The research described in this report was sponsored by the Max C. Fleischmann Foundation. Reports of the Rand Corporation do not necessarily reflect the opinions or policies of the sponsors of Rand research.
MENTAL HEALTH AND MENTAL RETARDATION SERVICES IN NEVADA

PREPARED UNDER A GRANT FROM THE MAX C. FLEISCHMANN FOUNDATION

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R-1800-FLF
APRIL 1976
PREFACE

In the summer of 1973, as a result of numerous applications for grants in the field of mental retardation, the Max C. Fleischmann Foundation was considering having a research organization conduct a study of mental retardation services. In the fall of 1973, the Chairman of the Mental Health Care Facilities and Programs Subcommittee of the Nevada Legislature inquired if the Foundation would finance a broad study of the mental health and mental retardation service system in Nevada. The request received the support of the Director of the Nevada Department of Human Resources. As a result, the trustees of the Foundation elected to broaden the scope of the study to include all mental health and mental retardation services and service delivery programs in Nevada.

At the invitation of the Foundation, The Rand Corporation applied for and was awarded a grant to conduct such a study. After the grant award, The Rand Corporation conducted the study independently of the Foundation. All inquiries concerning the report, and requests for copies, should be directed to The Rand Corporation.

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The study, conducted over a two-year period ending in early 1976, describes the current status of services and service delivery programs for four different groups of mentally handicapped Nevadans, identifies major problems with present services and programs, and recommends solutions. The overall goal is to furnish information to the Max C. Fleischmann Foundation, to Nevada officials, and to the public, on what can be done to improve the quality and quantity of mental health and mental retardation services in Nevada.
ABSTRACT

At least 11,000 people with mental health disorders, at least 11,000 mentally retarded people, and at least 44,000 alcohol or drug abusers needed some type of substantial service in Nevada in 1975. This report summarizes the findings and recommendations of a two-year study of all major services and service delivery programs for these different groups of people. It describes all major public and private programs intended to meet their needs, documents problems with services and programs, and presents recommendations for improvement. Over 60 Nevadans were given the opportunity to review and comment on a draft of this report in early 1976 (including people responsible for every major existing service program) and to update material where any major substantive changes had taken place since the time of our original data collection.

Nevada's official goal for the Division of Mental Hygiene and Mental Retardation with respect to the delivery of services is to "strengthen the delivery system toward a full continuum of mental health and mental retardation services in the least restrictive environment possible, to ensure that needed services are available to all citizens, regardless of age, location, race, sex, creed, or income."

The $35 million being expended annually in Nevada on services for different groups of people with mental health disorders, mental retardation, and alcohol and drug abuse problems is producing beneficial results. Service programs in the state have expanded and improved in recent years, and progress has been made toward achieving the official goal. Numerous major problems still persist, however. Many people are receiving no services, the wrong services, or inadequate services.

Major problems include insufficient service capacity in relation to need, inequitable distribution of services by geographic location, lack of coordination and direction of the service system, poor facilities, inadequately trained personnel in some programs and hence poor-quality services, failure to provide a full range of services, lack of a continuum of levels of intensity of service, failure to have a variety of treatment modalities available to match the variety of people's needs, and a deficiency of information needed for program management and evaluation of program effectiveness.

The report presents 71 recommendations for improving services to people in Nevada with mental health disorders, mental retardation, or alcohol or drug abuse problems. These recommendations are summarized in Table A, grouped by type of service and by three different levels of effort which government officials may choose to make to remedy the problems. The arabic number beside the summary of each recommendation in the table indicates the numerical order in which the complete detailed recommendation is presented in Chap. 2.

Even if there is to be only a slight increase or no increase in the level of effort, by which we mean a 5 percent or less increase in annual expenditures, many of the low-cost recommendations shown in Table A can be implemented. Our several recommendations on management practices and organizational structure, for example, can be implemented at little or no additional cost but can enhance the control, coordination, and performance of the service system. Better program management
### Table A

**SUMMARY OF AREAS OF RECOMMENDATIONS AND COSTS, BY DESIRED CHANGE IN LEVEL OF EFFORT**

(Fiscal Year 1974 expenditures = $35 million)

<table>
<thead>
<tr>
<th>Suggested Priority Areas of Recommendations by Desired Change in Level of Effort</th>
<th>Modest Increase</th>
<th>Meeting All the Needs</th>
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<tr>
<td>Service Need</td>
<td>Estimated annual cost increase of $16 million (46 percent); adopt all “slight or no change in desired level of effort” recommendations in each service need area, plus those listed below</td>
<td>Estimated annual cost increase of $27 million (77 percent); adopt all “slight or no change” and “modest increases in desired level of effort” recommendations in each service need area, plus those listed below</td>
</tr>
<tr>
<td>Direction</td>
<td>1. Establish Regional Direction Centers</td>
<td>3. Expand genetic counseling with respect to mental retardation</td>
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<tr>
<td>2. Strengthen state advisory boards</td>
<td>4. Ensure provision of immunizations, RH desensitization and PKU screening</td>
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<tr>
<td>Prevention</td>
<td>6. Assign specific responsibility for prevention of mental retardation</td>
<td>5. Expand family planning services, and create a high-risk registry for newborns</td>
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<tr>
<td>Identification</td>
<td>10. Provide behavioral and psychological screening once for each young school child</td>
<td>7. Establish health and developmental screening of new school enrollees</td>
</tr>
<tr>
<td>Special Education and Training</td>
<td>11. Screen high-risk groups for mental health disorders</td>
<td>8. Improve Medicaid early screening and follow-up</td>
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<td>13. Allocate special education funds by specific handicap and enforce current standards</td>
<td>12. Increase the number of special education units funded</td>
<td>9. Expand Special Children’s Clinics’ mental retardation diagnostic services</td>
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<td>16. Revise preschool program focus in Community Training Centers</td>
<td>15. Provide appropriate special education and training to mentally retarded Nevada Mental Health Institute (NMHI) residents</td>
<td>14. Increase state special education technical advisory staff and provide technical assistance to rural counties</td>
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<tr>
<td>17. Revise preschool program focus in Special Children’s Clinics</td>
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<td></td>
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<tr>
<td>18. Increase referrals from schools to other service agencies</td>
<td></td>
<td></td>
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<tr>
<td>19. Obtain better information on special education and training programs</td>
<td></td>
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<tr>
<td>Mental Health Services</td>
<td>20. Fill authorized professional staff positions at the Las Vegas Mental Health Center</td>
<td>21. Provide 24-hours-a-day emergency crisis intervention service in mental health centers and Rural Clinics</td>
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<td>22. Increase Rural Clinics efforts for people with substantial mental health disorders</td>
<td>24. Establish a second community mental health center in Clark County</td>
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<tr>
<td>26. Revise the Las Vegas Children’s Behavioral Services staff and the service focus</td>
<td>25. Expand the Reno Mental Health Center into a full community mental health center</td>
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<tr>
<td>29. Provide specified staff mix and client focus in Children’s Behavioral Services residential programs</td>
<td>27. Provide mental health services to mentally retarded people if needed</td>
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<tr>
<td>34. Restrict use of Mentally Disordered Offender Facility to prisoners</td>
<td>30. Correct major deficiencies in mental health services noted in the NMHI accreditation report</td>
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<tr>
<td>36. Provide a physically secure mental health unit at NMHI</td>
<td>33. Establish halfway houses for people with mental health disorders</td>
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<tr>
<td>37. Revise the role of NMHI to fulfill four specified functions</td>
<td>35. Provide specified mental health services in Nevada State Prison</td>
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<tr>
<td>38. Obtain better information on mental health programs</td>
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<table>
<thead>
<tr>
<th>Slight or No Change</th>
<th>Modest Increase</th>
<th>Meeting All the Needs</th>
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<tbody>
<tr>
<td><strong>Mental Retardation Services</strong></td>
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<tr>
<td>40. Do not reduce existing NMHI mental retardation staff size when Desert Developmental Center opens</td>
<td>39. Improve the NMHI mental retardation program to meet JCAH accreditation standards</td>
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<tr>
<td>42. Consolidate state mental retardation program control by removing control of mental retardation services from the NMHI Director</td>
<td>41. Provide the equivalent of the Desert Developmental Center services to northern Nevadans, but defer major facility construction</td>
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<td>44. Expand special education and training, as appropriate, for Eagle Valley Children's Home residents</td>
<td>43. Improve training of state &quot;Technicians&quot; serving mentally retarded people</td>
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<tr>
<td>46. Obtain better information on mental retardation programs</td>
<td>45. Provide special services to mentally retarded prisoners</td>
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<tr>
<td><strong>Alcohol and Drug Abuse Services</strong></td>
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<tr>
<td>47. Obtain better information on alcohol and drug abuse programs and prevalence rates</td>
<td>49. Create a comprehensive alcohol abuse treatment program for the Las Vegas area</td>
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<tr>
<td>48. Streamline the organizational structure for alcohol and drug abuse programs</td>
<td>50. Provide alcohol and drug detoxification services throughout Nevada</td>
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<tr>
<td><strong>Vocational Services</strong></td>
<td>51. Establish rehabilitation houses for rural alcohol and drug abusers</td>
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<tr>
<td>53. Provide specified general vocational services in rural areas, with short-term more specialized services in urban areas for rural residents</td>
<td>52. Establish a full inpatient treatment program for drug abusers</td>
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<tr>
<td>55. Consolidate the Vocational Training program with specified vocational program</td>
<td>54. Double the Community Training Center minimum funding per client</td>
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<td>57. Increase referrals from Employment Security to the Vocational Rehabilitation program</td>
<td>56. Provide vocational education for emotionally disturbed youth</td>
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<tr>
<td>58. Obtain better information on vocational service programs</td>
<td>60. Expand the Vocational Rehabilitation program or shift the caseload emphasis to serve more severely handicapped clients</td>
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<tr>
<td>59. Increase referrals from nonvocational to vocational service programs</td>
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<tr>
<td><strong>Medical Services</strong></td>
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<td>61. Study the effects of mandatory mental health and mental retardation service coverage in private health insurance</td>
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<tr>
<td>62. Supplement state-operated program funds by billing private and public health insurance to extend feasible</td>
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<tr>
<td><strong>Residential Living Services</strong></td>
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<tr>
<td>64. Establish standards for developmental homes and sheltered living apartments</td>
<td>63. Double the size of the developmental home and sheltered apartment living programs</td>
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<tr>
<td>65. Consolidate developmental home supervision responsibility</td>
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<tr>
<td><strong>Income Assistance</strong></td>
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<td>70. Transfer mentally handicapped Aid to Dependent Children recipients to the Supplemental Security Income program, if they qualify.</td>
<td>66. Implement standards and supervision for foster homes and Adult Group Care and Family Care Facilities serving mentally handicapped people</td>
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<td>67. Refer mentally handicapped foster children for services as appropriate</td>
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<td></td>
<td>68. Screen residents of Youth Services Agency facilities for mental handicaps, followed by services as appropriate</td>
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<td></td>
<td>69. Identify financially assistance recipients with mental handicaps, and refer for services as appropriate</td>
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<tr>
<td></td>
<td>71. Provide a state supplement to the SSI payments to mentally handicapped people</td>
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and service effectiveness information can be obtained. The client focus can be shifted in certain programs. And Regional Direction Centers, a key recommendation to improve coordination of the service system, can be established. To begin to resolve most of the major problems, however, expenditures and staff will have to expand.

If the level of annual expenditures is to be increased, we would add certain priority types of recommendations to those cited above for the "slight or no increase in level of effort." Recommendations listed in the "modest increase in level of effort" column of Table A are those which we feel address the greatest gaps in the range of needed services, the greatest deficiencies in service capacity in relation to need, and the most serious deficiencies in the quality of services that are now provided.

For people with mental health disorders, we assign priority to recommendations associated with identifying people in need of service by screening high-risk groups and screening each schoolchild once, expanding special education to serve all seriously emotionally disturbed children the law now says must be served, restructuring and expanding rural mental health services, providing improved follow-up treatment of people released from residential mental health programs, providing intermediate levels of mental health services to those needing them over an extended time period, and substantially upgrading the skills of mental health technicians.

For mentally retarded people, we assign priority to identification of people in need of service by screening each schoolchild once, increasing special education resources to serve all those children the law now says must be served, providing appropriate special education and training to mentally retarded Nevada Mental Health Institute residents, expanding developmental homes and sheltered apartment living opportunities in the community, providing the equivalent of the Desert Developmental Center's range and quality of services to northern Nevadans, improving the training of state "technicians" who serve mentally retarded people, providing special services to mentally retarded prisoners, and bringing the severely deficient mental retardation program at the Nevada Mental Health Institute up to standards of the Joint Commission on Accreditation of Hospitals.

For alcohol and drug abusers, we assign priority to recommendations dealing with the creation of statewide drug and alcohol detoxification services, of a comprehensive alcohol abuse treatment program in the Las Vegas area, of an inpatient drug treatment program analogous to the one for alcohol abuse treatment at the Nevada Mental Health Institute, and of a program for rehabilitation houses plus outpatient treatment in rural Nevada.

If Nevada officials approve an increase of approximately $16 million in annual expenditures, or 46 percent above the FY 1974 level of effort, they will be able to implement all of the recommendations listed in the "modest increase in level of effort" column of Table A. They will not be able, however, to implement many other of our recommendations that we regard as necessary to resolve major service system problems.

If Nevada officials decide to make the effort required to meet all the needs of each different group of mentally handicapped people, then all the recommendations should be implemented. We estimate this would require an increase in annual expenditures of approximately $27 million, or 77 percent above the FY 1974 level of effort. This is not inexpensive, but we believe it will be necessary if Nevada is to achieve its official goal for the mental health and mental retardation service delivery system. Despite recent improvements, great unmet and inadequately met serv-
ice needs still prevail. It is up to Nevada to say how far it is willing to go in meeting those needs.

The study is described and its findings and recommendations are summarized in Chaps. 1 and 2, respectively.
ACKNOWLEDGMENTS

The authors wish to thank the many people and organizations who lent their cooperation and assistance in the course of this study. Foremost is the Max C. Fleischmann Foundation, without whose support the study would not have been conducted. Senator Lee Walker and the joint subcommittee of the Nevada Legislature concerned with mental health and mental retardation care facilities and programs requested and provided public impetus for and endorsement of the study, thereby increasing the cooperation we received. Roger Trounson, in whose Department of Human Resources most mental health and mental retardation programs are administered, provided us with complete access to all program staff and all available information. We received excellent cooperation in our many interviews with both officials and direct service personnel in every major public and private service program in Nevada for mentally handicapped people. Dozens of program clients and their families also contributed their experiences and views, thereby adding a vital component to this study. As we think back over the study, we are gratified by this extraordinary cooperation and assistance.

Several Rand colleagues and consultants provided valuable assistance. Expertise in psychology, psychiatry, medicine, and special education, together with knowledge derived from extensive experience in delivering mental health and mental retardation services, were provided by our consultants Eli M. Bower, Arnold Milstein, Irving Philips, and Robert Rubenstein. Fred Blackwell analyzed computer-based information on Nevada programs. John Pincus, the manager of Rand’s Education and Human Resources program, oversaw the progress of the study. Will Harriss edited and significantly improved the comprehensibility of this report. Patricia Fleischauer and Velma Thompson reviewed and made helpful comments concerning earlier drafts of this report. Additionally, coauthor G. D. Brewer benefited from the environment and fellowship of the Center for Advanced Study in the Behavioral Sciences, Stanford, California, during the academic year 1974-75.

We are grateful for all of this assistance.
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Chapter 1
DESCRIPTION OF THE STUDY

This report describes the results of a two-year study of all major mental health and mental retardation services and service delivery programs for people in Nevada. In the summer of 1973, as a result of numerous applications for grants in the field of mental retardation, the Max C. Fleischmann Foundation was considering having a research organization conduct a study of mental retardation services. In the fall of 1973, the Chairman of the Mental Health Care Facilities and Programs Subcommittee of the Nevada Legislature inquired if the Foundation would finance a broad study of the mental health and mental retardation service system in Nevada. The request received the support of the Director of the Nevada Department of Human Resources. As a result, the trustees of the Foundation elected to broaden the scope of the study to include all mental health and mental retardation services and service delivery programs in Nevada.

At the invitation of the Foundation, The Rand Corporation applied for and was awarded a grant to conduct such a study. After the grant award, The Rand Corporation conducted the study independently of the Foundation. All inquiries concerning the report, and requests for copies, should be directed to The Rand Corporation.

Rand reports do not necessarily reflect the opinions or policies of the sponsors of Rand research. The Max C. Fleischmann Foundation is not responsible for the findings and recommendations of the study, and therefore this report should not be construed as indicating what action, if any, will be taken by the Foundation based on the information and recommendations contained herein.

SCOPE OF THE PROJECT

The study provides information on the size of the current and projected populations of various types of mentally handicapped people, information on the current status of services and service delivery programs for them, information on problems with present services and programs, and recommendations meant to solve those problems and hence improve mental health and mental retardation services throughout the state. The primary focus is on Nevadans of all ages who are afflicted with what are generally called mental health and mental retardation problems that result in a substantial need for special services. A secondary focus is on people with alcohol and drug abuse problems, since alcohol and drug abuse are considered by many to be special types of mental health problems. Major differences exist among those four types of mentally handicapping conditions mentioned above, and hence among service requirements of people afflicted with those different conditions. Consequently, major differences exist among our recommendations for programs to alleviate service problems for those four different groups of mentally handicapped people. We believe a single report provides a more unified perspective than would a separate report for each of those different conditions, however, because several programs in Nevada's current service system serve all four groups of mentally
handicapped people, and because the needs of the different groups are similar in some service areas. In general terms, the major service areas of concern to this study are: prevention of mentally handicapping conditions; identification of people with mental handicaps; direction to appropriate service providers; special education; treatment of mental health disorders; developmental training to ameliorate the effects of mental retardation; alcohol and drug abuse treatment; medical care; vocational services; residential care; and income assistance. The study is concerned with all service delivery programs in both the public and private sectors that serve mentally handicapped Nevadans.1

The time-frame of concern in this study includes both the present and the next ten years. We chose a ten-year planning horizon because many major substantive program and facility changes require five to ten years for full implementation, and hence require planning now. It is both less essential and less feasible to plan fully for more than ten years in the future, because of uncertainties concerning Nevada’s population growth beyond ten years, and because it is not necessary to make immediate decisions on most program changes that would take place so far in the future.

The scope of this project is necessarily large and comprehensive, because the service needs, programs, and problems of serving mentally handicapped people are also large and comprehensive. The literature in the field is vast, but researchers in nearly every phase of the field run up against the same persistent problem we encountered: a serious lack of data upon which to base definitive analyses. Hence, guarded provisos and caveats are often required. Because this is an overview study that must work with available data, it does not pretend to answer all questions.

RESEARCH APPROACH

We have taken a policy-analytic, comprehensive view of the whole system serving mentally handicapped people to enable us to assess the relationships of the system’s constituent parts to its whole.2 Admittedly, because we have chosen to be comprehensive, we may very well have erred in reporting or failing to report details about the service system’s various components; we have worked diligently to minimize this possible problem.

We have also taken a comprehensive, target-population view of the service needs of each different type of mentally handicapped population, to enable us to identify the relationships among service needs and to assess how well the current and proposed service system policies are providing and will provide the mix of services needed by the target population.

In looking at the needs of mentally handicapped people, we found it essential to disaggregate our analysis of the population by type and degree of handicap, by age, and by geographic location, since needs and accessibility to the service system vary with those factors.

1 We use the term “program” in a generic sense to describe a set of interrelated activities with some common unifying concept, such as delivery of a common service (e.g., a special education program), administration by a separate bureaucratic entity (e.g., the Vocational Rehabilitation program), or possession of a common goal (e.g., a program for preventing birth defects).

A series of questions that we posed and attempted to answer illustrate various facets of our research strategy:

- What are the *service needs* of each major subpopulation of mentally handicapped people?
- What are the characteristics of the *current service programs* for meeting those needs?
- What are the *objectives* of various participants in the service system, and how can progress toward the objectives be measured? (See the "Service System Goals" section of this chapter for a discussion of criteria on which the services and programs can be evaluated.)
- What are the *problems* with the present mix of services delivered and in the present structure of programs for achieving the objectives?
- What *recommended policy changes* appear desirable, at what costs, for alleviating problems and improving services?
- Depending on the level of expenditures officials decide to make and depending on objectives, what *priority* recommendations should be selected for implementation from the full set of recommended policy changes?

With the data at hand, we can answer these questions only partially. We discuss the problems created by data deficiencies, and try scrupulously to identify assumptions, limitations, and the extent of data quality and reliability throughout the report.

We use a *multimethod approach*, for in an evaluation as complex as this, no single analytic method will suffice. The specific method used in any given case depends on the question at hand and the available data. Furthermore, the comprehensive, problem-centered approach we have taken is beyond the skill and endurance of any one person; it calls for *interdisciplinary* research. Our group includes people trained in policy analysis and evaluation, psychology, psychiatry, medicine, education, management, political science, sociology, and demography. Our staff and consultive specialists all came from outside Nevada and were independent of the state, to enable us to be as objective and unbiased as possible.

We used a *wide variety of information sources*. To gain an overview of the public and private system of services for mentally handicapped people, it was necessary to collect and analyze a great deal of information. The service system we found was fragmented, which implied that information about it would also be fragmented and that great effort would be required to collect and synthesize the data into a coherent picture. Our information came from several basic sources: interviews with officials responsible for overall service system policy; interviews with direct service personnel and administrators in every major service delivery program in Nevada and many small ones, including many whose primary purpose is not service to mentally handicapped people; interviews with dozens of clients of the service system and, in some cases, their families; interviews with organizations representing mentally handicapped people; program reports and unpublished information from service program data files; direct observations of services being delivered; literature in the various relevant fields; and consultation with professional experts. Finally, in early 1976, over 60 Nevadans were given the opportunity to review and comment on a draft of this report (including people responsible for every major existing service program) and to update material where any major substantive changes had taken place since the time of our original data collection.
THE MENTALLY HANDICAPPED POPULATION

People’s degrees of mental health, mental retardation, or alcohol or drug abuse vary on a continuum in several dimensions. Those dimensions can be defined in terms of various types of functional capabilities, or various types of need for services. Consequently, any definition of a mental handicap must be rather arbitrary. Definitions used are not always consistent among service agencies, nor should they be, since an agency’s definition of a particular handicap, used for establishing a client’s eligibility for service, should be based on the potential client’s need or functional capability as well as ability to benefit from the particular service or services offered by the agency. Chapter 3 of the main text presents various definitions used in Nevada and the best definitions available in Nevada and nationally for each type of mental handicap, along with a discussion of various estimates of the prevalence of each type of mental handicap. Citations to the relevant literature are provided in that chapter for those readers who may wish to pursue the issues of definitions and prevalence rates.

For the purposes of this study, we broadly define a mentally handicapped person as a person with a significant mental impairment that substantially limits his or her functioning in one or more major life activities, and results in a substantial need for special services that nonhandicapped people do not require. Need for service is a relative and not an absolute concept. The admittedly vague term "substantial need for special services" is meant to indicate that the population of concern in this study consists of those people that the majority of society would believe clearly require services. As mentioned at the beginning of this chapter, the study focuses primarily on people afflicted with what are generally called problems of mental health and mental retardation, and secondarily on people with problems of alcohol and drug abuse. Our occasional use of the shorthand generic term “mental handicap” refers to people with one or more of these four problems who need service, but in no way assumes a commonality of need for particular services by so widely diverse a group. The needs of people whose primary problems are with other types of mentally related handicaps, such as cerebral palsy, epilepsy, Parkinson’s disease, and stroke, are equally important but beyond the scope of this study.

