under experimental or quasi-experimental conditions, such programs do yield positive, albeit modest, effects.[16,17] Our data suggest that costlier rehabilitation programs, even those that are substantially more expensive, could pay for themselves by reducing subsequent offending and contact with the criminal-justice system. In the absence of more expansive services, facilities charged with rehabilitating delinquent youths should be encouraged to adopt practices that have been proven to achieve positive results.[16] The social and justice-system costs associated with these youths suggest that policymakers need to ensure that the best evidence-based interventions are available. In addition, the research community should be actively testing new rehabilitation approaches in an effort to develop more effective interventions.

## Mental Health and Substance Use

Youths entering juvenile facilities throughout the United States have documented high rates of mental health problems and substance-use

**TABLE 4—Odds Ratios (ORs) for 87-Month Social Functioning Outcomes for Adult Participants Remaining at Final Interview: Los Angeles, CA, 2006–2007**

| | | | Race/Ethnicity[a] | | |
|---|---|---|---|---|---|
| | No. (%) | Female, OR | Black, OR | White, OR | Other, OR |
| Total | 383 (100.0) | | | | |
| Marriage and parenthood | | | | | |
| Ever married | 49 (12.8) | 2.6* | 1.1 | 1.8 | 1.6 |
| Currently married | 36 (9.4) | 1.2 | 1.2 | 1.2 | 2.4* |
| Has been pregnant or has gotten someone pregnant | 192 (50.1) | 3.0* | 1.5 | 0.6* | 0.7 |
| Education and employment | | | | | |
| Completed high school or has a GED | 224 (58.5) | 0.9 | 2.4* | 3.7* | 1.8 |
| Worked in the previous year | 243 (63.4) | 1.3 | 0.7 | 0.9 | 1 |
| Current employment status | | | | | |
| Full time | 122 (31.9) | ... | ... | ... | ... |
| Part time | 24 (6.3) | ... | ... | ... | ... |
| Have job but not working | 3 (0.8) | ... | ... | ... | ... |
| Unemployed and looking | 53 (13.8) | ... | ... | ... | ... |
| Unemployed and not looking | 20 (5.2) | ... | ... | ... | ... |
| Full-time homemaker | 7 (1.8) | ... | ... | ... | ... |
| In school or training only | 10 (2.6) | ... | ... | ... | ... |
| In school or training and not going to classes | 1 (0.3) | ... | ... | ... | ... |
| In jail, prison, or detention | 133 (34.7) | ... | ... | ... | ... |
| Disabled | 4 (1.0) | ... | ... | ... | ... |
| Military | 4 (1.0) | ... | ... | ... | ... |
| Some other situation | 2 (0.5) | ... | ... | ... | ... |
| Homeless (previous year) | 54 (14.1) | 1.1 | 1.4 | 2.5* | 2.1 |

*Note.* GED = general equivalency diploma. Ellipses indicate outcomes for which gender and racial/ethnic differences were not examined.
[a]Hispanics were the reference group.
*$P \leq .05$.

disorders.[8] At baseline, more than half of our sample reported 3 or more symptoms of conduct disorder—a rate many times higher than that found in the general population.[8,33] Mental health problems and substance-use disorders persisted among our sample into young adulthood. At the 87-month follow-up, 33% of our sample met criteria similar to a diagnosis of depression, more than 3 times the 8% of Californians aged 18 to 25 years who reported at least 1 major depressive episode in the previous year.[34] Because our study oversampled youths sent to a group home dedicated to substance-abuse treatment, it is less than surprising that the prevalence of substance abuse in our sample at final interview (21%) was double the national average for people aged 18 to 25 years (12%), and that the prevalence of substance dependence in our sample (27%) was almost 3 times the national average for the same age group (11%), despite substance-abuse interventions available in each of the group homes. (National estimates were derived from our analysis of the 2006 National Survey on Drug Use and Health.[35])