Nevada is a mountainous and semi-arid state of approximately 110,000 square miles, with a northern border about 400 miles long, and with eastern and western borders about 500 and 600 miles long, respectively (see Fig. 1.1). The Federal Government controls 87 percent of the land in the state. The state’s total population was about 573,000 in 1974, and Rand’s best estimate is that it will grow to about 759,000 by 1985 (see Chap. 3 of the main text for the method of estimation). The population is clustered primarily in two metropolitan areas. The Las Vegas metropolitan area in southern Nevada has about 56 percent of the population. The Reno metropolitan area in northwestern Nevada has about 24 percent of the population, and the remaining 20 percent is in the large, sparsely populated rural counties. The map of the state shown in Fig. 1.1 contains the estimated 1974 general population by county.

Estimates of the number of mentally handicapped people in the state vary widely depending on the definition used, the data accepted, and the type of service for which the definition is to be used in establishing eligibility. Although we are not fully satisfied with the reliability of the estimates we present, we are confident that they represent the correct order of magnitude of those groups of people requiring
at least some of the special services described in this report. Our approach has been to
develop a range of credible estimates of the prevalence of each disorder, using the
best available data in Nevada and nationally, and then to use the minimum estimate
in the range throughout the report; that way we are reasonably sure that at least
the specified number of people need service, and that program service capacity below
that level is insufficient to meet the need.

Using the low prevalence estimate for each mental disorder yields a conserva-
tive total of at least 66,000 people who needed some type of substantial services in
Nevada in 1975 because of mental disorders; the minimum number in need of
services will grow to an estimated 89,000 by 1985, assuming the percentage of
mentally handicapped people in the general population is the same in both years.
Of the 1975 total, we estimate that at least 11,000 people had mental health disor-
ders, at least 11,000 were mentally retarded, at least 33,000 were alcohol abusers,
and at least 11,000 were drug abusers. If we were to use the upper rather than the
lower end of our range of estimates of prevalence for each type of disorder, the estimated maximum number in need of some services is about 122,000 in 1975 and 163,000 in 1985. Of the 1975 total, we estimate that a maximum of 55,000 people had mental health disorders, a maximum of 17,000 were mentally retarded, and a maximum of 37,000 were alcohol abusers. We did not estimate the maximum number of drug abusers, because of lack of data.

Definitions and prevalence information for each of the types of mental handicaps are summarized next.

Mental Retardation

The most widely accepted definition of mental retardation, both in Nevada and nationally, is "substantially subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period."\(^3\) Adaptive behavior refers to how proficiently the person functions in society; the developmental period extends up to age 18; and substantially subaverage means an IQ test score at least two standard deviations below average (i.e., an IQ score of approximately 70 or below). Using a relatively low estimate of prevalence of 2 percent of the population yields a prevalence of approximately 11,000 retarded Nevadans in 1975 and 15,000 in 1985 (assuming our best estimate of the total Nevada population in 1985). Using the most widely quoted estimate of prevalence, 3 percent of the population, yields a prevalence of approximately 17,000 in 1975 and 23,000 in 1985. (See Chap. 3 of the main text for sources of those estimates.)

Alcohol and Drug Abuse

There are no universally accepted, precise definitions for either alcoholism or drug addiction. The legal definition of an alcohol or drug abuser in the Alcohol and Drug Abuse chapter of the Nevada Revised Statutes is "a person whose consumption of alcohol or other drugs, or any combination thereof, interferes with or adversely affects his ability to function socially or economically."\(^4\) In spite of the definitional and empirical difficulties, however, at least an order of magnitude estimate of the size of the alcohol and drug abuse problem is needed to enable intelligent planning of service programs.

The two techniques in widespread use at the present time for estimating rates of alcoholism or alcohol abuse are based on: (1) deaths due to cirrhosis of the liver (a disease associated with heavy alcohol consumption); and (2) a statistical analysis of alcohol consumption data per capita (to estimate the number of people who regularly drink more than the equivalent of five ounces of ethanol, absolute alcohol, per day). A close correspondence exists between estimates of Nevada's alcoholism rate based on consumption and on liver cirrhosis deaths (8.8 percent of the general population compared to 7.8 percent). Because cirrhosis is a long-term disease that usually does not lead to sudden death, the cirrhosis death rate is most likely a characteristic of the resident population, with few occurrences among nonresidents.


\(^4\) Nevada Revised Statutes, 458.010.
and hence probably leads to a more accurate estimate for Nevada residents. Nevada has the highest rate of alcohol abuse of any state in the country, a rate that yields an alcoholic or alcohol abuser population over age 15 in 1975 of at least 33,000 (using the lower estimate, the cirrhosis-based rate of 7.8 percent). Projecting these figures to 1985 yields an estimated 44,000 people in the alcoholic or alcohol abuser population.

Drug abuse, as the term is used in this report, includes abuse of opiates, hallucinogens, stimulants, depressants, and other dangerous drugs as defined in Chap. 453 of the Nevada Revised Statutes.

It is even more difficult to estimate drug abuse rates than it is to estimate alcoholism rates. Few diseases are associated specifically with drug addiction, as liver cirrhosis is with alcoholism. Even deaths caused by overdoses of certain drugs cannot necessarily be attributed to addiction. Moreover, since the drugs are illegally produced or purchased, there are no gross quantitative data on usage rates analogous to per capita alcohol consumption. Using Nevada survey results as the best available estimate, opiate and other dangerous drug abusers (as distinct from drug users) numbered approximately 11,000 in 1975 and are projected to number approximately 15,000 in 1985 (assuming the percentage of drug abusers in the general population is the same for both years). See Chap. 3 of the main text for a discussion of these and other estimates.

Mental Health

The difficulties of defining and measuring the prevalence of mental retardation and alcohol abuse pale in comparison with those associated with defining and measuring mental health.

As defined in the Nevada Revised Statutes, "mental illness" means "any mental dysfunction leading to impaired ability to maintain oneself and function effectively in one's life situation without external support."

The Nevada requirement for involuntary court-ordered admission and emergency admission to a mental health facility is that a person "has demonstrated observable behavior the consequence of which presents a clear and present danger to himself or others, or presents observable behavior that he is so gravely disabled by mental illness that he is unable to maintain himself in his normal life situation without external support."

An emotionally disturbed child is defined as someone aged 2 to 17 years whose progressive personality development is interfered with or arrested by a variety of factors so that he shows impairment in the capacity expected of him for his age and endowment:

1. For reasonably accurate perception of the world around him;
2. For impulse control;
3. For satisfying and satisfactory relations with others;
4. For learning; or
5. For any combination of the above.

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5 Ibid., Chapter 433, as amended by Senate Bill 374, Sec. 19, Nevada Legislature, 1975.
6 Ibid., Sec. 22.
7 Ibid., Sec. 14.
For purposes of this study, we consider a person to have primarily a mental health problem if he or she has a substantial need for psychological or psychiatric services primarily due to a mental disorder other than mental retardation or alcohol or drug abuse. Of course, people with primarily mental retardation or alcohol or drug abuse problems may also need psychological or psychiatric services, but such people are considered separately in this report. Thorough evaluation of each client is desirable, however, since more than one disorder may be present; for example, a drug abuser's primary problem may be a severe psychological disorder. The term "substantial need" is meant to indicate that the population of concern in this study consists of those people the majority of society would believe clearly require mental health services. The term "mental health problems" will include primarily the problems of people in five of the American Psychiatric Association (APA) categories: virtually all psychotic people, but only people with the more severe disorders within the categories of organic brain syndrome, neurosis, personality disorder (not due to alcohol or drug abuse), and transient situational disturbances. (See Chap. 3 of the main text for APA definitions of those categories.)

The question then is how one estimates the prevalence of need for substantial psychological services in Nevada. The answer is that one cannot do so accurately. The best we can say is that the prevalence is on the order of 2 to 10 percent of the population based on national data presented in Chap. 3 of the main text, and that 2 percent is probably a conservatively low estimate. We could also resort to a variety of indicators. Although the annual suicide rate is not an unambiguous indicator of the rate of mental health disorders in a population, the two rates are related. In 1973, the latest full year for which statistics are available, the annual rate of suicides per 100,000 population was 12.0 nationally and 22.3 in Nevada. Thus, as suggested by one measurable scale at least, the prevalence of mental health disorders in Nevada may be above the national average. Using the minimum 2 percent figure for the prevalence of mental health problems in Nevada yields an estimate of about 11,000 people in 1975 and about 15,000 in 1985. Using the maximum 10 percent figure yields an estimate of 55,000 people in 1975 and 75,000 people in 1985.

SERVICE SYSTEM GOALS

Having considered the nature and size of the mentally handicapped population in Nevada needing some type of substantial service, we now turn to the issue of goals for the service delivery system. We note a similarity in the stated goals of various service system participants in Nevada. We also note a tendency for goals to be stated in rather general terms, such as to "ensure needed services are available to all citizens." Since need is a relative and not an absolute concept, to be most useful such goals should be and often are operationalized with detailed statements of the characteristics of people eligible for services, and estimates of the number of people with those characteristics. See Chaps. 3 to 14 of our main text for details that make the following goals more operational.

The official state goal for the Nevada Division of Mental Hygiene and Mental Retardation with respect to delivery of services is to "strengthen the delivery system toward a full continuum of mental health and mental retardation services in the
least restrictive environment possible, to ensure that needed services are available to all citizens, regardless of age, location, race, sex, creed, or income.\textsuperscript{9}

The concept of "normalization" as a goal of the service system is often heard in Nevada with respect to mental retardation, although it is more general. Normalization has been defined in various ways; one definition, stated in terms of mental retardation, is "making available to the mentally retarded patterns and conditions of everyday life which are as close as possible to the norms and patterns of the mainstream of society"; another definition, more generally stated, is "utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics which are as culturally normative as possible."\textsuperscript{9}

The state goal for the Nevada Bureau of Alcohol and Drug Abuse is "to provide a network of services for the prevention of addiction, treatment, and rehabilitation of the chemically addicted."\textsuperscript{10}

The Nevada Developmental Disabilities Council\textsuperscript{11} has pledged to work for "the protection of the rights of every individual who, by reason of being classified as developmentally disabled, is in any way restricted in his liberty or otherwise deprived of his human and civil rights by any external authority and the development and utilization of a full range of services and resources for the individual with a developmental disability..."\textsuperscript{12}

From our discussions with handicapped people, their families, and organizations supporting their cause, we surmise that if mentally handicapped people were to set goals for the service system, those goals would be consistent with the stated goal of the Nevada Division of Mental Hygiene and Mental Retardation, the objectives of the Nevada Developmental Disabilities Council, and the concept of normalization. In reality, however, these goals have been attainable only for selected individuals because serving all mentally handicapped persons requires a financial commitment that the state and society in general have not been willing to make. Governor Mike O'Callaghan and the Nevada Legislature have demonstrated agreement with the above-stated goals through their actions in approving expansion and improvement in services to mentally handicapped people in recent years, including 1975. However, state officials have other important program goals that can conflict with and prevent complete fulfillment of goals for improving services to mentally handicapped people. For example, Governor O'Callaghan, in his inaugural address in January 1975, set forth a fiscal goal that limits all state expenditures: "I will ask no new general taxes or increases in existing general taxes during the 1975 legislative session," a restatement of a pledge made at his first inauguration in 1971.\textsuperscript{13} The actions of the Nevada Legislature demonstrated agreement with the Governor on this fiscal goal. As a consequence, not enough resources have been available to

\textsuperscript{10} Wolf Wolfsenberger et al., \textit{The Principle of Normalization in Human Services}, National Institute of Mental Retardation, Toronto, Canada, November 1972.
\textsuperscript{11} \textit{State Goals}.
\textsuperscript{12} Mental retardation is one major type of developmental disability.
\textsuperscript{14} Governor Mike O'Callaghan, in his inaugural address in Carson City, Nevada, on January 6, 1975, as reported in "Governor: No New Taxes or Increases," \textit{Nevada State Journal}, Reno, Nevada, January 7, 1975.
permit full achievement of the goals of the mentally handicapped population and the primary state agencies that serve them.

Multiple measures are required for assessing service system performance in relation to complex goals. Because we are dealing with complex goals, it is useful to consider a set of dimensions on which services and programs can be measured and evaluated:

- Effects on the quality of life of the mentally handicapped person, and of other people in his or her social orbit
- Future economic effects
- Equity of service distribution to the population
- Protection of civil and human rights of mentally handicapped people
- Sufficiency of service capacity in relation to need
- Quality of services available
- Degree of coordination of the service system
- Availability and accessibility of a full range of types of needed services
- Availability and accessibility of a continuum of levels of intensity of service
- Availability and accessibility of a range of treatment modalities to match the range of people's needs
- Current costs—resources consumed

While these goals and dimensions are laden with words requiring value judgments, they are nonetheless useful in evaluating service policy options. In general terms, enhanced performance of the service system on all but the last dimension or measure is desirable in helping to achieve the mentally handicapped population's goals and the stated goal of the Nevada Division of Mental Hygiene and Mental Retardation. The last measure listed—current costs—indicates the current resources consumed to achieve enhanced performance on the other dimensions. These dimensions are discussed in some detail in Chap. 8 of the main text under the heading "Desirable Features of a Service System."

The difficulty is that basic information is necessary before one can use those multiple measures to make comparative judgments about policy options in relation to goals. The application of those measures to Nevada is restricted by the deficient data available, especially on service effectiveness. Great precision should not be expected. With the available data, often all one can say with any confidence is that such-and-such a policy change would result in "major quality-of-life improvement" or "low cost relative to future economic benefits," or "filling a gap in needed services." Nonetheless, that may be enough. A sound policy choice can often be made if such general statements are known to be valid.

**STRUCTURE OF THIS REPORT**

The remainder of this report is divided into two parts. The first part consists of an overview of the study's recommendations (Chap. 2) for improving services to people with mental health disorders, mental retardation, or alcohol or drug abuse problems. The second part contains a detailed description of the mentally handicapped population (Chap. 3), followed by our detailed findings and recommendations for major types of service needs: direction to appropriate service providers
(Chap. 4); prevention (Chap. 5); identification (Chap. 6); special education and training services (Chap. 7); nonresidential mental health services (Chap. 8); treatment for alcohol and drug abuse (Chap. 9); residential mental health and mental retardation services (in separate sections of Chap. 10); vocational services (Chap. 11); medical services (Chap. 12); residential living (Chap. 13); and income assistance (Chap. 14). Within each chapter, services for people with mental health disorders, mental retardation, and alcohol or drug abuse problems are discussed separately whenever their needs differ.
Chapter 2
SUMMARY AND RECOMMENDATIONS

INTRODUCTION

This chapter summarizes the findings and recommendations of a two-year study of all major mental health and mental retardation services and service delivery programs for people in Nevada. By conservative estimates, at least 11,000 people with mental health disorders, at least 11,000 mentally retarded people, and at least 44,000 alcohol or drug abusers needed some type of substantial service in Nevada in 1975.

We have arrived at recommendations for improving services to these very different types of mentally handicapped people, beginning with their basic service needs. A client's specific service needs will depend on such factors as type and severity of mental handicap, age, previous services received, and others. The different basic service needs considered in this study are:

- Prevention of the mentally handicapping condition
- Identification of the mental handicap
- Direction to appropriate service providers
- Special education
- Treatment for mental health disorders
- Developmental training and other services to ameliorate the effects of mental retardation
- Alcohol and drug abuse treatment
- Medical care
- Vocational services
- Residential care
- Income assistance

Our research strategy, as outlined in Chap. 1, involves taking a comprehensive view of both the service system and the population needing service. We estimate the size and service needs of the four different types of mentally handicapped people, and analyze the characteristics of all major public and private Nevada service programs for helping to meet those needs. We consider the objectives of various participants in the service system, and several dimensions on which to measure progress toward those objectives. We then describe problems with the current service system, and present recommendations for resolving those problems and approaching the official state goal for the mental health and mental retardation service delivery system. Finally, considering the anticipated costs and effects of each recommendation, we suggest priorities for which recommendations to select for implementation from the full set of recommendations. Those priorities are suggested as a function of three different levels of expenditure effort Nevada officials may decide to make in resolving current problems and improving services.

In early 1976, over 60 Nevadans were given the opportunity to review and comment on a draft of this report (including people responsible for every major
existing service program) and to update material where any substantive changes had taken place since the time of our original data collection.

This chapter summarizes public and private expenditures for services to mentally handicapped Nevadans; discusses problems with those programs; summarizes our recommendations in each area of service need; and, in the last section, suggests priorities on implementation of our recommendations according to three different levels of expenditure effort state officials may choose to make to remedy the problems. Chapters 3 to 14 of the main text present the detailed data and analysis.

TOTAL SERVICE EXPENDITURES AND STAFF

Programs providing services to mentally handicapped Nevadans spent more than $35 million in FY 1974, as shown by type of service in Fig. 2.1. The number of full-time-equivalent staff providing those services was about 1150. Refer to Chaps. 4 to 14 of the main text for sources of these data by type of service. We have not summed the number of people served by all programs because one cannot meaningfully do so with the available data; people often are served by more than one program in a year, with the result that adding the numbers served by all programs entails an unknown amount of multiple counting.

![Diagram of service expenditures]

Fig. 2.1—Estimated FY 1974 expenditures for mentally handicapped Nevadans
Later sections of this summary discuss each type of service separately and present available data on expenditures, staff, and numbers of people served by each different type of mental handicap (mental health disorder, mental retardation, and alcohol or drug abuse).

PROBLEMS WITH THE PRESENT SERVICE SYSTEM

To place matters in perspective, the $35 million expended annually on services for mentally handicapped Nevadans is producing beneficial results. Although service programs in the state have expanded and improved in recent years, Nevada still has a long way to go to provide all the services that are needed. Major problems still abound, and many people are still receiving no services, the wrong services, or inadequate services.

Given insufficient resources to meet all the needs, compromise and priority-setting are necessary; tradeoffs must be made between the number of people served and the quality of services provided to each of them. Nevada’s mental health and mental retardation service system superficially appears to be nearly comprehensive, since it offers programs in most areas of service need. Unfortunately, that appearance is deceptive. Some programs are embryonic; although well intended, they are small and fall far short of filling the needs. Some programs are shallow; although they serve relatively large numbers of people, they are often not providing adequate substantial services to those people.

Later sections of this chapter summarize, for each type of service and for each current program, the many problems Nevada should resolve if it is to improve services for people with mental health disorders, mental retardation, and alcohol and drug abuse problems.

In reviewing the various problems after completing our work, we noted that certain classes of problems occurred again and again among the services and programs: insufficient service capacity in relation to need, inequitable distribution of services by geographic location, lack of coordination and direction of the service system, poor facilities, inadequately trained personnel in some programs and hence poor-quality services, failure to provide a full range of services, absence of a continuum of levels of intensity of service, and failure to have a variety of treatment modalities available to match the variety of people’s needs. Finally, too little information is available for program management and for evaluating the effectiveness of programs. Professionals working in the service system in Nevada are well aware of most of these problems, which are not new—nor are they unique to Nevada by any means.

The lack of sufficient service capacity in relation to need is the single most important problem we noted. Still, inadequate service capacity is not the only problem. As we detail later in this chapter, even without major increases in funding levels, some things can be done to improve the services themselves, the organizational structure of the service system, the matching of services with clients, and information on the service programs.

In sum, Nevada’s mental health and mental retardation service system is providing needed and beneficial services; with improved organization and support, the system could be far better.
Concerted action on the part of state and local officials is called for if the problems of mental health disorders, mental retardation, and alcohol and drug abuse are to be handled effectively in Nevada. It would be inappropriate for us to try to prescribe that action in detail, but we can provide an action agenda as a starting point. Chapters 3 to 14 of the main text provide the detailed rationale for this agenda, which is summarized below.

SUMMARY AND RECOMMENDATIONS: INDIVIDUAL SERVICE NEEDS

In the following eleven sections we consider the service needs of the individual mentally handicapped person in the following order: direction, prevention, identification, special education and training, mental health treatment, mental retardation services, alcohol and drug abuse treatment, vocational services, medical care, residential living, and income assistance. Whenever appropriate, each section separately discusses and makes recommendations for people with mental health disorders, mental retardation, or alcohol or drug abuse problems. This procedure is essential because there are great differences in the service needs of people with those very dissimilar handicaps, and great differences in the problems associated with current programs intended to meet those needs.

Following the discussion for individual services, we conclude by considering priorities and costs for our recommendations, which are summarized in Table A in the Abstract of this report.

DIRECTION

People who are searching for needed services find a labyrinth of ill-coordinated and highly specialized programs that tax their ingenuity and perseverance in the search. Each current program and its staff usually provide only one or a few specialized services; even if each program and professional does perform well, a single service may meet only a small fraction of the mentally handicapped person’s total service requirements. Of course, it is not fair to blame individual professionals for the lack of coordination and direction; they almost never are given the specific responsibility and resources to provide coordination and direction of each client to all needed services. A specially designed direction program is needed for that purpose. For a more detailed discussion of direction and coordination of services than appears below, see Chap. 4 of the main text.

Direction is an information-based service that attempts to match a client’s needs with an appropriate mix of available services. It also provides coordination and continuity among the many programs designed to meet those needs. Because a client’s needs change over time, the direction concept further requires periodic and systematic reassessment of needs to ensure a “best mix” of services, a mix that is appropriate in amount, quality, and costs of services. The direction service program also could coordinate such important services as prevention and identification, which are not the prime responsibility of any agency in Nevada and are provided unevenly now.
Direction is not well developed in most public service systems in the United States; for mentally handicapped people in Nevada, it is in a primitive state of development. No single identifiable program in Nevada, either public or private, is primarily concerned with direction. In the scattered offices that do provide some direction, it is not the main order of business and is typically provided only on an ad hoc basis. Some slight and incomplete direction service is to be found in the two Special Children's Clinics in the Division of Health, in the two Mental Retardation Interdisciplinary Committees run by the Division of Mental Hygiene and Mental Retardation (only for mentally retarded applicants and clients of the Division's residential treatment programs at the Nevada Mental Health Institute, the two Mental Retardation Centers, and the program of sheltered residential living in developmental homes), and at Nellis Air Force Base (only for military-related people). And, doubtless, some individual public health nurses, social workers, teachers, psychologists, physicians, and others working within the system try to secure a complete range of needed services for individual clients. However, needed services are not always available, as later sections of this report will make abundantly clear. The lack of coordinated services and direction to services that are available remains a major deficiency in Nevada as elsewhere.

In sum, there is almost no comprehensive direction service in Nevada. Information about the overall service system and its components, its clients, its effectiveness, and its deficiencies is simply not available in comprehensive form either to those who need services or to those who are responsible for providing them. In this situation, much of the responsibility for matching an individual's needs with the available services falls by default to the handicapped person or to family and friends. Mentally handicapped people are likely to be poorly equipped for that task, and friends and relatives confront the same lack of information as everyone else. Poor direction and coordination of services have stark implications for the overall operation of the service system. The system should not be expected to work very well when poor direction and coordination exist, and it often does not work well.

Adequate coordination and direction have not been achieved and probably cannot be achieved by relying solely on the individual staff members of various programs. We believe it is better to establish a separate state program responsible for direction and coordination of the service system on behalf of individuals. The information essential for direction and coordination comes from all service programs, and it is more efficient to have that information available and up to date in one place than to try to keep every program up to date on every other program in sufficient detail so that every program could provide a complete and effective direction service. Assigning direction and coordination responsibilities to a separate program staff also would visibly place primary responsibility for direction with that staff, and would eliminate the possibility of having direction and coordination neglected because attention is diverted to meeting other pressing service demands (as can easily happen when a program is primarily responsible for some other service). Another argument in favor of having a separate state direction program is that there are interdependencies among different service programs that may not be adequately taken into account if direction were to be provided by each of those various programs rather than by a separate state-level program. For example, benefits and costs of a service program may be received or borne beyond the bounds of that particular service program; these benefits and costs can be termed "externalities" from the
viewpoint of that particular service program. If direction and coordination of client services by each of these particular service programs is provided by a separate state program, then certain factors that are external from a particular service program's viewpoint can be internal from the viewpoint of the state direction program with its broader perspective.

Furthermore, it is unlikely that anything less than a separate state direction program will achieve the desired coordination of services for individuals, since it is unlikely that other existing state service programs can be effectively coordinated in practice by personnel who are not placed above those programs in the bureaucracy.

We consider the following to be critical requirements for a quality direction and coordination service program, to be administered by the Regional Direction Centers we recommend below. The program should:

- Be a well-publicized point of entry to the service system and a one-stop source of information to match the individual's needs with available services and facilitate access to the most appropriate available services.
- Maintain information about all components of the public and private system, so that individuals can be effectively matched with the most appropriate available services.
- Maintain the information base of the service system on paper rather than merely in people's heads, so that the information is readily transferred when personnel turnover occurs.
- Create a specific and comprehensive service plan for meeting each client's particular needs to the extent feasible with the existing service system, and coordinate with other programs to obtain needed available services for the client.
- Collect and maintain information on each with adequate privacy safeguards, to facilitate planning and delivery of services for the individual.
- Serve as a representative for individual clients in interacting with the service system, to facilitate service delivery.
- Provide for periodic review, through active follow-up, of the appropriateness of the mix of services being provided to each client in light of changing needs and programs.
- Provide a multidisciplinary staff, since people trained in a single discipline generally cannot provide all the expertise needed to plan for the wide range of services needed by mentally handicapped people.
- Provide separate staff expertise for people with needs due to mental health problems, mental retardation, and alcohol or drug abuse problems, since the service needs and programs for serving those groups are significantly different.
- Provide direction and coordination as the primary service of the program, so that attention is not diverted to meeting other pressing service demands.
- Be separate from other major direct service programs in the bureaucracy, so that it is not captured by those programs, and so that too much emphasis is not placed on direction to certain services.
- Be publicly rather than privately provided, since it is unlikely that the private sector could coordinate public sector programs.

RECOMMENDATION 1: Establish two Regional Direction Centers: one in Reno to serve all of northern Nevada, and one in Las Vegas to serve all of southern Nevada.
with separate but cooperating staff for mental health, mental retardation, and alcohol and drug abuse clients. We further recommend that these centers be placed under the operational control of the Nevada Department of Human Resources, and be placed above the administrative level of the various divisions providing the services that the Regional Direction Centers would coordinate. Since not all service programs are within the Department of Human Resources, e.g., education and private service programs, the Direction Centers may need legal authority to coordinate with and exchange information with other public programs, and to provide limited information (with the individual’s permission) to private service programs. Privacy safeguards on the information will be essential.

The direction center personnel would not duplicate other services, such as diagnosis, if those services are already provided adequately for an individual in another program such as a mental health center. Initially, the direction center personnel would not have direct authority over other operating program personnel, but would attempt to coordinate services to individuals through persuasion and the exchange of information. Later, if the voluntary approach proves inadequate in Nevada, the direction centers might need to be given greater power. The intent is not to duplicate existing services or dictate to existing programs, but to make them more co-ordinated, responsive, and effective. While these Regional Direction Centers are highly placed in the bureaucracy, the Centers themselves should be located regionally within Nevada to be near the direct service programs and clients they are supposed to match together. Some mechanism will have to be developed for providing direction to rural clients, perhaps a traveling component of the Las Vegas and Reno Centers.

We recommend starting small, with a staff of perhaps 6 at the Northern Nevada Regional Direction Center and perhaps 12 at the Southern. The operating procedures could be developed, tested, and refined on this small scale with a limited number of clients. If shown to be worth the relatively small cost per client, they could be expanded later.

Offsetting cost reductions and other significant benefits are to be gained if Regional Direction Centers are created. Standardized, accurate, and rapidly accessible management information (necessary for effective and efficient management, but currently not adequately available) could be provided. Additional quality-of-life benefits would accrue to mentally handicapped people and their families from receipt of appropriate services. Dollar-benefits are to be derived from savings in services that people will not need later in life because of more adequate provision of services needed now. Savings in needless rediagnosis and recertification also would be realized by a simple transfer of client records from the direction center to various other servers (although the diagnosis itself might be made originally by some other program, e.g., a mental health center or rehabilitation program). Savings would result from more efficient matching of the needs of a handicapped person with locally available services. The cost per person for a direction and coordination service is not in itself high, and the potential benefits and later savings from that service could be large, but they cannot be accurately estimated using available data.

The Regional Direction Centers would provide coordination for the individual

\[1 \text{ The Regional Direction Centers we propose are significantly different from the California Regional Mental Retardation Centers (see Chap. 4).}\]
client. Other bodies functioning at the service system level and involved in overall interprogram planning are the Nevada Governor's Mental Hygiene and Mental Retardation Advisory Board, the Nevada Alcohol and Drug Abuse Advisory Board, and the Nevada Developmental Disabilities Council. The essential difference between these bodies' planning and the Regional Direction Centers we propose is that these bodies are primarily concerned with planning for the service system whereas the Regional Direction Centers are primarily concerned with planning for service to particular individuals.

The Governor's Advisory Board presently functions at the Division of Mental Hygiene and Mental Retardation level; its responsibilities include reacting to goals, budgets, and program plans prepared by the division, and acting as a liaison body between the division, the community, and the legislature.²

The Nevada Alcohol and Drug Abuse Advisory Board and the Developmental Disabilities Council presently function at the bureau level within the Nevada Division of Rehabilitation. (Developmentally disabled people include those who are afflicted with mental retardation, cerebral palsy, or epilepsy to the degree that their condition is substantially handicapping and is expected to continue indefinitely.) The responsibilities of the Developmental Disabilities Council include developing a state plan and evaluating programs for the state's developmentally disabled population; it also has a federal- and state-supported budget of about $111,000 in FY 1975 to support its activities and use in providing grants for projects.³ Like the Governor's Advisory Board, the Developmental Disabilities Council does not presently see preliminary budgets, preliminary goal statements, or preliminary program plans for the various service agencies in the state.⁴ Consequently, the Board and the Council do not have as much input to major service system decisions as they might have.

RECOMMENDATION 2: Inputs to major service system decisions by the Nevada Governor's Mental Hygiene and Mental Retardation Advisory Board, the Nevada Developmental Disabilities Council, and the Nevada Alcohol and Drug Abuse Advisory Board should be strengthened significantly. To carry out this recommendation effectively, consideration should also be given to having the Developmental Disabilities Council placed in a higher position within the bureaucracy. Since the functions of the two boards and the council are complementary to those of the Regional Direction Centers, and since the centers will have a great deal of information that can be of use to those other bodies, some formal relationship between them could be developed.

For a more detailed discussion of direction and coordination, see Chap. 4 of the main text.

PREVENTION

Three classes of prevention can be distinguished. Primary prevention denotes

² Interviews with members of the Governor's Mental Hygiene and Mental Retardation Advisory Board, Las Vegas, Nevada, January 6, 1975.
³ Nevada Rehabilitation Division, Biennial Report, Department of Human Resources, Carson City, Nevada, 1975.
⁴ Interview with M. Kechn, President, Developmental Disabilities Council, Carson City, Nevada, May 9, 1974.
activities performed for the entire population at large, not specifically the handicapped population; secondary prevention is done for the limited population of identified high-risk groups of people who are vulnerable to developing mental disorders; and tertiary prevention includes all treatment and rehabilitation of handicapped people. Prevention of mental disorders is so self-evidently a "good" objective that no one can dispute its usefulness or desirability, but only its costs, methods, and feasibility.

Prevention is far harder to practice than to preach, however. Nevada's programs for the prevention of mental disorders are in an embryonic, underdeveloped stage, but the state is not alone in that regard.

Current expenditures in Nevada for the prevention of mental handicaps are impossible to estimate accurately; so is the number of handicaps prevented. Some very small but inestimable fraction of programs to improve societal-environmental living conditions for the general population can be considered as going for primary prevention of mental handicaps. More directly, some small fraction of expenditures for maternal and infant care, counseling, family planning, nutrition, immunizations, Medicaid, and other programs contribute partly to the prevention of mental handicaps, but we have no meaningful way of estimating that fraction with available data. The only expenditures we identified that we could specifically attribute to the primary and secondary prevention of mental handicaps were: alcohol and drug abuse education, about $300,000 a year; genetic testing and counseling for mental retardation, about $75,000; and less than $50,000 for Crisis Call and Suicide Prevention telephone programs. For a more detailed discussion of prevention of mental disorders than appears below, and for citations of the literature on prevention, refer to Chap. 5 of the main text.

Prevention of Mental Health Disorders

So little is known about the specific causes and prevention of mental health disorders that preventive measures lack precision and it is difficult to evaluate their effects. Prevention of mental illness is not a new idea, but it is seldom made into an operational program. How does one "prevent" disorders whose causes are so poorly understood?

Genetic control programs are of no significance in practice today. In the absence of etiologic data, genetic counseling for mental health problems has yet to pass from the realm of academic inquiry into application. Providing a stable and stimulating living environment is a preventive "good," but then so are many similar activities. Teaching people how to know themselves, to perceive and understand reality, to make realistic plans, to relate to others, to care and be cared for, to accept and deal with change, to accept responsibilities, and to practice effective birth control are all potential preventive approaches. For all of these approaches there exist related intervention practices, but for all of them—approaches and practices alike—the preventive aspect of reducing mental health disorder is still open to question. There is less doubt about the need to increase public awareness of mental health problems, but even here there are few clear prescriptions, many all-too-clear problems, and not many notable successes.

Society is somewhat better equipped to provide secondary prevention to help "identified vulnerable, high-risk groups," but there are problems here, too. A person with a high risk of developing a mental disorder is too seldom in touch with skilled
mental health providers to be identified early, so that secondary preventive measures can be taken. More often than not the disorder develops and advances over an extended period of time. Ultimately, if fortunate, the person is taken on by a competent psychologist or psychiatrist, by which time the object is treatment, not prevention. Procedures should be designed to make the mental health service system and its prospective clients more readily accessible to each other.

Characteristic practices identified as secondary prevention include counseling for people who are grappling with one of life’s many crises, such as the death of a family member, serious illness, handicaps, accidents, and economic deprivation; helping people resolve problems of interpersonal relations; and identifying “developmental” and “situational” conflicts early enough that appropriate treatment can be pursued (the distinction between treatment and prevention blurs at this point).

Faced with so many possible secondary prevention practices, the problem from a policymaker’s viewpoint is exceedingly complex. Which practices are the most effective? Which ones work at all? The lack of data poses fundamental and unresolved difficulties. All that can be said responsibly is that any or all of these practices may reduce the incidence and prevalence of mental health disorders.

Allocating scarce resources, the practical matter at hand, involves setting priorities. In light of the rudimentary state of knowledge about the primary and secondary prevention of mental health disorders, we believe there are more demonstrably effective ways for Nevada to spend money than on additional primary and secondary prevention, important though that is. Consequently, we make no recommendations for additional expenditures in this area. However, we do note that some of our recommendations later in this report, such as those for improving the identification of people with mental health disorders and for improving the service capability of the mental health service system, will enhance early treatment of mental health disorders and hence improve tertiary prevention.

Prevention of Mental Retardation

There are more than 200 identified specific causes of mental retardation, including metabolic errors, genetic anomalies, drug abuse, environmental pollution, radiation of pregnant women, infections, accidents, and improper nutrition. Societal conditions affecting behavioral adaptation are also related to mental retardation, but the data are poor on the nature and extent of the relationships.

Many types of mental retardation can be prevented, including several of the more prevalent types. Reliable genetic information for a host of retardation-causing disorders can be provided to parents and prospective parents (e.g., those most likely to have abnormal children) but social, emotional, and moral problems are associated with this procedure. For example, society knows how to detect Down’s Syndrome (mongolism) in the unborn fetus, but prevention at the fetal stage depends on family decisions regarding therapeutic abortion. Immunization can prevent infectious diseases that cause retardation, but many children are not immunized. Although very low in prevalence, retardation caused by PKU (phenylketonuria) is largely preventable through dietary means in children whose disorder is diagnosed early enough. Development and use of the Rh desensitizing gamma globulin for mothers has reduced jaundice in the newborn and thus has also reduced incidence of the associated mental disorder, kernicterus.
Nevada offers direct service programs for people who are already mentally retarded. Those programs can be called tertiary prevention programs in the sense that they work to help mentally retarded people to alleviate or eliminate their functional retardation. Nevada has only a few programs for the secondary prevention of mental retardation, however, and they are uncoordinated, highly undeveloped, and, as a consequence, not available to all Nevadans in need.

**RECOMMENDATION 3:** Expand genetic testing and counseling capabilities, and create a high-risk registry for parents and potential parents of mentally retarded children. We stress that genetic testing and counseling would be provided on a voluntary basis; the intention is not to tell families what to do, or to offer value judgments on a family's decisions, but to provide them with information they can use in arriving at their own decisions to conceive and bear children. The Special Children's Clinics provide a limited amount of this service now. The expansion we are recommending is to have a full-time genetic testing and counseling team in northern Nevada, and another in southern Nevada. Those two teams could also travel to rural areas part-time to provide service. The creation of a high-risk registry (with information and direction-like referral built in) would help make genetic counseling available to those most likely to benefit from it. The registry could include, among others, pregnant women over 35 and under 17, and families with a history of a retardation-causing metabolic disorder or an inherited genetic disorder capable of causing mental retardation. The various medical, mental retardation, and special education programs in the state would serve as sources of referrals.

**RECOMMENDATION 4:** Implement monitoring and enforcement mechanisms to help ensure that all children of early school-age are immunized against potentially handicapping infectious diseases, that all newborn children are screened for PKU, and that Rh desensitization is provided when needed. PKU screening, Rh desensitization, and immunization for measles and rubella are effective and economically justifiable in helping prevent mental retardation and other handicapping conditions. (See Chap. 5 of the main text for details.) In accord with Nevada law, PKU screening is supposed to occur routinely for newborns. These preventive services are relatively well provided in Nevada, but mechanisms are needed to ensure that coverage of the subject populations is as nearly universal as possible.

**RECOMMENDATION 5:** Soon after the birth of a child, provide family planning information to the parents, and create a registry and provide follow-up for children born abnormal or at high risk of being mentally retarded or having some other handicap. Family planning practices are related to the likelihood of having a mentally retarded child. The registry and follow-up for high-risk children would be especially valuable in permitting early detection of retardation or other handicaps, so that preschool special education and training and other services (tertiary prevention) could begin at an early age. The Southern Nevada Special Children's Clinic has a pilot project underway to develop a registry and follow-up for children born abnormal or at high risk.

Good prenatal and perinatal medical care is an important factor in preventing retardation. The main question is how to secure such care for pregnant women and new mothers if they are not receiving it. One can envision increased outreach by public health nurses and others to women who are not likely to seek good prenatal health care, and to women who do not return for routine and periodic checkups of their babies. Perhaps the largest improvement, however, would come from lowering
financial barriers to good medical care. The state, for example, might consider requiring that private insurance carriers cover prenatal and perinatal care fully, without deductibles, including coverage of the child from the moment of birth.

RECOMMENDATION 6: Establish specific responsibility for mental retardation preventive services within the Department of Human Resources (perhaps in combination with the new unit for direction services recommended earlier). We are not saying that these personnel who are assigned overall responsibility for prevention should operate all prevention programs, since some functions reside appropriately elsewhere in state government. Rather, we are saying that preventive efforts need to be coordinated, and someone needs to take responsibility for guiding the building of a high-quality system of preventive services in Nevada. Placing this responsibility at the state level would help ensure that at least a minimum level of preventive services is provided in each geographic area of the state.

Prevention of Alcohol and Drug Abuse

Unlike many mental health problems, alcohol and drug abuse often involves acts of choice, at least insofar as a person decides to drink or use drugs in the first place and often decides when and how often to do so. For this reason prevention programs may well have important long-term consequences in reducing and controlling alcohol and drug abuse.

At the present time, however, there has not been a major investment in prevention programs at federal, state, and local levels; the great bulk of funds has been invested in direct provision of treatment services to alcoholics and drug addicts. Nevada is no exception. Aside from some educational programs for schoolchildren, there is very little prevention in Nevada; some TV spots have been prepared by various groups, but there is no really major "public education" campaign in progress. In total, we estimate that the annual alcohol and drug abuse prevention expenditures by all sources in Nevada are on the order of $300,000 to $400,000, with a full-time-equivalent staff of no more than five people.

Preventive measures have not proved to be especially effective, with the possible exception of the strict supervision and regulation of the production of drugs and alcohol, which cannot be done effectively at the state or local level. Alcoholism is similarly resistant to prevention. Prohibition, a thirteen-year "social experiment" in prevention and social control, was a failure. Some deterrent effect of unknown extent is probably achieved, however, through high liquor taxes, prohibition of sales to minors, and restrictions on locations and times of sale, all of which at least reduce drinking opportunities. Treatment and public education undoubtedly reduce the problem to some extent, but no conclusive work has been done to establish the relative merits and effectiveness of the few preventive options available.

Unfortunately, no one can say with certainty what kinds of alcohol and drug abuse prevention programs are effective and should be promoted. The volitional element in alcohol and drug abuse, which makes prevention theoretically attractive, affords a ray of optimism in this otherwise murky picture. But until better information is available on the effectiveness of alcohol and drug abuse prevention programs, we cannot recommend any major expansion in the current prevention program in Nevada.

For a more detailed discussion of prevention programs, see Chap. 5 of the main text.
IDENTIFICATION

Identification, in the context of this study, is the recognition and accurate assessment of a person’s disabilities and abilities. Four observations were corroborated again and again in our interviews with agencies and in our investigations of data on services provided: (1) agencies usually do not serve a significant portion of the population in need; (2) agencies generally do not even know approximately how many unserved people there are, much less who they are; (3) very few agencies have effective outreach or screening programs to identify the population in need; and (4) referral and follow-up for those who are identified are often lacking.

All of Nevada’s efforts to screen for potential mental handicaps prior to full diagnosis, and to reach out to find potential clients for service programs cost perhaps $200,000 to $250,000 in FY 1974. These cost figures do not include the cost of diagnosis following screening, nor do they include the cost of personnel who notice a possible mental disorder while they are primarily involved in providing some other service (e.g., education, medical, or social welfare services). The primary screening and outreach efforts were the early screening program for Medicaid-eligible children; a school screening program for all children in one rural county (the two counties with large populations, Clark and Washoe, do not screen all schoolchildren for mental handicaps); an outreach program of the two state Special Children’s Clinics; and small, still rudimentary outreach programs at the Reno and Las Vegas Mental Health Centers. For a more detailed discussion and analysis of identification services than appears in this section, refer to Chap. 6 of the main text.

In general terms, people who have mental health disorders, mental retardation, or alcohol or drug abuse problems, currently become identified to the service system primarily through either of two mechanisms: (1) personnel in some segment of the service system (e.g., police, private physicians, and teachers) have “trouble” with an individual, or notice symptoms of a disorder, or (2) the individual or his or her family seeks assistance. Even after a mentally handicapped person is identified by one part of the service system, the mechanism of making referrals to all other appropriate service programs is often not used; therefore, the person is often unidentified, and unserved by, some or all of those other programs. Regional Direction Centers would help resolve this latter problem.

There are several plausible reasons for the current weakness of identification as a service. In noting what appears to be the main reason in Nevada, our intent is not to excuse the current situation but to lay out the underlying rationales that must be understood in order to effect remedial courses. In interviews with service providers, we were repeatedly told that the paucity of available services discourages identification and referral initiatives; if the service system is already overburdened, it is logical to ask why one should bother hunting for still more clients. There are three answers to that question:

- Not all of those with the greatest need or the greatest ability to benefit from services are among those known to the service system. Since service needs exceed service capacity in most areas, each program could set priorities and use its limited resources accordingly. However, even if they have defined high-priority types of clients, they cannot be serving as many of the high-priority clients as they might serve, since not all those high-priority clients have been individually identified.
- Were more of those in actual need identified, then the service system might eventually decide to respond with a more adequate level of services. If a clear picture is lacking of the overall population's needs, including the names of people needing service, it is unlikely that sufficient service system capacity and a range of adequate services to meet these needs will be provided; that situation currently prevails in Nevada.
- People in need can benefit from knowledge of the nature of their condition, even if we assume that the public sector cannot serve them or chooses not to. With accurate and reliable information about the basic condition and services required, people with mental problems and their families are somewhat better prepared to help themselves and to seek out private sources for service.

The following recommendations are aimed at the problems noted above. Certain of the ideas developed above on prevention are relevant to identification. In particular, recall our earlier recommendations for creation of a registry and follow-up of children born abnormal or at high risk of being mentally retarded or having some other handicap. Reporting to the registry by medical personnel could be mandatory. The registry and follow-up for high-risk children would be especially valuable in permitting early detection of retardation or other handicaps, so that preschool special education and training and other services could begin at as early an age as is desirable.

RECOMMENDATION 7: Require parents of children beginning their first year of school, or entering a Nevada school for the first time from out of state, to present to the school as a condition of admission of the child either (1) the results of an approved health and developmental screening by an approved professional, or (2) a statement that the parents have decided not to have their child receive the screening services. There is no formal mechanism to screen and identify children, a key target population for any physical health, mental health, or mental retardation service system, after they leave the newborn nursery and until they enter elementary school. In this case we are speaking of a medical examination designed to detect a range of potentially debilitating mental and physical conditions so that services may be offered at as early an age as is desirable to help alleviate the effects of the mental or physical disorder. This screening is valuable but not infallible for two primary reasons: parents may choose not to have their children screened for various reasons; and the screening methods for the detection of mental disorders at the age of 4 or 5 years are not as valid and reliable as we would like them to be. Nonetheless, most of the more severely disordered children can be detected with existing screening methods. Care must be taken, however, not to label children for whom the results of the screening and later diagnosis are not clear-cut. Before implementing this recommendation, the screening mechanisms to be used would have to be carefully considered. If these recommendations were adopted, the Medicaid Early and Periodic Screening, Diagnosis, and Treatment program would pay for the screening for Medicaid-eligible children. The results of the screening would be forwarded to the state (to a Regional Direction Center, ideally), where they could be used to follow up to see that the various appropriate mental health and mental retardation programs provide needed service at as early an age as is desirable, and to aid in planning future service programs. Implementation of privacy safeguards for people identified will be essential. Churchill County already has a commendable screening program.
provided by both medical and school district personnel for every child entering the school system. California has recently implemented a related program (see Chap. 6 of the main text for descriptions of those different but related programs).

RECOMMENDATION 8: Adopt procedures to help ensure that (1) all Medicaid-eligible children and youth up to age 21 years receive early and periodic screening, unless such screening is formally refused, and (2) follow-up steps are taken to obtain diagnosis and treatment for those who need them. Nevada has implemented the federally required Medicaid Early and Periodic Screening, Diagnosis, and Treatment program, but the program as implemented does not check to see that all Medicaid-eligible children are screened, and does not always adequately follow up on the results of the screening. The Regional Direction Centers (if created) would be useful in making referrals and coordinating needed services and follow-up. We note that implementation of this Medicaid screening would facilitate not only the provision of needed services, but also the transfer of eligible clients from the Aid to Dependent Children program to the more desirable Supplemental Security Income program (see the "Income Assistance" section of this report for details).