Without effective interventions, young offenders' mental health and substance-use disorder symptoms may worsen,[36] their likelihood of criminal recidivism is elevated[37] and, upon being released, they are likely to require ongoing services from both the mental health and justice systems.[38] The importance of screening for mental health problems and providing professional care in these settings has been acknowledged,[10] but these services are still not widely offered.[1,11,12] When youths do receive services, policy barriers may restrict them from continuing to receive formal mental health care upon release. In many states, youths receiving Medicaid support have their health benefits terminated upon entering juvenile justice facilities, and upon their release they may have to wait up to 90 days for these benefits to be reinstated.[11] State policymakers should adopt policies that avoid disrupting mental health care for juvenile offenders.[11] Improving access to mental health care within the juvenile justice system is a crucial component of any effort to improve all the long-term outcomes of juvenile offenders.

## Educational and Employment Outcomes

In 2006, 79% of people aged 18 to 24 years in Los Angeles County had graduated from high school or received a GED, and 71% of people aged 20 to 24 years in Los Angeles reported being employed (data from our analysis of the 2006 American Community Survey[39,40]). These figures compare with 58% of the respondents in our sample who had completed high school or received their GED by age 20 to 24 years, and 45% who reported working (full or part time or in the military) or being unemployed and looking for a job. The majority of those not working in our sample reported their current employment status as being in prison or jail.

Even before they enter formal custody, youths sent to residential placement are at a competitive disadvantage for positive educational and employment outcomes,[14] and placement in these facilities often can exacerbate some of these problems. For instance, social networks that are instrumental in finding jobs may be severed when youths enter the justice system, and placement within this system may expose youths to networks more closely linked with the criminal economy.[41,42] Furthermore, correctional education is often inadequate,[13,14] and job-training programs are rare and variable in quality.[15] However, this is an area where improvements are under way. In the state of California, current reforms aim to improve educational opportunities for the most severe youthful offenders sent to state-run correctional facilities.[13] In addition, a number of new initiatives provide job skills to court-involved youths and link these youths to local employers.[15]

## Study Limitations

Neither the youths in our sample nor the programs they attended were selected to be representative of delinquents or group homes nationally. Thus, the poor outcomes observed

for this sample of youths attending the largest group homes used by Los Angeles County's Probation Department may be quite different from the outcomes demonstrated by other delinquents receiving care elsewhere. Nevertheless, our sample is similar to the national profile of youths in custodial care in many respects. They are characterized by high rates of mental and physical health problems,[5,8] substance abuse, school problems, previous involvement with the juvenile justice system,[1] and reported adversarial conditions in early childhood that compound their risk for poor outcomes later, such as physical and emotional abuse.[43,44] For these reasons, youths in our study, like youths entering residential care programs nationally, are prime candidates for targeted interventions to help improve their future health and well-being. Although the juvenile justice system was designed specifically for this purpose, the results from this study make it apparent that more effective rehabilitation strategies are needed, at least for youths like the ones we studied in Los Angeles.

## Conclusion

Seven years after court referral to long-term residential group-home care, 12 of our sample of 449 youths were dead before turning 25, almost one third were in prison or jail, close to one half did not have a high-school diploma, two thirds reported ongoing criminal activity, and almost two thirds reported illegal drug use in the previous year (and more than half of those acknowledged the use of hard drugs).

Future research could provide insight into the causes of the observed gender and race differences, as well as individual, intervention-specific, or other contextual factors that affect the risk for each of the outcomes presented here. At a minimum, these findings suggest substantial room for improvement in juvenile justice rehabilitation programming. We believe they also point to an urgent need for new thinking and new investment in understanding what resources can be marshaled effectively to move high-risk youths into substantially safer and more hopeful life courses. ■


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## Contributors

R. Ramchand led data analysis and writing. A.R. Morral originated the study, oversaw data collection and data analysis, and assisted with writing. K. Becker led data collection and assisted with data analysis and writing.

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## Human Participant Protection

The Los Angeles Superior Court provided research participation consent for interview staff to approach all youths referred by probation officials to any of the 7 group homes in the study. All recruitment and study procedures were approved by the Los Angeles County Juvenile Court, the Los Angeles County Probation Department, and RAND's institutional review board.

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