RECOMMENDATION 9: Provide increased funding for the two existing Special Children’s Clinics, distributed between the two clinics more equitably on a per capita basis than it is now, including stable funding of a traveling multidisciplinary team to perform diagnoses in rural areas for people of any age thought to be potentially mentally retarded. This would provide improved diagnostic services for mentally retarded people. We note that some rural counties do not even have a school psychologist who could help with diagnoses.

RECOMMENDATION 10: Establish a screening program in every county school district to identify all mentally retarded and seriously emotionally disturbed children who need special education and other services. A school district cannot adequately serve children with mental handicaps and refer them for other services if it does not know who they are. The schools are an ideal setting for identification of mental handicaps in young people of school age, since nearly all children are assembled, observed, and compared on a routine basis. Since screening of schoolchildren is feasible and not excessively costly, and the human and economic costs can be great if young handicapped people do not receive timely special services, all children should be entitled to at least one behavioral and psychological screening to detect possible mental retardation or serious emotional disturbance. Nevada lacks such a program. School psychologists in most counties do not screen all children; and since there are many unidentified mentally handicapped children in school, the mechanism of relying solely on teacher referrals has not been very effective. We earlier suggested that a medical and developmental screening program reach children before they first enter school. Here we are recommending that the schools conduct a different behavioral and psychological screening of all children when they reach a specified age (perhaps 7 or 8 or 9 years old) to identify any who were missed in the preschool medical and developmental screening or whose mental health or mental retardation problems developed or became identifiable in the years since the preschool screening.

RECOMMENDATION 11: Screen high-risk populations to identify people who might be offered immediate mental health and other needed services to help alleviate existing mental health disorders before the subjects become more seriously ill or dysfunctional. While a mechanism does not exist to readily reach everyone in high-
risk populations, many can be reached by the mechanism of screening people who are in contact with public service systems for other reasons. For example, likely candidates for screening would be abused children and their abusers who come to the attention of health, welfare, and criminal justice personnel, juvenile and adult offenders, residents in the two Nevada Children's Homes, emotionally disturbed schoolchildren, children of a psychotic parent who is in contact with the mental health service system, and some callers to Crisis Call and Suicide Prevention lines.

For a more detailed discussion of identification, see Chap. 6 of the main text.

SPECIAL EDUCATION AND TRAINING SERVICES

Nevada law requires special education of all handicapped minors of particular ages. We are primarily concerned here with special education services for seriously emotionally disturbed children and youth to age 18 years, and special education and developmental training of mentally retarded people. While highly important, the special needs of children the education agencies term "learning disabled" are not within the central scope of this report if they are not primarily mentally retarded or seriously emotionally disturbed. However, we present data on the special education programs' services to children the education agencies term "educationally handicapped," since children who are primarily emotionally disturbed, mentally retarded, or learning disabled, are sometimes served together in Nevada under the label of "educationally handicapped," and since many children can be classed as either or both emotionally disturbed and learning disabled under the rather vague definitions of those terms (see Chap. 7 of the main text for a detailed discussion of those definitions).

The major special education and training programs serving mentally handicapped Nevadans spent more than $9 million for them in FY 1974; those programs are operated in two state departments, in county school districts, and in the private sector. The county school district special education programs provide the vast majority of all special education and training services, and operate under standards of the Nevada Department of Education with partial state funding; the Community Training Centers program consists of six very small private centers operating under guidelines and partial funding from the Nevada Division of Mental Hygiene and Mental Retardation; the Special Children's Clinics operated by the Nevada Division of Health have two small preschools and infant stimulation programs (the one in Reno is a cooperative program with the Washoe County School District); and the Washoe County School District operates a special education and training program at the Nevada Mental Health Institute for retarded youth. In addition, a small federally funded program, P.L. 89-313, provides special education personnel at some state facilities (see Chap. 10 of the main text for a description).

Of the more than 3700 mentally or educationally impaired children receiving special education in FY 1974, only about 100 emotionally disturbed children are identified as being served in Clark, Churchill, and Washoe Counties combined. No seriously emotionally disturbed child is known to be receiving any appropriate special education service in any of the other counties in Nevada. About 1644 mentally retarded children and youth received special education in FY 1974. Over half of the possibly mentally impaired children served are not identified as either men-
tally retarded or as seriously emotionally disturbed; nearly 2000 "educationally handicapped" children received special education in FY 1974. The characteristic most often possessed in common by educationally handicapped children is low academic achievement, and some of these children undoubtedly are mentally retarded or seriously emotionally disturbed, or both. Even so, the total number of children served with all types of mental and "educational" handicaps combined is far below the minimum estimate of the total number of seriously emotionally disturbed and mentally retarded children needing those services. Nevada is below the national average in terms of the number of seriously emotionally disturbed and mentally retarded children in special education in relation to total school enrollment, and even the national average leaves much to be desired. Despite the state law requiring special education of all handicapped minors, we estimate that in relation to the minimum number of Nevadans needing special education and training services, only about 4 percent of seriously emotionally disturbed children are identified as such and served, and only about 54 percent of mentally retarded children and youth are served. Even if one assumes that every educationally handicapped child served is either mentally retarded or seriously emotionally disturbed (which is certainly not true), only about 63 percent of those in need are being served.

Although Nevada's special education and training programs are improving, several problems with those services for mentally handicapped children and youth can be identified. They include insufficient funding and service (less than half of those conservatively estimated to be in need are served); inequities in service by type of mental handicap (services specifically for seriously emotionally disturbed children are nonexistent in most Nevada counties and are provided to a token number in a very few other counties); a questionable allocation of about half of the limited special education resources available for serving mentally handicapped people to people with the generally less severe "educational handicaps"; differential service by sex (boys outnumber girls in special education in Nevada two to one, and we seriously question whether there are twice as many handicapped boys as handicapped girls in the general Nevada population); and inequities in service by geography (for all handicapped children in the remoter rural areas of every county, and for trainable and more severely mentally retarded children in the entirety of all but a few counties). Those problems also include insufficient attention to the transition from school to adult services (e.g., to the vocational rehabilitation program if those services are needed); lack of programs in schools for comprehensive identification of all mentally handicapped children needing services (none of the three largest school districts, which contain three-quarters of the state's school-age population, has a screening program reaching all children); lack of direction to other service providers; and lack of information (at the state level, even the number of mentally handicapped children in special education is not accurately known, and quantitative data on the effectiveness of Nevada's special education are virtually nonexistent). Finally, there is a problem of an inadequate number of professional staff to manage the special education program at the state level (only two consultants), and of triplication of preschool education responsibility at the state level (among the Department of Education, the Division of Health, and the Division of Mental Hygiene and Mental Retardation). Of all the problems listed, the greatest by far is the large fraction of seriously emotionally disturbed and mentally retarded children who receive no special education at all.
The primary concern, then, is to expand special education services and make them available to all seriously emotionally disturbed and all mentally retarded children and youth who need them, as is required by law. In our view, the two factors most responsible for restricting the number of mentally handicapped children receiving special education are: (1) the limited number of units (basically, special education professionals) for which the state will provide financial support, and (2) the lack of identification programs for mentally handicapped children in the county school districts. Obviously, a school district cannot serve mentally handicapped children if it does not know who they are. To help remedy this lack of knowledge, we earlier recommended that a screening program be implemented in each school district.

RECOMMENDATION 12: Provide state financing for an additional 230 special education units above FY 1974 levels specifically for seriously emotionally disturbed children, and an additional 163 units above FY 1974 levels specifically for mentally retarded children. This would furnish special education to a total of 2650 seriously emotionally disturbed children and 3030 mentally retarded children, the minimum number we estimate need such services. If more than those minimum numbers of handicapped children are identified by the screening program we have recommended, the number of special education units can be adjusted accordingly. The Nevada Legislature has been ambivalent by mandating special education for all handicapped children but failing to allocate funds to cover the expense. The legislature did significantly increase the number of units in 1975, however, and thus continued the growth of the special education system. Since special education of all handicapped children is legally required in Nevada, we suggest a state goal of having every handicapped child in special education by 1980. (A lawsuit also has been filed in Nevada to force the provision of special education to all handicapped children; this is essentially the same lawsuit that has been won in other states on constitutional grounds.) While spreading the action over a five-year period does not solve the problem of unmet needs immediately, it will allow time to identify the children in need, to modify facilities and retrain personnel, and to hire high-quality new special education teachers. Cost estimates for implementing this and other special education and training recommendations are developed in Chap. 7 of the main text.

RECOMMENDATION 13: Make the definitions of handicapping conditions issued by the Nevada Department of Education more specific, place limits on the number of units by type of handicap, including seriously emotionally disturbed children as a separate category, and enforce all special education standards. Inequities in service by type of handicap may be only partially resolved by increasing the number of units funded. Under current definitions used in Nevada education, children with significantly different service needs are lumped together under the term "educationally handicapped." The term is so broad that large numbers of children could find themselves labeled unnecessarily, and many children who do not have substantial handicaps (e.g., children who need only remedial reading) might be placed in special education, while those with substantial handicaps might go unidentified and unserved if funds are not earmarked for them.

RECOMMENDATION 14: Significantly increase the special education staff of the Nevada Department of Education to at least 10 full-time-equivalent professional staff members so that they can provide guidance and consultative technical assistance to rural county school districts, and so that they can more adequately manage their
major responsibilities in the area of special education. The two consultants who
currently make up the state special education professional staff are to be commend-
ed for the fine job they are performing, but they are only human; a much larger staff
is needed. Since it is not reasonable to expect the rural school districts to have, on
their full-time county staffs, all of the specialized and expensive special education
expertise they may need, the Nevada Department of Education should provide for
consultation and technical assistance to rural special educators.

RECOMMENDATION 15: Provide nearly all mentally retarded Nevada Mental
Health Institute residents with special education and training services appropriate
to their level of development; provide those special education and training services
away from the institutional setting for nearly all residents; and provide a teaching
aide and adequate equipment and materials for each special teacher. The present
numbers of teachers, aides, equipment, and materials are inadequate in relation to
the clear need. Service away from the institutional setting would enhance the
education, training, and quality of life of residents by giving them wider exposure
to the normal situations and experiences of everyday life.

RECOMMENDATION 16: Focus the preschool portion of the Community Training
Center (CTC) program in rural areas on developmental stimulation and training
for the more severely retarded children below age 3 only. In the Las Vegas and Reno
areas, have the CTCs serve only adults, leaving developmental stimulation and train-
ing for the more severely retarded children below age 3 to the Special Children's
Clinics. The CTC program as presently operated is a dichotomous entity that pro-
vides two basically different kinds of service to mentally retarded people: a preschool
program, and a program of day-care, activities of daily living, prevocational, and
vocational (including sheltered work) services for the more severely mentally re-
tarded people about age 18 or above. This recommendation for a change in CTC focus
arose primarily because the age range for mandatory special education of mentally
retarded children by the public school system was lowered by the Nevada Legisla-
ture to age 3 in 1975. These changes in focus will decrease the present fragmentation
and triplication of responsibility for preschool special education and training pro-
grams. Also see recommendation 54, which concerns the funding of Community
Training Centers.

RECOMMENDATION 17: Have the Special Children's Clinics program transfer
their 3- and 4-year-old nursery-school children to the county school districts and
concentrate its very limited resources on identification of preschool-age retarded
children, direction of their families to other service providers, counseling of families with
retarded children, and developmental stimulation and training for the more severely
mentally retarded children below age 3. The Nevada Division of Health's Special
Children's Clinics program presently operates two small nursery schools and infant
stimulation programs, primarily for preschool mentally retarded children who were
not served by the county school districts in FY 1974. This recommendation is made
possible by 1975 legislation which requires the special education by public schools
of 3- and 4-year-old mentally retarded children.

RECOMMENDATION 18: Improve referral from special education to other
programs serving mentally handicapped children and youth. In particular, increase
the number of referrals to Vocational Rehabilitation of mentally handicapped youth
well before they leave school, and increase the number of referrals of seriously emo-
tionally disturbed youth (whether or not they are in special education) to the local
mental health center or rural mental health clinic, or Children’s Behavioral Services program. The schools are not designed to provide every type of service well, nor should they be, since other programs exist to provide those services. These referrals could all be made and followed up by Direction Centers, if they are created. In the event that other programs do not have adequate resources to serve all those in need of service, then priorities should be established and all referred youth should be screened so that high-priority needs are met first.

RECOMMENDATION 19: Obtain improved program management and effectiveness information for each Nevada special education and training program. Available information on special education and training in Nevada is inadequate for effective program management, accountability, evaluation, and planning (recall that we are not even sure exactly how many mentally handicapped children are in special education).

For a more detailed discussion of special education and training services and cost estimates for the above recommendations, see Chap. 7 of the main text.

MENTAL HEALTH SERVICES

Nonresidential Mental Health Services

Nonresidential mental health services include outpatient, emergency care, and day treatment psychological services. They are delivered in Nevada primarily through Mental Health Centers, Children’s Behavioral Services programs, Rural Clinics, Suicide Prevention and Crisis Call lines, by psychological counselors in schools, by the military, and by psychiatrists and psychologists in private practice. Residential treatment services for mental health disorders, and all services by the Nevada Mental Health Institute, are discussed in the next subsection. For a more detailed discussion and analysis of these programs than appears in this summary, see Chap. 8 of the main text. Desirable features of a psychological service system are described in some detail in a separate section of that chapter. Basically, we take the eclectic position that people experience a variety of kinds of mental health problems, which should be dealt with by a variety of kinds of professionals and paraprofessionals in the least restrictive environment possible, employing a variety of approaches and treatment modalities as appropriate to the particular individual’s problems. Our orientation is that no one single modality or approach is the best for every client, and hence no one (such as drug therapy or behavior modification) should be used almost exclusively by a mental health service agency.

We have estimated that, as of 1975, at least 11,000 Nevadans have significant mental health disorders that result in a substantial need for psychological or psychiatric services. That figure is a conservative minimum estimate; the true figure may be as much as five times that, or 55,000 people. The two predominant segments of the nonresidential mental health service system currently intended to meet those needs are the private psychiatrists and psychologists, and the Nevada Division of Mental Hygiene and Mental Retardation. Of the estimated $3.3 million in public and private funds spent in FY 1974 for nonresidential mental health services in Nevada, the Nevada Division of Mental Hygiene and Mental Retardation accounted for about 51 percent, private psychiatrists and psychologists accounted for about 42
percent, and the remaining 8 percent was provided through various other agencies. A total staff of about 171 people provided services in person to a maximum caseload of about 10,500; another approximately 6800 callers to Suicide Prevention and Crisis Call Centers were served by telephone. To some degree, however, these numbers represent apparent rather than actual service achievements for the mental health service system. For reasons given immediately below, the number of different people with mental health disorders served in person in FY 1974 is significantly less than 10,500; one cannot conclude that nearly all 11,000 people needing substantial psychological or psychiatric services (our minimum estimate) are being served. The 10,500 figure is a count of the number of cases served by the various agencies, and includes: double-counting if people were served by more than one agency in a year or were admitted to the same agency’s program more than once; counting of people served who do not have substantial mental health disorders (e.g., some parent-effectiveness trainees in the Children’s Behavioral Services program, some consciousness-raising group participants at the University of Nevada, some mildly neurotic people served by private professionals, and various types of people served by Rural Clinics, such as those receiving premarital counseling); and counting of people who are not really served (e.g., those who are counted as cases but who do not return after an initial intake interview—33 percent of outpatient cases at the Las Vegas Mental Health Center were of this type). Finally, cases reported by the agencies may represent people served who have substantial mental health disorders, but who were inappropriately served because of the nonexistence of a service they needed, such as day treatment, or inadequately served by a relatively unskilled and untrained mental health technician.

We could not accurately determine what fraction of the 10,500 cases reported as served by the programs represented different people with substantial mental health disorders who were adequately served, so we have reported the maximum 10,500 figure and caution the reader as to its meaning.

In two of the recommendations in this section we urge specific Nevada programs to increase the emphasis on service to people with the more severe mental health disorders. This means a shift in emphasis for those specified programs and should not be interpreted to mean that only severely mentally handicapped people should be served. There also is a clear and important need to serve people with less severe mental health disorders when effective treatment methods are available. Several of our recommendations are specifically aimed at improving services to less severely handicapped people.

There is a major difference in the total amount of nonresidential mental health service delivery per capita by geographic region: rural counties have a combined public and private caseload of about 11 per 1000 population, Clark County has about 17 per 1000, and Washoe County has about 26 per 1000. The relatively underserved rural area of the state receives almost no services from private psychiatrists and psychologists; most of the service that is provided comes from the state Rural Clinics mental health program, which has a seriously deficient staff. Clark County is better served on a cases-per-capita basis, and Washoe County is by far the best of the three areas on that same measure. However, that measure does not reveal the fact that in Washoe County the mental health center provides only a limited range of services that are not appropriate for all persons’ needs; it does not provide a needed day treatment program or 24-hours-a-day emergency care, for example. This major
difference in the level of service per capita in different geographic regions also exists in the public service system considered by itself, despite the fact that the public service system is state operated.

The problems we note with respect to nonresidential mental health service include: insufficient service capacity to meet the minimum need in each area of the state, with the greatest deficiency being in rural counties; mental health technicians inadequately trained and supervised in relation to their mental health treatment responsibilities; lack of a continuum of levels of nonresidential services in each area; excessive reliance on a single treatment modality in some programs in 1974; inadequate follow-up service to people released from the Nevada Mental Health Institute; few services to emotionally disturbed children in the schools; and almost no mental health services for mentally retarded people.

RECOMMENDATION 20: Fill all authorized professional staff positions at the Las Vegas Mental Health Center. A number of problems noted with both residential and nonresidential services at the center in 1974 (problems with intake assessment, staff supervision, and smooth transition from one level of care to another) could be resolved if the center had all authorized professional staff positions filled. The administrator of the Las Vegas Mental Health Center indicates that as of February 1976, the "vast majority" of these professional positions are filled. The one major problem that cannot be resolved by filling those professional positions is the lack of training and skills of the mental health technicians; a subsequent recommendation will deal with this problem for mental health technicians in all programs.

RECOMMENDATION 21: Provide 24-hours-a-day emergency crisis intervention service in every mental health center and in the Rural Clinics mental health program. While it is obvious that people with mental health disorders require emergency help at times other than weekdays from 8 a.m. to 5 p.m., some of Nevada's major current mental health programs do not have 24-hours-a-day emergency crisis intervention service. This emergency service should include an in-person crisis clinic plus the ability to provide emergency care on an overnight basis if needed, so as to provide needed service and also help avoid unnecessary hospitalization. For details see the section of Chap. 8 of the main text entitled, "Desirable Features of a Psychological Service System." We assume that staff members on duty evenings, nights, and weekends would provide more than just emergency services, to the extent possible, so they are efficiently utilized. For example, emergency services can now be provided by nonweekday staff on the residential service units of the Las Vegas Mental Health Center.

RECOMMENDATION 22: Substantially increase (at least double) the staff of the Rural Clinics mental health program; have a full range of professional skills represented on the staff so that a full range of treatment modalities can be used; substantially upgrade the skills levels required of mental health technicians as described in a subsequent recommendation; continue in operation the present offices in rural areas; and provide for visitation of each rural office one day a week by a traveling multidisciplinary team of senior mental health professionals to supplement the lower-skilled rural office staff. Nonresidential mental health services to rural Nevadans are substantially worse, in both quantity per capita and quality, than those available in Las Vegas and Reno. Because it is probably not feasible to staff each rural office with a full team of professionals, we suggest a set of two traveling teams, each on the rural office circuit about half the time. Thus, skills such as those of a psychiatrist, which are needed for chemotherapy and other modes of treatment
but are not needed full time, would be available in each rural area. Local rural office staff would provide outpatient follow-up and emergency services. Traveling teams would complement and supervise the local office staff, assist on difficult cases, and help to follow up discharged residential patients. Residential mental health services needed by rural residents would be provided by the Nevada Mental Health Institute, probably by the same personnel who make up the two half-time traveling teams. Thus, two full-time teams could serve rural residents; each would work half-time with patients from rural areas at the NMHI while the other was visiting Rural Clinics offices.

RECOMMENDATION 23: Increase the Rural Clinics efforts on what appears to be the greatest need, service to people with substantial mental health disorders. The current Rural Clinics personnel are spreading themselves thin trying to do many different things and are not adequately serving most people with substantial mental health disorders. Rural Clinics is an excellent example of a small, embryonic program with admirable goals that exists mainly on paper as far as many rural Nevadans, especially those with the more severe disorders, are concerned.

RECOMMENDATION 24: Establish a second community mental health center (CMHC) in Clark County. The present Las Vegas Mental Health Center is operating at nearly full capacity and there are still clear unmet needs in the county, e.g., in the areas of follow-up of released residential service patients, service to emotionally disturbed children and adolescents, service to rural residents of Clark County, and service to mentally retarded people with mental health problems. The main problem with the existing Henderson Mental Health Center is that it is extremely small in relation to the two-thirds of the Clark County population in the geographic catchment area it is supposed to be serving. The small Henderson Mental Health Center does not provide a full range of services and is not located near the center of the population it is supposed to serve. We suggest the present Henderson Mental Health Center be retained as a satellite office of a new community mental health center designed on the order of the present Las Vegas Mental Health Center and located on the opposite side of Las Vegas. Population growth in Clark County that will occur before a new CMHC could be operational adds further weight to arguments favoring a new CMHC. No one really knows for sure how many people need mental health services in any of the three major areas of the state, but the existing pressure on the service system in each of the three areas (Clark, Washoe, and rural counties) indicates a critical need for expanded service capacity. Given Las Vegas's current and projected populations, there appears to be ample evidence to support two full community mental health centers for the metropolitan area.

RECOMMENDATION 25: Expand the Reno Mental Health Center to a full community mental health center on the order of the one now operational in Las Vegas. In the Washoe County area, the main problem with nonresidential mental health services is that a full continuum of services is not provided. The Reno Mental Health Center functions primarily as an outpatient program for adults plus a small day treatment and outpatient program for adolescents. Both the adult and adolescent programs are operating at full capacity, still not meeting the need, and people must be turned away. Day treatment for adults is not provided, nor are 24-hours-a-day emergency services or short-term residential care outside the NMHI in Sparks. Rural residents and mentally retarded residents are not now served. Population growth will significantly increase the need for a new community mental health
center before it can become operational. We do not believe the NMHI should function as a community mental health center for Washoe County; it has enough other functions (described later in this section) for which it appears better suited and which will use its staff to full capacity. The catchment area for the new community mental health center would be all of Washoe County plus the Lake Tahoe and Carson City areas, since we believe these would be better served by satellite offices linked to a community mental health center in Reno than by the Rural Clinics program, which does not provide a full range of mental health services.

When the northern Nevada Children’s Behavioral Services (CBS) program is fully implemented, the Reno MHC Family Unit service program and staff for children and adolescents should work in close cooperation with it to maximize coordination of services and continuity of care for children and youth. If the northern Nevada CBS program serves only children under age 13, as the Clark County CBS program now does, there will be a need for services to youths aged 13 to about 18 that the Reno MHC program could concentrate on.

**RECOMMENDATION 26:** Have the Children’s Behavioral Services program provide more complete initial assessment of the mental health problems and service needs of the children it serves than it did in 1974, concentrate more of its resources on those children with the more severe mental health disorders than it did in 1974, and broaden the mix of professional skills on its staff to include specifically both physicians with specialty training in psychiatry and psychologists so that a more complete range of treatment modalities can be provided. The program in Clark County in 1974 was dominated by one mental health discipline (psychology) and one mode of treatment (behavior modification), which is not always the most appropriate mode of treatment for every mental health disorder. CBS might be fortunate enough to hire a physician with specialty training in both psychiatry and pediatrics; if not, then the program would also need to provide for pediatric services on at least a part-time consultant basis. In addition, some of the CBS client children whose cases we reviewed may not have had significant mental health disorders. The CBS program justifies serving children with mild behavior disorders by saying serious mental disorders are being prevented; while we fully support the goal of prevention, it is very hard to tell if a serious mental disorder would have occurred in a child with a mild behavior disorder if CBS had not served the child (see Chap. 5 of the main text, on Prevention, for a discussion of this issue area).

The schools are not presently providing adequate special education for emotionally disturbed children. But even if they did, there would still be a need for nonresidential mental health services for the more severely emotionally disturbed children. Rather than make the schools take on the functions of mental health service agencies, recall our earlier recommendation for increasing the number of referrals of seriously emotionally disturbed children and youth in school, whether or not they are in special education, to the appropriate mental health center, Children’s Behavioral Services program, or rural mental health clinic for service. The schools are not designed to provide every type of service well, nor should they be, since other service programs exist.

**RECOMMENDATION 27:** Provide mental health services to mentally retarded Nevadans and their families if they need them. Such is usually not done now, and consequently a substantial gap exists in services provided for these people (see the next section on “Mental Retardation Services”).
RECOMMENDATION 28: Substantially upgrade the skills of "mental health technicians" involved in treatment of mental health disorders by: (1) eliminating the existing personnel classification and creating three new classifications, one for those employees who primarily treat mental health disorders, one for those who primarily provide mental retardation services, and one for those who primarily perform non-treatment support functions such as clerical work, housekeeping, and patient escort; (2) upgrading the job requirements for the mental health treatment positions to the master's degree level; and (3) creating a training program at the University of Nevada at the master's degree level to provide people skilled in a broad range of mental health services to fill the mental health treatment positions. This recommendation is necessary because many mental health technicians, in both residential and nonresidential mental health programs, currently carry a heavy responsibility for direct treatment of people with mental health disorders, but many of them are seriously under-qualified or unqualified to fulfill that responsibility. The job requirements include only a high school education, plus experience and training for higher levels in the "mental health technician" job series. Unfortunately, the training of many technicians is clearly substandard. The officially required training levels are low to begin with. However, the Division of Mental Hygiene and Mental Retardation did not appear to have provided even those minimum amounts of training in most cases, and had certainly not adhered to the spirit of the training requirements. Each program is supposed to provide training for its own technicians. At the time of our interviews in 1974, we were told about the existence of some very brief training, but saw no high-quality, formal training program. For example, the Rural Clinics program (where mental health technicians directly treat mental health patients), provided no formal training program at the time of our interviews. A tendency we noted in some nonresidential mental health programs was for the program's administrators to tailor the services provided to fit the skill levels of their personnel, rather than tailoring their personnel to fit the greater service needs (either by revised hiring or revised training policies). Thus, some personnel who do not have the skills to help treat severely mentally ill people are assigned work for which they are more qualified (e.g., parent effectiveness training and premarital counseling), while people with more severe mental disorders go unserved. The new master's degree level of mental health personnel that we propose could be assigned the role of primary therapist (with appropriate professional supervision and support) and provide substantial meaningful treatment at relatively low cost compared with using only psychiatrists or Ph.D.-level psychologists in that treatment role. Recently, some improvement has been made by the Rural Clinics program overfilling some of its technician positions with master's degree level professionals. The NMHI Director also told us he is "proceeding to replace mental health technicians with more highly skilled professionals." As of February 1976, the NMHI had converted 2½ such positions. However, as detailed in Chap. 8 of the main text, the graduates of the proposed university-based work-study program would be skilled in a broad range of disciplines and services needed by people with mental health disorders; they would have significantly broader training than people with master's-level preparation in disciplines such as social work or psychology.

Along with upgrading the skills of mental health technicians, certain other changes are necessary. It must be recognized that technicians who serve mentally retarded people need different skills from those of technicians who serve people with
mental health disorders; and both kinds of technicians should be free of many of the lesser tasks that mental health technicians currently perform, such as escorting people from place to place, and doing housekeeping and other tasks. Those tasks should not be done by technicians at the proposed master's degree level, but should be assigned to people with lower skill levels. We believe it is time for a frontal assault on the issue of quality of personnel; in Chap. 8 of the main text we propose a university-based work-study program to address this issue.

Finally, the above recommendation will not mean the elimination of all paraprofessionals from mental health service positions, which is neither desirable nor feasible.

Residential Mental Health Services

Residential programs required to meet the diverse needs of mentally handicapped persons range from full inpatient care programs to semi-independent residential living programs that offer minimal supervision and assistance. We focus here on residential service programs intended to provide more than the supervised residential living discussed later. For people with mental health problems, these residential service programs discussed here include: the Nevada Mental Health Institute's mental health programs, the Las Vegas Mental Health Center's residential treatment program; the new Children's Behavioral Services residential treatment program; local medical facilities with psychiatric units; the Nevada State Prison; the new Mentally Disordered Offender Facility; the Veterans Administration Hospital; and out-of-state residential treatment programs where Nevadans are sent when appropriate in-state services are not available for them. For a more detailed discussion and analysis of these programs than appears in this summary, see Chap. 10 of the main text.

For Nevadans with mental health disorders, approximately $6 million was spent for residential treatment in FY 1974. The total full-time-equivalent staff numbered about 330. The daily average number of people in these residential programs was just under 300, and the total number of different service episodes (i.e., patient-stays at a facility) in FY 1974 was approximately 3300. The actual number of different people served is less than 3300, since some unknown number of people had more than one patient-stay at a facility or were served at more than one facility in FY 1974. In terms of daily average bed-capacity filled, the NMHI was the largest (160), followed by local and private general medical facilities with psychiatric units (64), and the Las Vegas Mental Health Center (30). In FY 1974 the Nevada state service system (i.e., all except local and private medical facilities with psychiatric units) accounted for about 78 percent of the utilized bed-capacity, 47 percent of the annual service episodes, 70 percent of the staff, and 52 percent of the expenditures. Thus, the state system is significantly less expensive per bed-year, but incurs about the same cost per service-episode since the service-episodes are longer than they are for local and private facilities. Such direct comparisons are difficult to interpret, however, because the types and severity of the mental disorders seen in the two sectors were quite different in FY 1974.

Since FY 1974, the residential mental health service system has been undergoing major changes: the geriatrics program at NMHI has been greatly reduced and the staff transferred to the NMHI neuropsychiatric program, which has decreased
the median patient-stay to 17 days in 1975; a new Mentally Disordered Offenders Facility has been constructed (bed-capacity 32); two Children's Behavioral Services residential treatment facilities are being created (each with a planned bed-capacity of 16); and the Rancho Vegas Nursing Center has planned to open a long-term psychiatric care section (bed-capacity 39). The probable net effect of these changes will be an increase in the utilized bed-capacity in Nevada of about 11. The prime reason the utilized bed-capacity will not increase substantially in spite of the new construction is that NMHI is substantially reducing the number of residents so that it can offer better mental health services to those who remain (the staff has not been reduced), and serve them in NMHI's better buildings.

We note that merely to maintain the 1974 level of service in 1985, the bed-capacity and annual budget of the residential mental health service system would have to be increased from 286 to 380 beds and from $6.0 to $8.0 million (in constant-value dollars).

Residential mental health services in Nevada are improving. The following recommendations are therefore intended not as criticisms of recent changes but as guidelines to further improvement. Three years ago, there were essentially no residential services in Nevada for children and youth with mental health problems, but the legislature has since approved three major new programs providing relatively short-term residential services (the Las Vegas Mental Health Center and the two Children's Behavioral Services programs); however, there is still a need for longer-term, in-state, intermediate levels of residential mental health services for children and youth. For adults, the NMHI, the prison, and a few local and private hospital beds existed three years ago, and the legislature since has approved two major new programs (the Mentally Disordered Offender Facility and the Las Vegas Mental Health Center adult program); however, there is still a need for short-term residential capacity in conjunction with the two improved mental health centers we recommended earlier. The recent massive shift of the mental health section of NMHI from a mixture of chronic and acute care toward short-term acute treatment has left those adults in need of intermediate-level chronic care inadequately served.

The two newly approved Children's Behavioral Services residential facilities help fill a gaping hole in the Nevada mental health residential service system for young people, and we fully endorse them. In 1974 there was no residential mental health treatment program for children and youth, either public or private, in northern Nevada. The only public mental health facility in the entire state that accepted youth on a residential basis was the Las Vegas Mental Health Center, and it usually accepted only youth over 12 years old from the Las Vegas area. Consequently, 20 to 30 of those children with the severest mental problems requiring residential treatment were sent to mental facilities out of state. (Forty-five were placed out of state in December 1975.) Other less fortunate children were not served at all. Still others ended up in places such as the state juvenile training centers or the state children's homes, which are not intended to offer mental health treatment programs.

**RECOMMENDATION 29**: The two Children's Behavioral Services (CBS) residential treatment programs should be adequately and unconditionally staffed, specifically including positions for both physicians with specialty training in psychiatry and psychologists so that a more complete range of treatment modalities can be provided; the Reno CBS residential facility should serve children and youth through
age 18; and both facilities combined should accept rural children so as to prevent
differences in the level of service per capita between the Las Vegas, Reno, and rural
areas of Nevada. When construction is completed on the CBS residential facilities
in Reno and Las Vegas, the lack of residential mental health services we noted above
for youngsters in Nevada will be partially rectified. However, the CBS facilities are
small and the program in the south accepts only 12-year-old and younger children,
while the Las Vegas Mental Health Center serves those over 12. If the CBS program
in the north accepts only 12-year-olds and younger, there will still be no residential
mental health program for children over 12 years old in northern Nevada, since the
Reno MHC currently has no residential capacity and NMHI does not serve children.
Also, both the northern and southern Nevada CBS, and the Las Vegas MHC, resi-
dential programs will provide only relatively short-term, intensive residential ser-
ices and short-term transitional residential placement with specially trained
"professional parents"; any child who cannot live in his or her own home or in a
foster home over the longer term will not have longer-term, in-state, intermediate
levels of residential mental health services available. (This problem is dealt with in
recommendation 32.) In addition, emotionally disturbed youth in rural areas need
provision for residential services from the CBS or some other program and outpa-
tient services from an upgraded Rural Clinics program. Finally, the CBS nonresiden-
tial program in Las Vegas currently does not provide a full range of treatment
modalities to meet the range of children's needs; rather, it focuses primarily on the
behavior modification mode of treatment.

RECOMMENDATION 30: Correct the major deficiencies noted in the Joint
Commission on Accreditation of Hospitals (JCAH) accreditation report for the mental
health section of the NMHI. Although the mental health section is accredited,
NMHI's mental health program still has major deficiencies that must be corrected
to improve the quality of services and to maintain JCAH accreditation.

A major problem exists with the quality and quantity of psychological services
provided at NMHI. The psychiatrist in each NMHI neuropsychiatric unit is able to
spend an average of only about one-half hour per week in direct contact time per
patient, exclusive of record-keeping (recall the median stay of 17 days). Other staff
members therefore carry a heavy responsibility for patient treatment. Since the
units have no regular full-time direct-patient-service psychologist and since the
social worker has other responsibilities, a heavy load rests on the one supervisory
psychiatric nurse and the unit's mental health technicians who are assigned as each
patient's "primary therapist." As indicated above, however, the technician's job
requires only a high school education, and at the time of our interviews their
training was grossly inadequate; there was no formal training program for all the
technicians at NMHI (contrary to the officially stated job requirements). Conse-
quently, most of the mental health technicians, although hardworking and dedicat-
ed, are not skilled enough to adequately do the work they are responsible for. The
upshot is that psychopharmacological intervention (drug therapy) appears to be the
primary mode of treatment for most mental health patients at the Institute. How-
ever, psychopharmacological intervention is primarily useful as an adjunct to other
kinds of treatment (e.g., psychotherapy), which it may facilitate but does not replace.
Essentially the same lack of skills and training of technicians prevails in the Las
Vegas Mental Health Center residential treatment program. Recall our earlier
recommendation for upgrading mental health technician skills to resolve this situ-
ation for both nonresidential and residential mental health programs.
In addition to the deficiencies in mental health services within NMHI noted above, another major deficiency of the NMHI mental health program in mid-1974 was in the area of postdischarge follow-up treatment. Continuity of care and adequate follow-up treatment after discharge from NMHI was the exception rather than the rule in 1974, although some significant improvements have been made since then. This is a major problem with the state's mental health service system, since two primary objectives of inpatient treatment are (1) to help the patient through a severe mental health crisis (a few days' treatment will usually help a patient past an episode of acute decompensation), and (2) to engage the patient in a treatment process that will continue and will address the basic problems that made him or her vulnerable to the acute decompensation. Whereas the first objective can usually be satisfied in a brief hospitalization of a few days' duration, the second objective usually requires substantial treatment extending beyond the period when residential inpatient treatment is required. Psychotherapeutic services, for example, usually cannot be satisfactorily completed within a 17-day period (the median NMHI length of stay).

The Reno Mental Health Center's lack of adequate follow-up (other than drugs) in 1974 has led the NMHI to attempt its own follow-up in the Reno area, but the limited NMHI staff has enough difficulty merely providing its residential services. The Rural Clinics personnel were not providing adequate follow-up for most rural residents discharged from the Institute, and it is doubtful that they have the personnel to do so and also fulfill their other responsibilities. For Clark County residents, the transition is abrupt from the Institute to the Las Vegas Mental Health Center, but the center can provide adequate follow-up services and has recently developed an "Advocacy/Aftercare Program," which provides follow-up services to former inpatients of the Las Vegas MHC and the NMHI, and generally monitors and implements continuity of care.

**RECOMMENDATION 31:** Implement improved follow-up treatment to provide a continuity of care for mental health patients released from NMHI; mandatory improved follow-up procedures also should be established to help ensure that people released from other state-operated residential mental health treatment programs (Las Vegas MHC and CBS programs) receive adequate follow-up services. This includes both short-term and long-term follow-up, e.g., for people who have a chronic need for some intermediate level of mental health services and are residing in extended care facilities that do not provide those services. The expanded mental health centers and Rural Clinics program staff improvements we recommended earlier are necessary to provide fully adequate follow-up treatment for NMHI ex-patients, since outpatient services are not in adequate supply and day treatment services are nonexistent outside the Institute in most geographic areas (particularly in rural counties and Washoe County).

Since changing a patient's primary therapist in the transition from residential to nonresidential service is difficult and can disrupt treatment, it ideally would be preferable to have the same primary therapist in both the inpatient and nonresidential phases of treatment. Professionals such as psychiatrists or Ph.D.-level psychologists could be used as the single primary therapist in all phases of treatment. However, the new master's degree level of mental health service personnel we recommended above could be assigned the role of primary therapist (with appropriate professional supervision and support) and provide substantial treatment at rela-
tively low cost compared with using only psychiatrists or Ph.D.-level psychologists as primary therapists.

Recall our earlier recommendation that two new community mental health centers be created, one in the Las Vegas area and one in the Reno area. These centers would include provision for short-term (a few days or weeks) inpatient treatment, as well as day, emergency, and outpatient treatment. About 100 new bed-spaces will be required by 1985 merely to maintain the present level of residential mental health service capacity on a per capita basis in Nevada.

The Las Vegas Mental Health Center's residential treatment program had a number of problems in 1974. In our view, they stemmed from the newness and rapid startup of the program, from the fact that it was not yet fully professionally staffed when we interviewed, and from the low skills of the mental health technicians. Time and administrative attention should take care of the former two reasons (in fact, the Center's administrator indicates that the "vast majority" of the Las Vegas MHC professional positions are now filled), and the latter reason is the subject of our earlier recommendation regarding upgrading mental health technicians' skills throughout all programs.

A major problem with Nevada's mental health service system is the nearly total lack of intermediate services between full inpatient treatment and outpatient treatment. For example, service system capacity is lacking in the areas of halfway houses, day treatment facilities, and chronic care programs that provide more than drugs. Most mental health care in Nevada today is episodic, and little or no intermediate-level aftercare is provided following discharge from residential treatment. The lack of day treatment facilities would be alleviated by the two new community mental health centers recommended above. Chronic care programs and halfway houses are discussed below.

A large remaining gap in the mental health service system is in service to people with chronic mental health problems. Ironically, this gap was created for adults only recently by an administrative policy shift in the type of residential service to be provided by the NMHI (from chronic and acute toward primarily short-term acute mental health service). In reducing the number of mental health residents at NMHI from about 380 to less than 100, long-term patients receiving chronic residential care were released to the care of their families or other residential facilities that usually have no mental health services (e.g., intermediate care facilities, nursing facilities, and adult group care facilities). Other than the prescription of drugs, periodic visits by an NMHI nurse to those other residential facilities, and psychiatric consultative services provided on request to three skilled nursing facilities in the Reno area, there is no follow-up. These long-term patients apparently were released for a variety of reasons, including: lack of need by most of the long-term patients for the full intensive inpatient treatment the NMHI administration wants to provide; and the recent substantial reduction in the number of NMHI residents allows better mental health services to be provided to the smaller number of patients remaining and needing full intensive inpatient treatment. The follow-up has improved since 1974, but there still is a gap in the service system between the full intensive inpatient level of treatment NMHI now is supposed to provide and the level of essentially no mental health treatment for mentally disordered people living with "normal" people in nursing homes, group care homes, or with the person's family.
RECOMMENDATION 32: Create mental health service programs for children and adults that provide an intermediate level of mental health services over an extended period of time to people with chronic mental health disorders. Both children and adults may need this type of extended-term intermediate level of mental health services: the service system should provide for serving people in both age groups in separate programs. This should not be a long-term hospitalization or institutional program. It could be a program providing substantial outpatient, day treatment, and other services (as appropriate to the individuals' needs) for people residing in various types of supervised facilities in the community. This intermediate care program would provide some direct mental health services (more than drugs) and some of the residents would be free to move about in the community. The lack of such a program has resulted in some children and adults not being served, other people cycling from agency to agency (one such person reportedly cost the service system between $30,000 and $40,000 in one year), and children being sent to institutions out-of-state. For children and youth, the two new CBS facilities and the Las Vegas Mental Health Center provide for relatively short-term residential mental health needs. William Labadie, of the Nevada Welfare Division which is responsible for children placed in out-of-state institutions, indicated that "the problem is that the Division of Mental Hygiene and Mental Retardation views these residential facilities as only very short-term. Without some type of residential intermediate mental health facility, the state would continue to be faced with the problem we have presently. Not only would the number of children in out-of-state placement not be reduced with the increasing population, the numbers would be increased."

RECOMMENDATION 33: Create halfway houses operated in conjunction with mental health centers in both northern and southern Nevada for people with mental health disorders. The mental health centers could provide substantial outpatient, day treatment, and other services (as appropriate to the individual's needs) for people residing in these halfway houses. Halfway houses provide a community-based intermediate level of residential service for short periods (weeks or months) for people released from residential intensive treatment programs but still incapable of living independently in the community. Halfway houses also provide an alternative to hospitalization. In 1974, we were aware of no such houses in the entire state for people with mental health disorders. A small transitional facility is planned for the NMHI, but it can hardly be called community-based. These halfway houses not only would provide a missing level of needed service and a means of avoiding unnecessary hospitalization or unnecessarily extended hospitalization, thereby improving the quality of people's lives, but also would be much less expensive than full residential treatment programs.

We found conditions for mentally handicapped people at the Nevada State Prison in mid-1974 to be extremely bad. The state has recognized the severe problem of lack of psychiatric treatment for prisoners with mental health disorders, and has acted by beginning construction on the new 32-bed Mentally Disordered Offender Facility. We endorse this greatly needed new mental health program. However, the current number of Nevada prisoners in need of mental health services exceeds the bed-capacity of the Mentally Disordered Offender Facility, and the rapidly expanding population of the state is likely to be accompanied by a rising population of mentally handicapped prisoners. The courts recently ordered that certain types of prisoners be evacuated from the prison's "psychiatric unit," but most mentally ill
prisoners were not on that unit. The stated intention of the Division of Mental Hygiene and Mental Retardation is to use the Mentally Disordered Offender Facility for treatment of a "relatively short-term nature" and then to return the individual to "his natural environment or the criminal justice system." Consequently, because of the small size of the Mentally Disordered Offender Facility, it is clear that at least follow-up mental health services will have to be provided to some people who are returned to the Nevada State Prison following intensive treatment at the new facility. The Clinical Director of the new facility acknowledges that it "cannot handle all of the mental health problems (broadly defined) of the State Prison." The new facility's small size is acceptable, provided the rest of the mental health service system operates appropriately. If all prisoners with mental health problems are to receive the services they need, we believe it essential to implement the following three recommendations.

RECOMMENDATION 34: Use the Mentally Disordered Offender Facility primarily for treatment of prisoners with mental health disorders, and not (as some state personnel have considered) for persons who have neither been charged with nor convicted of crimes but who need treatment in a secure facility. In a March 4, 1976, letter to Rand. R. Hiller, the Clinical Director of the new facility, indicated that "its purpose is quite clearly to serve those individuals who have been in contact with the criminal justice system."

RECOMMENDATION 35: Make provision for mental health services within the Nevada State Prison for mentally disordered prisoners who do not need the intensive level of treatment provided by the Mentally Disordered Offender Facility, or who need follow-up services after intensive treatment at that facility. Providing services at the new facility will solve only part of the problem; there should be no false impression that a new small facility can furnish adequate services to all mentally disordered prisoners. To provide those services within the prison, additional mental health staff positions will be required; we suggest that those staff members be under the direct supervision of the administrator of the Mentally Disordered Offender Facility rather than under the sole supervision of the warden.

RECOMMENDATION 36: Assign the Nevada Mental Health Institute the responsibility for providing a secure neuropsychiatric unit for those patients who need it and have not been charged with or convicted of crimes. While drugs and other therapy have in most cases eliminated the need for physical restraints at the Institute, some patients need a locked unit or area where they can be monitored to help prevent them from physically abusing themselves or other patients, and to restrain them from leaving the Institute. The Mentally Disordered Offender Facility already has more than enough responsibility and should not have to serve patients the Institute could adequately serve.

The median length of stay for discharged NMHI mental health patients was about 17 days in 1975. In those terms at least, the Institute is now primarily functioning much the same as the inpatient units at Washoe Medical Center, Southern Nevada Memorial Hospital, and the Las Vegas Mental Health Center. The Institute currently is not functioning primarily as a place for treatment of patients needing more prolonged care than that typically provided by those three mentioned community-based facilities. Having described problems with the various residential mental health service programs and made some recommendations for improvement, we can now summarize what we believe to be the most appropriate functions for the NMHI.
RECOMMENDATION 37: Use the mental health section of the Nevada Mental Health Institute for inpatient mental health treatment for rural Nevadans, for those who need a secure facility, for those who need more than short-term residential treatment at the mental health centers, and for those unable to enter the inpatient units of mental health centers because the units are temporarily filled to capacity. Thus, we see the mental health section of the current NMHI facility as complementing the state's community mental health centers in the overall service system, rather than acting as a community mental health center itself (although the recommended new Reno area community mental health center might be located at or near the Institute). Each of the four service functions mentioned in the above recommendations for NMHI is essential and is not now being filled adequately by the state's mental health centers. Of course, one could define other functions for the soon-to-be-improved Institute facilities, but some other facility or facilities would still have to provide the four service functions we outlined for NMHI. The Las Vegas Mental Health Center does not have the bed-capacity to provide both short-term and longer-term residential services (by longer-term we mean here 3 to 12 months, only occasionally more); the Institute has a larger capacity and a secure facility capacity, which it would seem wasteful not to use since funds for new construction are very limited. One could also recommend a second Nevada Mental Health Institute in southern Nevada; while that may be justified at some future point in Nevada's population growth, it seems unnecessarily expensive now in relation to other needs.

Given the sparse populations in rural areas of Nevada, no single rural area currently appears capable of fully using an intensive inpatient mental health treatment facility. We believe that rural Nevadans can be more effectively and less expensively provided with intensive residential mental health services in one of the urban areas. Provision should be made to assure rural Nevadans of access to those services, including transportation to urban areas if required. Rather than have rural Nevadans compete with urban Nevadans for available bed-spaces in each of the mental health centers, it may be preferable to designate one facility to be responsible for residential mental health services to rural Nevadans. We suggest the Institute be so designated, since the only existing mental health center with residential capability already is supposed to serve the half of the state's population concentrated in the Las Vegas area.

RECOMMENDATION 38: Establish an improved information system for monitoring and managing mental health program operations as well as the effectiveness of services. The deficiencies in existing information make it difficult to effectively manage, plan, and evaluate service programs for people with mental health disorders. Needed information improvements are described in Chaps. 4, 8, and 10 of the main text.

For a more detailed discussion of nonresidential and residential mental health services, see Chaps. 8 and 10, respectively, of the main text.

MENTAL RETARDATION SERVICES

Nevada provides a broad range of residential and nonresidential programs to meet the diverse needs of mentally retarded people, although not every program has enough service capacity. Programs for Nevadans discussed in this section include inpatient care in the mental retardation section of the Nevada Mental Health
Institute, residential care at the small private Eagle Valley Children's Home, intermediate levels of residential care at the Northern and Southern Nevada Mental Retardation Centers, a range of levels of residential and nonresidential services at the Desert Developmental Center to be constructed soon, and out-of-state residential treatment programs to which a few mentally retarded youths with mental health disorders are sent. For a more detailed discussion and analysis of these programs than appears in this summary, see Chap. 10 of the main text; for an economic benefit/cost analysis of various services for mentally retarded people, see Conley's work cited in the "Prevention" chapter of our main text. In other sections of this summary, we discuss various additional programs that provide mental retardation services to people with higher levels of functioning who do not need the more service-intensive programs listed above, e.g., the Community Training Centers program, which provides prevocational and vocational services, and the Developmental Homes, which provide community-based residential living.

About $2.3 million was spent for residential programs for mentally retarded Nevadans in FY 1974. The total full-time-equivalent staff was about 180. The daily average number of people in these residential programs was just over 200, and the total number of different people served in FY 1974 was probably not over 250 since most were long-term residents. In terms of utilized bed-capacity, the NMHI was largest (140), followed by the Mental Retardation Centers (54); the one private facility had only about 10 residents. In FY 1974, the Nevada state service system (which includes all but the Eagle Valley private facility) accounted for over 95 percent of the staff and expenditures and of people served.

Since FY 1974, the residential mental retardation service system has begun major changes: a new Desert Developmental Center is being constructed in Las Vegas (bed-capacity 56); when it opens, the NMHI mentally retarded resident population will be cut to less than half of the FY 1974 level. The plan is to reduce the number of residents at NMHI without reducing the staff, so that those remaining can receive better services and can be served in improved facilities. With these and other changes, the NMHI may be able to achieve accreditation from the Joint Commission on Accreditation of Hospitals as a mental retardation facility.

To maintain the 1974 quantity of residential service per capita for mentally retarded Nevadans in 1985, the service system's bed-capacity would have to increase from 208 to 276 and the annual budget from $2.3 to $3.7 million (in constant-value dollars).

Residential mental retardation services are improving in Nevada and current staff people by and large are dedicated and hardworking. Adequate services are still a far-distant goal, however.

**RECOMMENDATION 39: Improve the NMHI mental retardation program to meet JCAH accreditation standards.** The greatest inadequacy in the present system is in the NMHI Mental Retardation program. The program twice has failed to receive accreditation by the Joint Commission on Accreditation of Hospitals (JCAH), for a large number of reasons, mostly stemming from a staff that is deficient in numbers, training, and mix of professional skills, and consequently unable to provide adequate services to residents. (See Chap. 10 and Appendix B of the main text for details.) The facility improvements at NMHI and the new Desert Developmental Center approved by the 1975 Nevada Legislature will help upgrade the NMHI program by improving physical living conditions at NMHI and by cutting the NMHI
resident population approximately in half as residents are transferred to the new center. Since 1974, the Nevada Mental Health Institute’s mental retardation program has made internal changes that have changed the quality and quantity of services provided for the current residential population. These changes have been implemented using the JCAH accreditation standards as a guide and are seen by NMHI only as beginning steps that are necessary to ultimately bring the residential program into compliance with accreditation standards. An attachment to a letter from NMHI Director T. Piepmeyer to Rand on February 27, 1976, stated that “these program changes are pitifully inadequate unless additional resources outside the existing program are obtained in the form of staff, training and proper mix of professional skills.” The two primary internal changes using existing staff are a day training center and an interdisciplinary committee to evaluate and plan services for each individual resident.

RECOMMENDATION 40: Given the extensive service program planned and needed for the population of more severely mentally retarded southern Nevadans, and given the new facility approved by the legislature in 1975, the Desert Developmental Center staff should be approved by the legislature in 1977; when that center’s staff is approved, the mental retardation staff of the NMHI should not be cut, so that the Institute will then be able to provide more nearly adequate services to the mentally retarded residents remaining there. Interdisciplinary NMHI teams have been functioning since March 1975; 86 of the 108 persons now in NMHI’s mental retardation program have been reviewed, individual client needs identified, and a corresponding treatment/training plan has been developed for each of them. About 50 percent of the activities identified in these plans have been deferred due to inadequate staff, according to an NMHI administrator.

RECOMMENDATION 41: Provide services through the NMHI and the Northern Nevada Mental Retardation Center for northern Nevadans equivalent to those services that the new Las Vegas Desert Developmental Center will provide for southern Nevadans; defer approval for the construction of the northern Nevada equivalent of the Las Vegas Desert Developmental Center facilities until other higher-priority expenditures have been made. We agree that the concept of a new northern Nevada equivalent of the Desert Developmental Center is a good idea and that improved services should be provided, but we question the priorities and timing on the facility construction. The Institute already exists; on the other hand, facilities are either totally absent or too small for services to some other groups of mentally handicapped people, and for some other types of services for mentally retarded people. It seems to us that first priority on new facility construction should go where none exists at all, rather than where facilities exist that could be improved. We do not mean to imply that the Institute’s mental retardation facilities are good enough or that we condone the inferior services its residents now receive. Rather, we believe that services for mentally retarded people in northern Nevada can be sufficiently improved within the existing facilities at the NMHI and elsewhere in the Reno area, so that construction of new facilities can be deferred while other higher-priority needs are met.

RECOMMENDATION 42: Separate control of the mental retardation program from that of the mental health program at the Nevada Mental Health Institute, and give it to the Associate Administrator for Mental Retardation of the Nevada Division of Mental Hygiene and Mental Retardation. This would consolidate, in one person,
responsibility and accountability for all mental retardation programs in the Nevada
Division of Mental Hygiene and Mental Retardation. This also is in recognition of
the separate spheres of activity that now exist at NMHI and compete for resources.
We do not envision physically removing all mentally retarded people from the
current NMHI site now, although that might be done in the future. The intent of
this recommendation is to consolidate the administration of, and responsibility and
accountability for, mental retardation programs. At present, the largest residential
program for mentally retarded people in the state is not the responsibility of or
within the direct sphere of control of the DMHMR Associate Administrator for
Mental Retardation; this seems to be an unnecessary and undesirable disaggregation
of responsibility and accountability. Auxiliary services and facilities for men-
tally retarded residents at NMHI, such as medical care and recreational facilities,
could be obtained from the non-mental-retardation portion of NMHI as they are
now, but the NMHI Director would retain no control of the mental retardation
program; NMHI's bookkeeping system is such that it would not be overly difficult
to arrange for the appropriate interprogram transfer of funds.

RECOMMENDATION 43: Provide the state technician staff working with men-
tally retarded people with improved formal training in the provision of develop-
mental services. The current training for state-employed mental health techni-
cians at the Mental Retardation Centers and the NMHI is inadequate, and in
practice even falls short of the officially stated job requirements. Recall our earlier
recommendation for splitting the mental health technician job classification into
three new classifications, one of which could be an upgraded mental retardation
service specialist.

Virtually no mental health services (other than drugs) are provided to mentally
retarded people living at the NMHI, the two Mental Retardation Centers, or any-
where else in the entire state. As argued in the "Desirable Features of a Psychologi-
cal Service System" section of Chap. 8 of the main text, no single mode of treatment,
such as chemotherapy, is the most appropriate for every mental health disorder.
Although not all mentally retarded people and their families need mental health
services, some clearly do. Recall our earlier recommendation that provision be made
for mental health services to those mentally retarded people and their families if
they need them. A difficulty that must be overcome, however, is that the mental
health service system in practice seldom serves mentally retarded people and is
separate from the mental retardation service system, which itself typically does not
hire mental health professionals who could provide psychotherapy or other modes
of treatment.

RECOMMENDATION 44: Provide nearly all Eagle Valley Children's Home
residents with needed special education and training through the Carson City School
District. At the private Eagle Valley Children's Home, which primarily serves
severely and profoundly retarded youth, only three of the ten residents were receiv-
ing special education and training in September 1974. However, nearly all residents
need those services. An additional special education unit ($16,000) should be pro-
vided by the Nevada Department of Education for that purpose, since not all the
home's residents originally come from Carson City.

RECOMMENDATION 45: Mentally retarded prisoners should be identified and
a special program of services should be established for them. At present, the Nevada
State Prison system has no idea how many prisoners are mentally retarded, and
provides no special services for them, other than allowing them to participate in
basic adult and remedial education classes. To some unknown degree, special services would certainly improve the quality of their lives and their level of functioning following release from prison, and would probably reduce the incidence of their commission of crimes.

On the matter of geographic availability of services, we note the persistent tendency in Nevada to plan and approve facilities of the same size in Reno and Las Vegas (e.g., the Mental Retardation Centers and the Desert Developmental Centers), and to build no residential mental health and mental retardation treatment facilities in rural Nevada. We believe those practices are largely justifiable, as long as the service system is so administered that rural Nevadans have access to the Reno and Las Vegas facilities. The rural population is sparse, only a few people need residential services in any single rural locale, and it is both costly and difficult to maintain professional staffing and specialized services in small rural facilities. Given that the Reno and rural populations are about the same size, and that the Las Vegas population is about equal to the Reno and rural populations combined, it is equitable to build equal-size facilities in the north and south only if each area gets its fair share of the service. In practice this means that about half of the Reno facility should be devoted to serving rural Nevadans, most of whom live in northern Nevada. Less service-intensive and longer-term residential living (e.g., developmental homes) could still be provided in rural Nevada (see Chap. 13 of the main text).

RECOMMENDATION 46: Establish an improved information system for monitoring mental retardation program operations, including the effectiveness of services. During 1974 the Division of Mental Hygiene and Mental Retardation began to use a computerized, individualized data base for mentally retarded clients of certain division programs. This data base is sufficiently detailed to provide not only data and reports on clients or groups of clients and the services they are receiving, but also information on clients' functional abilities that could be used for program evaluation. In mid-1974, this data system had at least partial information on over 375 mentally retarded clients of the division. This computerized data base appears highly desirable in theory, and with privacy safeguards, we endorse it or one with similar objectives tailored specifically to Nevada's needs. Two improvements would be desirable, however. First, to be of most value, the data base should not be limited to Division of Mental Hygiene and Mental Retardation clients, but should also include retarded people served by other programs, e.g., Department of Education, Division of Health, Division of Welfare, and Division of Rehabilitation. Second, the mid-1974 Plan was to use a computer in Pomona, California, with information transferred by mail. It would be desirable to have the data base on a Nevada computer, where it can be used more readily and can be tailored to Nevada's needs. The data base should be associated with the Regional Direction Centers we recommended above, if those centers are created.

For a more detailed discussion of mental retardation services, see Chap. 10 of the main text.

ALCOHOL AND DRUG ABUSE SERVICES

Prior to the 1960s, most mental health professionals considered alcohol and drug abuse a form of mental pathology. Consequently, it was often treated in the same
facilities and with the same techniques used for mental illness. But the past decade has witnessed a major transition. There has been a growing conviction that while the onset of excessive drinking or drug use may ensue from a psychological crisis of some sort, the addiction process once set in motion has its own mechanisms that go beyond the earlier psychodynamics. The release from addiction therefore may require treatment processes relatively independent of those necessary for the earlier psychological problems. Also, many alcohol and drug abusers have strongly resisted being classified as mentally ill, and will avoid treatment in a setting which allows such identification to take place. Consequently, most drug and alcohol treatment is now administered in separate facilities by a specially trained staff, a trend likely to continue.

The alcohol and drug abuse treatment programs in Nevada spent about $2.6 million last year, including over $1.1 million for alcohol abuse and over $1.4 million for drug abuse. At least 700 alcoholics and 300 drug addicts received substantial service last year from these treatment programs; in addition, more than 700 persons participated in Alcoholics Anonymous in Nevada. Alcohol and drug abuse education programs reached many more.

Investigation of the service delivery system for alcohol and drug abuse treatment has revealed a number of gaps between people's needs and services available in current programs. Service delivery system problems fall into three categories: inadequate information, organizational problems, and facility and service deficiencies. For a more detailed discussion of the current alcohol and drug abuse treatment programs and their problems, see Chap. 9.

We summarized the deficiencies in information on rates of alcohol and drug abuse in Chap. 1. The second information gap has to do with the current service delivery system. There is inadequate systematic detailed data collection on client loads, staffing patterns, service capacity, and the like for treatment programs throughout the state. Intelligent planning under such circumstances is very difficult. In sum, the state has too little routine program-management information, and too little information on program results—clients' conditions following release from treatment—to use in program evaluation. The Bureau of Alcohol and Drug Abuse is working diligently to resolve this information problem: a new data collection and processing system is being developed and federal funding to assist in this area has been applied for.

Organizational problems involving overlapping or ambiguous responsibilities persist even though the state Bureau of Alcohol and Drug Abuse was created to consolidate formerly fragmented units within the state government into a single coordinating state agency. One overlap involves the state bureau and some of its own creations, the local umbrella coordinating organizations. Basically, both groups now seem to have responsibility for and provide some overall coordination of community programs. It is not clear why the central office in the Reno area cannot handle Washoe County coordination, nor why the Las Vegas branch office cannot handle coordination for that area. The umbrella organizations, as they are presently constituted, appear to be an unnecessary bureaucratic layer between the local service delivery agency and the state bureau, which provides no service directly to alcohol and drug abusers. We do not mean to imply that there is no need for local advisory councils representing local treatment agencies, but this is not what the umbrellas appear to be now, since their boards of directors do not include all heads of local
treatment agencies. A second overlap occurs because all "health care" facilities must obtain licenses from the Nevada Division of Health, with issuance contingent on approval by the county health planning people. On the other hand, the state Bureau of Alcohol and Drug Abuse has been given responsibility for certifying alcohol and drug treatment programs, personnel, and facilities. A third overlap arises out of the continuing responsibility of the Nevada Mental Hygiene and Mental Retardation Division for the Nevada Mental Health Institute and its Ward 10 alcohol abuse program. Thus far the overlap has not led to overt conflict; NMHI and the state bureau seem to go pretty much their own ways. In any event, complete coordination of alcohol programs will be difficult so long as one of the main treatment programs functions outside the main delivery system. Finally, there is an administrative problem. Although consolidation of drug and alcohol program coordination within a single agency makes for some bureaucratic efficiency, especially in a small state like Nevada, it must be recognized that, at the local level, separate agencies normally will handle alcohol and drug treatment. Accordingly, any coordination must recognize that separation if it is to be efficient and successful.

In terms of expenditures per alcohol abuser, it appears that Nevada is receiving (or at least spending) less than its fair share of federal funds for treatment of alcoholism, and is spending much less in state funds per alcohol abuser than is neighboring California. From a regional standpoint, considering expenditures in relation to the number of alcohol abusers in the region, it is clear that the Las Vegas area and rural regions are not nearly as well funded as the Reno area.

Some specific facilities also are needed. A general problem in both alcohol and drug abuse treatment in Nevada is the absence of a comprehensive service system that offers a full range of levels of service that can be selected from to meet a particular client's needs, including detoxification, inpatient treatment for alcohol or drug abuse, halfway or rehabilitation house service, and outpatient therapy or counseling. Certain elements on the "continuum of care" are not present in Nevada or are not present in sufficient capacity. Nonmedical detoxification facilities are one such element that is either not present in certain geographic areas or is not present in sufficient capacity. Aside from a statewide deficiency in detoxification facilities, there is a deficiency of outpatient care in the Reno area for alcohol abusers as compared with the relative predominance of halfway or live-in rehabilitation houses. Alcohol abuse service system capacity of all types is deficient in Las Vegas and in rural areas. In Las Vegas, for example, halfway or live-in rehabilitation houses for alcohol abusers are in particularly short supply, and the area does not have an alcohol abuse treatment program analogous to that provided by NMHI which is accessible to people who cannot afford private treatment. Finally, there are staff training needs in the facilities that do exist.

As with alcoholism, there are insufficient detoxification facilities for drug abusers. Reno has no professionally staffed program for the hard-core addict. (The NMHI Ward 10 program is designed for alcohol abusers.) The drug abuse treatment system also has some other kinds of facility problems. There is no full inpatient care program in the state analogous to the NMHI Ward 10 program but designed for drug abusers. Regarding halfway or live-in drug rehabilitation houses, it is a matter for concern that some of the live-in drug treatment facilities in the Las Vegas area are operating at less than capacity and a few have been embroiled in controversies about alleged drug use by people associated with those facilities.
In making these recommendations we recognize that organizational structures
and service programs are still evolving in this area. Some of these developments are
reflected in the 1975 Nevada State Plan for Prevention, Treatment and Rehabilita-
tion of Substance Abuse, in particular the detailed planning for the proposed detox-
ification program for Washoe County sponsored by NASAC. But most of our recom-
mendations, while consistent with goals in the state plan, are not yet implemented
and not yet reflected in current detailed planning, especially those pertaining to
Clark County—which encompasses between one-half and two-thirds of Nevada's
alcohol and drug abusers. We are also concerned that the 1975 state plan reflects
continued use of the words "Drug Abuse Council" in the SNDAc name (with no
mention of alcohol), by its failure to propose realistic detailed plans for implementa-
tion of service program improvements for Clark County alcoholics, and by its use
of underestimated alcoholism incidence rates, rates that are well below even the
most conservative estimates available using NIAAA methods of estimation.

RECOMMENDATION 47: Establish comprehensive information systems for
monitoring alcohol and drug abuse treatment programs, as well as alcohol and drug
abuse rates. Better information on current programs and abuse rates would not only
make better management of current programs possible, but would also enhance the
quality of planning for future programs. For alcohol abuse rates, it should be easy
to tabulate cirrhosis deaths and beverage sales on a county-by-county basis and thus
to make estimates of abuse rates like those made in Chap. 3 of the main text to assist
in regional planning. For drug abuse rates, the state should look into methods used
by the National Institute on Drug Abuse. Information for monitoring service pro-
grams should be required from every local program receiving federal or state funds,
and should be requested from all others (e.g., detailed information on expenditures,
staff, services, number and type of clients, and program effectiveness).

RECOMMENDATION 48: Consider a more streamlined organizational struc-
ture for alcohol and drug abuse services that will eliminate overlapping jurisdictions
on the one hand and recognize separate spheres of activity on the other. A key feature
of the arrangement we envision would be the creation of two councils, one for drugs
and one for alcohol, in each of three regions: Clark County, Washoe County, and the
remaining, predominantly rural, region of the state. Council membership would
include all local treatment program directors (or perhaps a rotating subset) and
selected local officials and leaders (e.g., representing the public, police, courts,
schools, city councils, etc.). The regional council's main function would be to advise
the state on planning for future services, current financial assistance, and certification,
and to improve local coordination. In this way, some of the functions of the
County Comprehensive Health Planning agency and the present umbrella organizations
could be consolidated into a single structure. We are not criticizing the concept
of an umbrella organization, but rather the way the current umbrella organizations
have been designed by the state Bureau. For example, representation on the councils
could be broader than it is in the present umbrella organizations. Certain functions
of the umbrella organizations, such as acting as a funnel for funds, seem unneces-
sary in a state the size of Nevada, which has a functioning state Bureau of Alcohol
and Drug Abuse; hence those functions would be abolished. The separation of drug
and alcohol councils recognizes the current realities of separation of both the local
treatment organizations and the federal financing agencies. It also should solve
some of the local conflicts that have been observed since the creation of the currently
existing umbrellas, which now cover both alcohol and drug services with a single local organization. There may be a need of state funding for staff to support the councils’ activities, and the councils may be the appropriate agency to apply for certain federal funds.

A second major feature of the reorganization would be the transfer of control of the NMHI “Ward 10” to the Bureau of Alcohol and Drug Abuse. (We recognize that such a transfer may require legislative action.) We do not envision removing the Ward 10 program from the NMHI site at the present time, although that might happen in the future. Instead, we would give administrative and budgetary control of the alcohol and drug abuse treatment program to the alcohol and drug abuse agency rather than to the Mental Hygiene and Mental Retardation agency, which has different priorities. Auxiliary services and facilities for Ward 10 patients, such as medical care, recreational facilities, and “industrial therapy” (jobs) could be obtained from other portions of the NMHI as they are now. The bookkeeping system at NMHI is such that it would not be too difficult to arrange for an interagency transfer of funds to cover those services and the use of facilities.

We are not necessarily arguing that direct clinical supervision of Ward 10 be placed at the Bureau of Alcohol and Drug Abuse, since its present structure may not include sufficient professional staff for such responsibilities. Rather, we are recommending an administrative and budgetary realignment, since we do not see how full program planning and coordination is possible with the current fragmentation of programs across different divisions. Ward 10, the largest treatment program for alcohol abuse in the state, is now effectively separated from the Bureau of Alcohol and Drug Abuse.

RECOMMENDATION 49: Create a comprehensive alcoholism treatment program for the Las Vegas area. Although a number of new or expanded programs are needed to fill gaps in the alcoholism treatment system throughout the state, the most pressing needs are undoubtedly in the Las Vegas area. Federal funds may be available to help fund such a program. The following services should be included: a nonmedical detoxification unit and holding center that can handle up to 10 clients; a short-term (e.g., 30-day) full inpatient treatment facility with perhaps 20 to 40 beds (similar to the NMHI Ward 10 program and accessible to those who cannot afford private treatment); rehabilitation or halfway houses for longer-term recovery with at least 20 to 40 beds; and a full range of outpatient services including individual and group therapy and antabuse treatment. Some of these services might be arranged by expanding or working with existing public or private facilities.

RECOMMENDATION 50: Provide both drug and alcohol detoxification services throughout the state. The present lack of this essential service is a major deficiency in the present service system. The 1975 Nevada State Plan for Prevention, Treatment and Rehabilitation of Substance Abuse does propose a realistic plan for detoxification services in Washoe County, but there is a lack of similarly detailed planning in the report for Clark County—which contains nearly two-thirds of the state’s alcoholics.

RECOMMENDATION 51: Establish a few small halfway or live-in rehabilitation houses for alcohol and drug abusers throughout rural Nevada, with provisions for outpatient services at those same facilities. Rural Nevada is currently lacking in alcohol and drug abuse treatment programs and hence very few of the alcohol and drug abusers in rural Nevada who need service are being served now. Full inpatient
treatment programs are probably not practical in rural Nevada because of sparse populations, difficulty in obtaining qualified staff, and hence the high cost per person served; full inpatient services can probably be more adequately provided to rural alcohol and drug abusers through short-term residence in Reno (NMHI) or the Las Vegas alcohol abuse treatment center we recommended above. However, it does appear feasible and desirable to provide the less intensive live-in rehabilitation house and outpatient services in small programs directly in the larger rural communities. That is, some of larger rural communities appear to have sufficient numbers of people needing halfway or rehabilitation house and outpatient treatment so that small programs in those communities can be fully utilized and be economically feasible.

**RECOMMENDATION 52:** Create a short-term, professionally staffed, full inpatient treatment program for drug abusers in Nevada, analogous to the NMHI "Ward 10" program designed primarily for alcohol abusers. This would fill a notable major gap in the service system.

Another important issue in drug abuse treatment is the existing delivery system in the Las Vegas area. Before any other new expansion is contemplated (other than detoxification), there must be a careful analysis of the reasons for underutilization of some existing facilities (those reasons do not appear to include lack of need for the services) and a determination of the reasons for controversy over alleged drug use in some halfway houses in the Las Vegas area.

An alcohol and drug abuse facility plan prepared in 1974 for the Nevada Division of Rehabilitation indicated no need for additional alcohol and drug abuse treatment facilities prior to 1980 with the exception of nonhospital detoxification facilities. Although we have recommended that services be expanded, our recommendations are not necessarily inconsistent with that facility plan. The reason is that while hospital and intermediate care facilities exist in the state, as do facilities that could be used for outpatient treatment for alcohol and drug abuse, such treatment services are not now being provided in most of those existing facilities.

For a more detailed discussion of alcohol and drug abuse treatment, see Chap. 9 of the main text.

**VOCATIONAL SERVICES**

We estimate that at least 680 Nevadans with mental health problems, at least 660 who are mentally retarded, and at least 410 with alcohol or drug abuse problems had a need for vocational services in 1975—services such as vocational education, vocational rehabilitation, and job counseling and placement. These are conservative estimates; they do not include the many people who need only job placement assistance, and do not include youth who are not yet of age to be in their last two years of school.

About 1600 people with mental handicaps received vocational services in FY 1974 from a full-time-equivalent staff of about 120. Expenditures for those services totaled about $2.7 million, or about $1710 per person. We estimate that some service was provided to at least 170 Nevadans with mental health problems, at least 660 with mental retardation, to 140 with alcohol and drug abuse problems, and to 300 with some "other mental disorder" (described below). Additionally, 337 mentally
handicapped people were served by the Department of Employment Security, for whom data are not available by type of mental handicap. The programs providing vocational services discussed in this section include Vocational Rehabilitation, Community Training Centers, a Vocational Training program based at NMHI, special Vocational Education, and the Department of Employment Security. For a more detailed description and analysis of these programs and their clients, including the costs and benefits of both the programs and our recommended changes in them, refer to Chap. 11 of the main text.

The largest vocational service program is Vocational Rehabilitation, which in FY 1974 completed provision of a wide variety of services to 161 people with mental health problems, 81 people with mental retardation, 140 people with alcohol or drug abuse problems, and 296 people with some other mental disability. The clients listed as "other mental" were primarily those with disabilities the VR program calls "character, personality, or behavior disorders" (i.e., they do not fall into the other VR program categories as psychotic, neurotic, retarded, alcoholic, or drug abusing people.)

Several private community training centers receive partial funding from the Community Training Center program in the state Division of Mental Hygiene and Mental Retardation, and partial funding from the VR program. These centers provide a variety of services to preschool children and to adult developmentally disabled (primarily, mentally retarded) people for whom there is no other appropriate prevocational or vocational service program. About 180 adults were served in FY 1974.

A small Vocational Training program operated by the Division of Mental Hygiene and Mental Retardation served about 20 retarded adults in the Reno area.

The special vocational education programs in county school districts served approximately 400 mentally handicapped youth, most of whom are educable mentally retarded.

The Department of Employment Security primarily provides unemployment compensation plus job information and placement to unemployed people. The Department reported serving 79,073 people, including 337 mentally handicapped adults in FY 1974. Of these 337 people, 82 were placed in jobs, 8 were enrolled in training, 66 were provided counseling, 84 were referred to other training programs, and 30 were referred for supportive services (which includes referrals to the Bureau of Vocational Rehabilitation).

While the vocational service programs in Nevada are valuable, several problems for mentally handicapped people were identified. They include unemployment (a rate approximately twice that for people without mental handicaps); little effort to combat significant underemployment (by any vocational service program); too few people served in relation to need (with the possible exception of vocational education services for retarded youth); differential levels of service by geographic area (north-south and urban-rural differentials exist for some handicaps); differential levels of service by type of handicap (especially the extremely low emphasis on serving severely emotionally disturbed youth in the vocational education program and the low emphasis on referring for service or serving all types of mentally handicapped people by the Employment Security program); a questionable allocation of about half the limited available VR funds in FY 1974 for service to mentally handicapped people with generally less severe "other mental" disorders (i.e., people who, according to VR definition, are not primarily psychotic, neurotic, retarded, alcoholic, or
drug abusing); inadequate facilities (especially for rural Nevadans in their home counties); inadequate short-term residential facilities for rural Nevadans served in Reno and Las Vegas; inadequate referral and coordination between vocational and other types of service programs (especially between VR, Employment Security, and the schools, and between VR and some of the mental health programs); and duplication of program responsibilities (in particular, the Vocational Training program overlap with the VR and Community Training Center programs).

RECOMMENDATION 53: Provide (1) a full comprehensive range of good-quality vocational services in the Reno and Las Vegas areas and make them available equitably to all Nevadans in need, with short-term residential arrangements in those two cities for rural Nevadans, and (2) a limited range of the more frequently needed, less specialized, and long-term vocational services in the other geographic areas. Additional vocational services are needed in rural counties as well as in Clark and Washoe Counties. While a complete range of services should be available to residents of each of the counties, and ideally one would like to locate those services close to the residents' homes, in practical terms one must establish a hierarchy of needs and recognize the quality of services that realistically can be provided in each rural county. In regard to quality of services, it is difficult to obtain specialist staff in every rural county, service specialists being in very short supply throughout Nevada. Three distinct options exist: (1) continue the present program and thus partially but inadequately meet vocational needs in rural areas; (2) undertake a very costly expansion to provide a comprehensive good-quality program of services in rural facilities; or (3) the option we recommend be adopted, offer improved long-term services locally in rural areas (e.g., education, competitive or sheltered work, and residence) but develop a cooperative arrangement to send people to the larger metropolitan areas for short-term (weeks) provision of good-quality specialized services.

RECOMMENDATION 54: At least double the Community Training Center minimum funding level per client for those clients receiving services but not primarily funded by some other agency. For those longer-term activities of daily living, prevocational, vocational, and sheltered-work services currently provided through the several community training centers in the state, we estimate that the costs that will be necessary to provide minimum-quality services are currently two to four times as high as the $1200 per year minimum funding provided per client by the Community Training Center program. The state has paid a maximum of $350 per enrollee per quarter year in large centers and $15,000 per annum in small centers. However, in FY 1974 primary funding was provided for some 183 adult clients at these centers by the Vocational Rehabilitation program and for a few children by a county school district.

RECOMMENDATION 55: Eliminate the Vocational Training program and transfer its personnel and current clientele to the joint VR-WARC program. The small Vocational Training program, operated within the Division of Mental Hygiene and Mental Retardation with personnel who have no substantial prior background in vocational services, provides services in northern Nevada that overlap those provided jointly by the VR program and the Washoe Association for Retarded Citizens. Our recommended organizational change would provide more adequate supervision and direction of these staff members by professional vocational service personnel, and consolidate the overlapping programs in the bureaucracy.

RECOMMENDATION 56: Expand special vocational education programs to
provide vocational services to some severely emotionally disturbed youth. The special vocational education services to mentally handicapped youth focus almost exclusively on mentally retarded youth. This differential level of service by type of handicap is hard to justify. Some emotionally disturbed children need and can benefit from special vocational education, too.

RECOMMENDATION 57: Increase the number of referrals from the Department of Employment Security to Vocational Rehabilitation of persons suspected of having mental handicaps who are not placed in jobs within a short time. The Department of Employment Security reported serving 337 mentally handicapped people among nearly 2700 handicapped people served in FY 1974; 30 or fewer were referred to the Bureau of Vocational Rehabilitation. The Employment Security program and personnel are less able to adequately serve the more severely mentally handicapped people than are the VR program and personnel.

RECOMMENDATION 58: Obtain improved program management and effectiveness information for each Nevada vocational service program. The information needed to manage some of the vocational service programs effectively is severely lacking. For the Vocational Education and Employment Security programs, for example, even the statistics on the number of mentally handicapped people served are of dubious validity. Even in the VR program, which has relatively good information, the real reasons clients are not accepted or are not rehabilitated are not clearly known partly because the information categories that can be marked on the forms do not permit the persons filling them out to fully express what they know. For example, although better reasons may be known to VR direct-service personnel, partly because of the design of the form the reasons most often marked for clients' being not accepted or not served were the clients' lack of response to or lack of acceptance of the VR program—categories of reasons that raise more questions than they answer. Finally, with the exception of the VR program, effectiveness data for vocational service programs are severely lacking. This information gathering does not require a really major or costly effort. The present effort in the VR program is more than adequate, although some of the information categories that program uses need revision so they are more illuminating (this can be done and still be consistent with federal reporting requirements).

RECOMMENDATION 59: Improve outreach and referral among vocational service programs and other nonvocational programs serving mentally handicapped people. In particular, we recommend increased numbers of referrals to Vocational Rehabilitation of mentally handicapped youth leaving school, working-age clients of the income assistance programs, and unemployed working-age clients of the Mental Health Institute, the Mental Retardation Centers, the Mental Health Centers, the Rural Clinics program, the Community Training Centers, private psychiatric service programs, and alcohol and drug abuse programs. The problem of lack of referrals between programs offering vocational services and other service programs for mentally handicapped people clearly needs attention. In all of FY 1974, for example, only 16 rehabilitated mentally disabled youth had originally been referred for vocational rehabilitation by the schools. Once service priorities are set, they can be achieved more easily if notification of the types of clients desired is clearly communicated to each referral source, and if referral of those clients is actively encouraged at the level of direct service personnel. There is a passive tendency to serve clients who present themselves or are presented to an agency, rather than to set out well-defined priority
categories of people who need service and then actively reach out to find them. One
might take a dynamic and flexible approach depending on the level of vocational
impairment. For example, VR might screen all mentally handicapped youth before
they leave school, and automatically give mildly handicapped youth both job infor-
mation and placement assistance upon leaving school; then, if they are not vocation-
ally successful, full VR services could be given. Severely handicapped youth could
be automatically offered full VR services beginning well before their scheduled
departure from school (which is permissible under federal regulations). Whatever
the priorities assigned, the program will come closer to meeting its goals with its
available resources if effort is concentrated on finding, accepting, and serving clients
in priority categories. We discussed referrals from the Department of Employment
Security in an earlier recommendation.

RECOMMENDATION 60: Either expand the VR program to serve more of the
severely mentally handicapped people in need, or restructure FY 1974 priorities to
shift the VR caseload from emphasizing the generally less severe "other mental"
handicaps toward emphasizing more severe mental handicaps without increasing the
total budget. The VR program is not now serving all those in need because of mental
health problems, mental retardation, and alcohol or drug abuse. This program
improves the quality of life of mentally handicapped people by increasing their
ability to function independently, to obtain employment, and to work at higher-
quality employment. It also appears to yield economic benefits to taxpayers who are
paying for the vocational services to mentally handicapped people (reduced service
costs later in the mentally handicapped person’s life, reduced welfare, and increased
taxes paid by the mentally handicapped people) that exceed the costs of the program.
The benefits to society as a whole are even larger than they are for taxpayers. (By
"society,” we mean all nonhandicapped and handicapped Nevadans considered as
a group, including both the mentally handicapped people being served and the
taxpayers who are paying for the service.) Even with assumptions designed to sub-
ject the program to a difficult test, the economic benefits exceed costs to society as
a whole and to the Nevada taxpaying population for every one of the prevalent types
of mental handicaps that we considered (see Chap. 11 of the main text for the
detailed cost/benefit analysis). The Nevada Bureau of Vocational Rehabilitation
must set its own priorities subject to federal funding guidelines, but we question
whether placing highest priority on people with psychoneurotic or "other mental
disorders" (as evidenced by their being the two largest categories in FY 1974 in
terms of numbers of clients accepted and average cost of services per rehabilitant)
is consistent with current federal guidelines giving priority to more severely hand-
icapped people. In fact, half of all VR case expenditures on mentally disabled
individuals whose cases were closed in FY 1974 went for persons in the nebulous
category "other mental disability”—people who were not disabled by alcoholism,
drug abuse, mental retardation, psychosis, neurosis, epilepsy, cerebral palsy, Par-
kinson’s disease, or stroke according to VR definitions. We do not doubt that people
with "other mental disorders of character, personality, or behavior" need and de-
serve service, but the Division of Rehabilitation may wish to concentrate its limited
resources more heavily on more severe mental disorders, in line with current federal
guidelines. The quality of life benefits of successfully serving more severely hand-
icapped people can be substantial, and our detailed analysis indicates such service
can be justified in an economic benefit/cost sense for all but the most severely
handicapped people. Our analysis in Chap. 11 suggests that benefits in relation to costs may actually rise with the severity of handicap and hence with the initial vocational skill deficit of the person (up to a point in severity where preparation for any job is extremely difficult). In a February 24, 1976, letter to The Rand Corporation, the Administrator of the Nevada Division of Rehabilitation indicated that priorities had been shifted toward serving more severely handicapped people. His Division's quantitative analysis of data from FY 1975 and the first half of FY 1976, when made available to the public, will allow assessment of the degree to which this shift in priorities has occurred.

For a more detailed discussion of vocational service programs and cost estimates for the above recommendations, see Chap. 11 of the main text.

MEDICAL SERVICES

Nevada's medical service programs for mentally handicapped people can affect their lives importantly in two ways: by providing treatment for the physical health needs of people who have mental health, mental retardation, or alcohol or drug abuse problems, and by providing payments for both physical and mental health services. In addition to medical personnel and facilities, programs providing medical treatment or payment include Medicare, a federal program; Medicaid (State Aid to the Medically Indigent in Nevada), and the Crippled Children's Services program, both joint state-federal funded programs; private insurance; and the privately sponsored Easter Seal Treatment Centers. Refer to Chap. 12 of the main text for details of those programs.

Private sector expenditures for medical care are not known, nor are the fractions of public medical expenditures devoted to mental health services and other medical care to Nevadans with problems of mental health, mental retardation, or alcohol or drug abuse. Program records typically are not kept in such a way as to enable the identification of, for example, a mentally retarded person being served. The only funds we can specifically identify as going for service to clients with mental problems are about $282,000 in Medicaid funds for mental health services (identifiable because they went to mental health service personnel), and about $75,000 in Easter Seal Treatment Center funds for mentally retarded clients. Obviously, more money than that went for people with mental problems, but we can only estimate the total. One might assume for lack of better data, for example, that the fraction of Medicaid and Medicare recipients who are mentally handicapped is the same as the fraction in the total Nevada population, and that average expenditures for a mentally handicapped client are about the same as for all other types of clients. Under these assumptions, the programs annually spend about $1 million for people with mental health problems, $1 million for mentally retarded people, and $4 million for alcohol and drug abusers. We caution that these are only order of magnitude estimates based on rather tenuous assumptions made in the absence of better information.

Of the 27 Nevada hospitals, 12 offer mental health services, and 7 of those are on an emergency or partial hospitalization basis only. Outside of Las Vegas and Reno, only emergency mental health services are available, and then only at a few of the hospitals. Other medically related facilities include 18 facilities that provide continuous skilled nursing service, under medical direction, to convalescent patients
not in an acute episode of illness, and 9 intermediate care facilities that provide personal and health-care supervision for people who do not have illnesses, diseases, injuries, or other conditions that would require the degree of care and treatment that a hospital or skilled nursing facility is designed to provide. Only 12 of the 17 Nevada counties have skilled nursing facilities, and only 4 have intermediate care facilities. Apart from geographic considerations of availability of services, several people we interviewed alleged that the operators of some of these facilities find ways in practice of denying admission to mentally handicapped clients. Consequently, even where a facility exists, the services may not be accessible to mentally handicapped people.

Currently, people in Nevada have three recourses in paying for mental health services, and for medical services for all types of mentally handicapped people: (1) privately financed care for those who can afford it or who have health insurance that covers needed services; (2) programs that receive payment from public funds, such as Medicaid, Medicare, and Crippled Children’s Services for low-income people who cannot afford good care, and for others who qualify; and (3) publicly financed direct service programs (sometimes with charges to families of clients who can afford it), such as the Mental Health Centers and Mental Retardation Centers. On the whole, this three-part system can be readily defended, but certain aspects of the way it has been implemented need improvement.

RECOMMENDATION 61: Conduct a study of the effects of requiring a mandatory minimum level of coverage for mental health and mental retardation services in every private health insurance policy. Private health insurance often either excludes mental health coverage or offers more limited coverage for mental health than for physical health problems. The 1975 session of the Nevada Legislature extended coverage of alcohol and drug abuse treatment by making it mandatory for private health insurance to provide at least a specified minimum amount of coverage for alcohol and drug abuse treatment. Potential effects of requiring such mental health and mental retardation service coverage include somewhat higher insurance costs, some decrease in the number of people purchasing health insurance because of the higher cost, increased quality-of-life benefits resulting from the increased provision of needed mental health and mental retardation services, and decreased government expenditures for services that are newly covered by private insurance. Before implementing a mandatory coverage requirement, those potential effects require careful examination as a function of the different minimum levels of mandatory coverage being considered and the types of mental disorders and services to be covered.

With respect to publicly financed health insurance programs, the nonwelfare poor population (those who are medically but not categorically needy and hence not eligible for income assistance) are in worse shape with respect to financial access to medical services than are those who can afford private care and those who are on income assistance and hence eligible for Medicaid. County welfare offices sometimes meet the medical needs of the nonwelfare poor, but exclude most mental health needs because of strained county resources. To remedy this situation, the recent Nevada legislative subcommittee for the study of the consolidation of state and local welfare programs has recommended that “…the legislature take action in 1975 to expand the SAMI (Medicaid) program to include the group known as the ‘medically needy.’” If SAMI were expanded to meet the federal definition of “medically needy,”
financial eligibility would be limited to those having an income below 133-1/3 percent of the Aid to Dependent Children (ADC) grant level, after deducting medical expenses. That expansion would not necessarily include everyone who now receives county medical assistance. If the expansion were authorized, however, the state could obtain 50 percent federal matching funds.

Concerning ADC, yet another point bears consideration. As determined by the State Welfare Board, ADC payments are currently 70 percent of the full standard of need in Nevada. Anyone earning between 70 percent of this need and full standard (i.e., earning between $230 and $329 a month for a family of four) is deprived not only of income assistance but of Medicaid benefits.

RECOMMENDATION 62: Supplement state monies by billing private and public health insurance programs to the maximum extent feasible to pay for state-operated direct service programs for mentally handicapped Nevadans. With respect to publicly operated direct service programs, such as the state mental health centers and mental retardation centers, neither public nor private health insurance programs have been fully tapped in the past to pay for those direct services. By billing for service to those persons who have a means to pay (e.g., those on Medicaid or with private insurance), state-operated program monies will be supplemented, allowing for provision of more services. Personnel of the Nevada Division of Mental Hygiene and Mental Retardation have taken steps in that direction recently and we endorse their efforts. It does not make good fiscal sense from the viewpoint of the state as a whole to spend a dollar for service through the budget of the Division of Mental Hygiene and Mental Retardation, when the same service can be funded through the Medicaid budget of the Nevada Welfare Division at a cost of 50 cents to Nevada and 50 cents to the Federal Government.

We note that the Medicaid program does not provide the same coverage for all age groups in the mentally handicapped population. One effort to modify this differential coverage is embodied in the federal Social Security Amendments of 1972 (P.L. 92-608), which authorize matching federal funds for care in psychiatric hospitals for Medicaid beneficiaries under 21 years of age, if certain requirements for patient evaluation are met. Nevada might consider exercising its option of matching the 50-percent federal contribution in providing for the mental health needs of its youth. Currently, many youngsters in need of residential mental health care are unserved or have been made wards of the state and been sent to out-of-state institutions, with the Nevada Welfare Division bearing the total cost.

For a more detailed discussion of medical services, see Chap. 12 of the main text.

RESIDENTIAL LIVING

Meeting the diverse needs of mentally handicapped people requires a range of residential programs suited to the various levels of individual functioning and service needs. These programs vary from full inpatient care facilities for people who have acute mental health problems or who are nonambulatory and profoundly mentally retarded, through less service-intensive intermediate care facilities, through semi-independent residential living programs that offer minimal supervision and assistance.

Earlier we discussed mental health, mental retardation, and alcohol and drug abuse residential treatment programs intended to provide more than supervised
residential living. This section focuses on programs that provide supervised residential living for people who are unable to live with their own families or to live independently in the community; these programs are not intended to and do not provide any other substantial mental health, mental retardation, or alcohol or drug abuse services. For a more detailed discussion of residential living programs, see Chap. 13 of the main text.

Nevada’s supervised residential living programs include foster homes for children, special foster homes called developmental homes for retarded children and young adults, adult group care and family care facilities, sheltered living apartments, the state Children’s Homes, the state juvenile Training Centers, and the federal Stewart School for Indian children and youth. The latter three types of facilities have significant numbers of mentally impaired youth as residents, but are included in this discussion of supervised residential living programs because they provide no substantial mental health, mental retardation, or alcohol or drug abuse services.

Data are not available on exactly how many mentally handicapped people are in some of these facilities, but adding the numbers for the facilities on which some information is available yields an estimate of at least 290 mentally handicapped residents, for whom the expenditures for supervised residential living were at least $620,000 in 1974. Those numbers do not include estimates for nonwelfare clients of adult group care and family care facilities, or for residents of the state training centers or the Stewart School.

RECOMMENDATION 63: At least double the number of people served by the developmental home and sheltered living apartment programs. The developmental homes and sheltered living apartments, which permit mentally retarded residents to live in sheltered foster-home or semi-independent living situations in the private residential communities, are for those people who are not yet capable of fully independent living, but do not need the much more dependent and costly residential care and treatment programs provided by the Mental Retardation Centers and the Nevada Mental Health Institute. The major problem with these programs is their tiny size; only 30 people were served in developmental homes and only 27 in sheltered living apartments in the entire state in late 1974. The type of people now in these programs typically were served previously in the more institutionalized and much more expensive residential care programs, or were not served at all by the mental retardation programs. Based on information gathered in our interviews, it appears that at least twice as many placements into these sheltered living programs could be made if they had the capacity. As more mentally retarded people with functional abilities appropriate to these programs are identified, and as the skills of people with lesser functional abilities are improved so they can be moved out of a more restrictive environment such as NMHI or one of the mental retardation centers, it is possible that the program could more than double in size. Creating more of these sheltered community living facilities would facilitate serving more people “in the least restrictive environment possible,” which is one aspect of the state goal of the Nevada Division of Mental Hygiene and Mental Retardation (see Chap. 1).

RECOMMENDATION 64: Establish facility and personnel standards and licensing specifically for private developmental homes and sheltered living apartments for retarded people, and require that staff members receive specified levels of training. While these programs are good in theory, they can be subverted by poor implementa-
tion. We see potential problems in implementation in at least three areas that presently are handled on an ad hoc basis: facility and personnel standards for the homes and apartments; training of the staff; and supervision of the staff.

RECOMMENDATION 65: Assign responsibility for all supervision of mentally retarded people living in private developmental homes in the community to the mental retardation centers, rather than having it shared by the centers and the Nevada Mental Health Institute. To help ensure the necessary continuing supervision of staff of these sheltered living facilities, to simplify the bureaucracy, to help the developmental homes to function in a coordinated manner, to facilitate serving those most in need first, and to provide the most efficient and effective support for the operators living in or near the developmental homes, it would appear that undivided responsibility for this program would be an improvement over the present situation, in which both the centers and the Institute are creating and monitoring developmental homes. To supervise rural county developmental homes, the mental retardation centers might contract with a local rural special education teacher of retarded children. The mental retardation centers, rather than NMHI, should be given this responsibility since personnel of the centers are located in both Reno and Las Vegas, and those personnel are more skilled in working with retarded people functioning at the level where they are candidates for developmental home placement.

RECOMMENDATION 66: Establish special minimum standards and supervision for foster homes and adult group care and family care facilities that provide supervised residential living for people with mental health disorders, mental retardation, and alcohol or drug abuse problems. While regular foster homes and adult group care and family care facilities presently are outside the domain of control of the mental health, mental retardation, and alcohol and drug abuse service system, it could only improve matters if those facilities that provide supervised residential living for significant numbers of people with these handicaps were subject to a few minimum facility standards and personnel selection and training standards, and received some supervision by state mental health, mental retardation, and alcohol and drug abuse personnel. These quality controls would help ensure supervised residential living of at least minimal quality for mentally handicapped people. Personnel with special expertise in serving mentally handicapped people should provide the supervision, just as the Mental Retardation Centers now do for the developmental homes. We caution that the purpose is to ensure at least minimally acceptable living conditions; care must be taken to establish reasonable standards so as not to cause existing residential living facilities simply to reject all mentally handicapped applicants because the standards are viewed as too stringent.

RECOMMENDATION 67: Refer each mentally handicapped foster child to the Division of Mental Hygiene and Mental Retardation or to a Division of Health Special Children’s Clinic for evaluation, followed by appropriate service by both these Divisions and the local special education program if the presence of a mental disorder requiring services is confirmed. Of the children placed in foster homes by the Nevada Welfare Division, social workers suspect that more than one-third have mental problems. The Welfare Division has set up 15 specialized foster homes for some of these children.

The Nevada Youth Services Agency facilities and related programs providing supervised residential living for children in the two state children’s homes, the two
state Training Centers, the Home of the Good Shepherd, and the Spring Mountain Youth Camp were not established to serve as mental retardation and mental health treatment centers. Many of the children receiving residential care in those facilities are emotionally disturbed, however, and some are mentally retarded. Some provision should be made to see that the mental health and mental retardation service system serves those children while they are in supervised residential care programs of the Youth Services Agency. There appear to be several reasons for the lack of delivery of mental health and mental retardation services to residents of those facilities: the facilities either have no mental health and mental retardation staff or do not have sufficient qualified staff; there appears to be considerable "buckingpassing" on the part of other mental programs; and the capacity of other mental service programs in Caliente, Carson City, Elko, and Boulder City, where the four primary youth facilities are located, is not high. Most certainly, the rural locations of the training centers have strongly affected the type of program they have been able to offer. Rurality denies them easy access to the specialized personnel, programs, and skills that are much more readily available in the urban centers' mental programs. Their remoteness also has made it difficult to recruit qualified staff. Finally, the present fragmented service system lacks coordination in assuring that all different types of these children's needs are met.

RECOMMENDATION 68: Provide a professional psychological screening for all residents and referrals for residential care at the two Nevada Children's Homes and the two state training centers to identify potential mental health and mental retardation problems; once mentally handicapped youth have been identified at these state facilities, the Division of Mental Hygiene and Mental Retardation should be required to provide them with the appropriate level of services ranging from full residential treatment to day treatment to outpatient treatment. The primary burden for mental health service could be given to the Rural Clinics outpatient mental health program, which in 1974 did not serve most children from these facilities. However, before the Rural Clinic's program could adequately carry this additional service burden, it would require considerable improvement such as that which we recommended earlier in this chapter, since the Rural Clinics program is now only an embryonic program with major deficiencies. If the Rural Clinics program is not improved, some other mechanism for serving these mentally handicapped youth should be developed.

For a more detailed discussion of residential living programs, see Chap. 13 of the main text.

INCOME ASSISTANCE

Direct income assistance is available from the following sources in Nevada: federally funded Social Security Disability Insurance (SSDI), joint state and federally funded Supplemental Security Income (SSI), joint state and federally funded Aid to Dependent Children (ADC), and county funded General Assistance (GA). See Chap. 14 of the main text for more detailed discussions of these programs than are provided below.

Only in the SSDI and SSI programs can a mentally handicapping condition be a basis for receiving direct financial aid. The Nevada Welfare Division administers ADC, Medicaid, and social services for aged, blind, and disabled people who receive
their income assistance checks directly from the Social Security Administration under the SSI program. County General Assistance provides income assistance for certain needy persons excluded from federal and state aid because they are unable to meet all eligibility requirements. This group includes persons who (1) are awaiting completion of processing of their SSI applications; (2) need emergency help; (3) are members of intact families (both parents in the home); (4) are temporarily unable to work but not technically disabled under SSI and SSDI regulations; and (5) possess income and/or resources above the eligibility restrictions of other income assistance programs. Both the state- and county-operated programs (ADC and GA, respectively) provide income maintenance to a defined population of financially needy people, some of whom also may happen to have mental handicaps.

At least 1500 mentally handicapped Nevadans received income assistance, which amounted to at least $2 million in 1974. The estimated number served and expenditures by program were at least $1.1 million and 450 people by SSDI; $550,000 and 350 people by SSI; and $400,000 and 740 people by ADC. Data were not available on GA expenditures for mentally handicapped people. Data are not available to break down those totals meaningfully by type of mental handicap for any of the four programs.

RECOMMENDATION 69: Identify each mentally handicapped person receiving financial assistance, refer him or her to other appropriate service programs (or to the Direction Centers we recommended above), and maintain much more complete program planning data. Without accurately knowing both the numbers of mentally handicapped persons served and the nature of their disabilities, there is no adequate way to plan and evaluate the system. The collection and assessment of these types of data would provide the necessary feedback to evaluate the present system, help assess its effectiveness, and meet those service needs exposed. Without adequate information in a usable format, it is not possible to ensure the provision of other needed nonfinancial assistance services. The income assistance rolls are an excellent potential source of referrals for other programs; it is a source that has not been fully tapped, with the possible exception of referrals of SSI applicants for vocational rehabilitation.

RECOMMENDATION 70: Any mentally handicapped ADC recipients who are also eligible for SSI should be transferred to the higher-paying (and primarily federally financed) SSI program. This would not only provide a more nearly adequate income for the mentally handicapped people involved, but would do so at less cost to the state (although at more cost to the Federal Government). The improved screening recommended above would facilitate this.

RECOMMENDATION 71: Supplement the federal SSI payments to mentally disabled people with state funds to provide a more nearly adequate level of income assistance. The current SSI maximum payment schedule runs below that of the federal poverty level. The Office of Economic Opportunity's poverty level (as of May 22, 1974) is $2330 a year for one person, and the Bureau of the Census uses a poverty level of $2396 for one person. For a nonfarm male individual under age 65 living alone. However, SSI payments for a disabled person living independently were maximum of $1890 in July 1975; an individual's other sources of direct or indirect income may result in an actual payment below the maximum allowable. While nonfinancial assistance is also provided to mentally handicapped people on financial assistance programs (see Chaps. 4 to 13 of the main text for discussions of those other
services), most basic needs, such as for housing, utilities, and clothing, are met through the mechanism of direct cash transfers. In order for income assistance to continue to fulfill the function it was designed for, the state supplementary figure should periodically make allowances for inflation. We note that the state currently provides a supplement to the federal SSI payment for other categories of SSI recipients for whom the cost of meeting basic living needs is not clearly higher than it is for mentally handicapped Nevadans.

For a more detailed discussion of income assistance, see Chap. 14 of the main text.

PRIORITIES ON RECOMMENDATIONS

We have developed 71 recommendations for improving services to people in Nevada with mental health disorders, mental retardation, and alcohol and drug abuse problems. The choice by Nevadans on which recommendations, if any, to implement depends on the goal chosen and on the level of effort the government and other Nevada organizations are willing to make in improving services. The official state goal for the Nevada Division of Mental Hygiene and Mental Retardation with respect to delivery of services is to "strengthen the delivery system toward a full continuum of mental health and mental retardation services in the least restrictive environment possible, to ensure that needed services are available to all citizens, regardless of age, location, race, sex, creed, or income." (See Chap. 1.) In light of this state goal, Nevada officials can choose to make different levels of effort. We discuss three possible levels of effort below, and have grouped our recommendations according to those levels of effort: slight or no change in level of effort; modest change in the current effort; and the substantial change in level of effort required to meet the state goal. If Nevada officials choose not to make the substantial change in level of effort required to achieve the state goal, then not all 71 of our recommendations can be implemented and priorities must be set on those recommendations. In that case, Nevada should focus the limited available resources on the most important recommendations, rather than attempt to do everything and perhaps end up doing very few things adequately. The 11 different dimensions presented in Chap. 1 for assessing service system performance in relation to system goals are useful in setting priorities, since they represent different types of costs and effects of recommendations that should be considered in setting priorities. Recall that those dimensions were concerned with such factors as costs, availability of a full range of needed services, coordination of services, the quality of available services, sufficiency of service capacity in relation to need, equity of service distribution, future economic effects of service, and effects on the quality of life of the mentally handicapped person. Setting priorities would be easy if progress toward the state goal could be measured exclusively on one dimension for every recommendation. Unfortunately, the costs and effects of recommendations for improvement in the mental health and mental retardation service system must be measured on several different dimensions. And with the data available, it often is possible to know only the qualitative direction, not the quantitative amount, of the changes in the costs and effects on

various dimensions. Consequently, setting priorities on recommendations such as ours necessarily must be a matter of judgment about the magnitude and nature of the costs and effects of the different recommendations, and a matter of judgment about tradeoffs among the different types of costs and effects.

In setting priorities, we are suggesting that certain of our 71 recommendations be implemented before others. In selecting those that we suggest be given priority and implemented if Nevada officials desire to make only a slight or no increase in the level of effort, we have stressed low-cost recommendations. In selecting those that we suggest be given priority and implemented if Nevada officials desire to make a modest increase in the level of effort, we have stressed recommendations aimed at reducing the greatest gaps in the range of needed services, the greatest deficiencies in service capacity in relation to need, and the most serious deficiencies in the quality of services that now are available. Of course, the use of different goals and criteria may result in different priorities from those we suggest below.

In our judgment, the types of recommendations we suggest be implemented at each level would contribute most toward meeting the state goal for the specified level of effort. Our recommendations are summarized in Table 2.1, grouped by type of service and by three different levels of effort government officials may choose to make to remedy the problems. The number beside the summary recommendation in the table indicates the numerical order in which the complete detailed recommendations were presented earlier in this chapter; it does not indicate priority.

The cost estimates presented later in this section are for the increase in annual expenditures required by the recommendations. The estimates were developed by using expenditure data from currently operating programs and using other information from Chaps. 4 to 14 of the main text. Each recommendation was costed in arriving at the total estimates, which we are confident are of the correct order of magnitude of the annual expenditure increase required. Extremely detailed cost analyses were not made and presented in this report, however. The actual annual cost increase will depend on exactly how Nevadans decide to implement the recommendations.

Status Quo Level of Effort

The status quo level of effort, involving slight or no increase in total resources for services, might be chosen by those who are more interested in holding the line on current expenditures than in resolving the major service problems that exist. Such a choice is understandable, but Nevada clearly is not achieving and cannot achieve its state goal with respect to delivery of services to mentally handicapped people if there is little or no change in the current level of effort. Furthermore, the wisdom of economizing on current service expenditures for people with mental handicaps can be challenged on humanitarian grounds for all services, and on long-term economic grounds for some types of services (e.g., prevention of certain types of mental retardation, and vocational rehabilitation). An implicit tradeoff is between the cost of current services and the implicit cost associated with the diminished quality of life of the person who is unserved or inadequately served.

Even if there is to be only a slight increase or no increase in the level of effort, by which we mean a 5 percent or less increase in annual expenditures, many of our recommendations can be implemented, as shown in Table 2.1. Our several recom-
recommendations on management practices and organizational structure, for example, can be implemented at little or no additional cost but can enhance the control, coordination, and performance of the service system. Better program management and service effectiveness information can be obtained. Without increasing the overall level of resources expended, Nevada can shift the client focus in certain programs, as outlined in two of our low-cost recommendations. As to priorities among different types of mentally handicapped people, this is a matter for the judgment of state officials and is beyond the province of this study. If state officials choose to maintain the status quo level of effort, the question of the relative emphasis to place on service to people with mental health disorders, mental retardation, or problems of alcohol or drug abuse—that is, who will not be served—is not an easy or comfortable one to answer.

Each of the recommendations shown in the “slight or no increase in the level of effort” column of Table 2.1 was placed there because of its low cost—an estimated increase in annual expenditures in the $0 to $100,000 range—with one exception. Our recommendation for establishment of two Regional Direction Centers would cost approximately $500,000 a year. Regional Direction Centers are included because they are a key element in a set of recommendations primarily aimed at improving the management, coordination, and information in the service system. The presence of Regional Direction Centers would enhance the effectiveness of the other recommendations in that column also aimed at improvement in management, coordination, and information. The total estimated increase in annual expenditures required to implement all recommendations in the “slight or no increase in the level of effort” column is $1.8 million.

To begin to resolve most of the major problems we noted, however, expenditures and staff will have to expand. The state goal for the mental health and mental retardation service delivery system cannot be achieved with only a slight or no increase in the level of effort.

Beginning to Face the Facts

State officials might also choose to make some modest increase above the current level of effort in recognition of the massive problems that still prevail with Nevada’s mental health and mental retardation service system. By “modest,” we mean up to a 50 percent increase in annual expenditures above the FY 1974 level of effort.

If the level of effort is to be increased, we would add certain priority types of recommendations to those already cited for the “slight or no increase in level of effort” case. Recommendations listed in the “modest increase in level of effort” column of Table 2.1 are those which we feel address the greatest gaps in the range of needed services, the greatest deficiencies in service capacity in relation to need, and the most serious deficiencies in the quality of services that now are provided.

For people with mental health disorders, we would assign priority to our recommendations in the areas of: identifying people in need of service by screening high-risk groups and screening each schoolchild once; expanding special education to serve all seriously emotionally disturbed children the law now says must be served; restructuring, upgrading, and expanding rural mental health services; providing improved follow-up treatment of people released from residential mental health programs; providing intermediate levels of mental health services to those needing
### Table 2.1
**SUMMARY OF AREAS OF RECOMMENDATIONS AND COSTS, BY DESIRED CHANGE IN LEVEL OF EFFORT**  
(Fiscal Year 1974 expenditures = $35 million)

<table>
<thead>
<tr>
<th>Suggested Priority Areas of Recommendations by Desired Change in Level of Effort</th>
<th>Meeting All the Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slight or No Change</strong></td>
<td>Estimated annual cost increase of $16 million (46 percent); adopt all “slight or no change in desired level of effort” recommendations in each service need area, plus those listed below</td>
</tr>
<tr>
<td><strong>Moderate Increase</strong></td>
<td>Estimated annual cost increase of $27 million (77 percent); adopt all “slight or no change” and “modest increases in desired level of effort” recommendations in each service need area, plus those listed below</td>
</tr>
</tbody>
</table>

#### Service Need
- Estimated Annual cost increase of $1.8 million (5 percent)

#### Direction
1. Establish Regional Direction Centers
2. Strengthen State advisory boards

#### Prevention
6. Assign specific responsibility for prevention of mental retardation

#### Identification
- 10. Provide behavioral and psychological screening once for each young school child
- 11. Screen high-risk groups for mental health disorders

#### Special Education and Training
13. Allocate special education funds by specific handicap and enforce current standards
16. Revise preschool program focus in Community Training Centers
17. Revise preschool program focus in Special Children’s Clinics
18. Increase referrals from schools to other service agencies
19. Obtain better information on special education and training programs

#### Mental Health Services
20. Fill authorized professional staff positions at the Las Vegas Mental Health Center
23. Increase Rural Clinics efforts for people with substantial mental health disorders
26. Revise the Las Vegas Children’s Behavioral Services staff and the service focus
29. Provide specified staff mix and client focus in Children’s behavioral Services residential programs
34. Restrict use of Mentally Disordered Offender Facility to prisoners
36. Provide a physically secure mental health unit at NMHI
37. Revise the role of NMHI to fulfill four specified functions
38. Obtain better information on mental health programs

- 22. Upgrade rural mental health staff, and add part-time traveling service teams based at NMHI
- 28. Establish an upgraded mental health technician personnel classification and a university-based training program
- 31. Improve follow-up treatment of people released from residential mental health programs
- 32. Create programs to provide an intermediate level of mental health services over an extended time period for children and adults

- 21. Provide 24-hours-a-day emergency crisis intervention service in mental health centers and Rural Clinics
- 24. Establish a second community mental health center in Clark County
- 25. Expand the Reno Mental Health Center into a full community mental health center
- 27. Provide mental health services to mentally retarded people if needed
- 30. Correct major deficiencies in mental health services noted in the NMHI accreditation report
- 33. Establish halfway houses for people with mental health disorders
- 35. Provide specified mental health services in Nevada State Prison
Table 2.1 (Continued)

<table>
<thead>
<tr>
<th>Slight or No Change</th>
<th>Modest Increase</th>
<th>Meeting All the Needs</th>
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<tr>
<td><strong>Mental Retardation Services</strong></td>
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<tr>
<td>40. Do not reduce existing NMHI mental retardation staff size when Desert Developmental Center opens</td>
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<td>42. Consolidate state mental retardation program control by removing control of mental retardation services from the NMHI Director</td>
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<td>44. Expand special education and training, as appropriate, for Eagle Valley Children’s Home residents</td>
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<td>46. Obtain better information on mental retardation programs</td>
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<tr>
<td><strong>Alcohol and Drug Abuse Services</strong></td>
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<td>47. Obtain better information on alcohol and drug abuse programs and prevalence rates</td>
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<tr>
<td>48. Streamline the organizational structure for alcohol and drug abuse programs</td>
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<tr>
<td><strong>Vocational Services</strong></td>
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<tr>
<td>53. Provide specified general vocational services in rural areas, with short-term more specialized services in urban areas for rural residents</td>
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<tr>
<td>55. Consolidate the Vocational Training program with specified vocational program</td>
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<td>57. Increase referrals from Employment Security to the Vocational Rehabilitation program</td>
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<tr>
<td>58. Obtain better information on vocational service programs</td>
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<tr>
<td>59. Increase referrals from nonvocational to vocational service programs</td>
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<tr>
<td><strong>Medical Services</strong></td>
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<td>61. Study the effects of mandatory mental health and mental retardation service coverage in private health insurance</td>
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<tr>
<td>62. Supplement state-operated program funds by billing private and public health insurance to extent feasible</td>
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<tr>
<td><strong>Residential Living Services</strong></td>
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<tr>
<td>64. Establish standards for developmental homes and sheltered living apartments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65. Consolidate developmental home supervision responsibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income Assistance</strong></td>
<td></td>
<td></td>
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<tr>
<td>70. Transfer mentally handicapped Aid to Dependent Children recipients to the Supplemental Security Income program, if they qualify.</td>
<td></td>
<td></td>
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<tr>
<td>39. Improve the NMHI mental retardation program to meet JCAH accreditation standards</td>
<td></td>
<td></td>
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<tr>
<td>41. Provide the equivalent of the Desert Developmental Center services to northern Nevadans, but defer major facility construction</td>
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<td></td>
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<tr>
<td>43. Improve training of state “Technicians” serving mentally retarded people</td>
<td></td>
<td></td>
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<tr>
<td>45. Provide special services to mentally retarded prisoners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. Create a comprehensive alcohol abuse treatment program for the Las Vegas area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. Provide alcohol and drug detoxification services throughout Nevada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. Establish rehabilitation houses for rural alcoholic and drug abusers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. Establish a full inpatient treatment program for drug abusers</td>
<td></td>
<td></td>
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<tr>
<td>54. Double the Community Training Center minimum funding per client</td>
<td></td>
<td></td>
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<tr>
<td>56. Provide vocational education for emotionally disturbed youth</td>
<td></td>
<td></td>
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<tr>
<td>60. Expand the Vocational Rehabilitation program or shift the caseload emphasis to serve more severely handicapped clients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63. Double the size of the developmental home and sheltered apartment living programs</td>
<td></td>
<td></td>
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<tr>
<td>66. Implement standards and supervision for foster homes and Adult Group Care and Family Care Facilities serving mentally handicapped people</td>
<td></td>
<td></td>
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<tr>
<td>67. Refer mentally handicapped foster children for services as appropriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68. Screen residents of Youth Services Agency facilities for mental handicaps, followed by services as appropriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69. Identify financial assistance recipients with mental handicaps, and refer for services as appropriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71. Provide a state supplement to the SSI payments to mentally handicapped people</td>
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</tbody>
</table>
them over an extended time; and substantially upgrading the skills of mental health technicians.

For mentally retarded people, we would assign priority to our recommendations in the areas of: identification of people in need of service by screening each school-child once; increasing special education resources to serve all those children the law now says must be served, and to provide appropriate special education and training to mentally retarded Nevada Mental Health Institute residents; expansion of developmental homes and sheltered apartment living opportunities in the community; providing the equivalent of the Desert Developmental Center's range and quality of services to northern Nevadans; improving the training of state "technicians" who serve mentally retarded people; providing special services to mentally retarded prisoners; and bringing the severely deficient mental retardation program at the Nevada Mental Health Institute up to accreditation standards.

For alcohol and drug abusers, we would assign priority to our recommendations in the areas of: creating drug and alcohol detoxification services statewide; creating a comprehensive alcohol abuse treatment program in the Las Vegas area; creating an inpatient drug treatment program analogous to the one existing for alcohol abuse treatment at the Nevada Mental Health Institute; and creating rehabilitation houses plus an outpatient program in rural Nevada.

We stress that, within the above lists for each type of mental handicap, we do not mean to imply relative priorities by the order in which we present areas of recommendations; and we repeat that state officials must decide on priorities among handicaps. We further note that, immediately above and in Table 2.1, we have described areas of recommendations in brief general terms; the complete recommendations were presented in earlier sections of this chapter.

Implementation of each of the recommendations cited in the "modest increase in level of effort" column of Table 2.1 would require an estimated increase in the level of annual expenditures of approximately $16 million, or about 46 percent above the FY 1974 level of expenditures. Of all the priority recommendations, the one for increasing the number of special education units funded for mentally retarded and seriously emotionally disturbed children is the most expensive, an estimated $5.8 million annually above FY 1974 expenditures. Our estimate of the cost of each of the other recommendations is $1.2 million or less annually, and usually substantially less. Even if Nevada officials approve that $16 million increase in level of effort for the priority recommendations we listed, many of our 71 recommendations, which we regard as necessary to resolve major service system problems for mentally handicapped Nevadans, would not be implemented.

Meeting All the Needs

If Nevada officials decide to make the level of effort required to meet all the needs of each different group of mentally handicapped people, then all of our recommendations should be implemented. The question is whether Nevada officials are willing to make the commitment necessary to achieve the official state goal.

We estimate that the total increase in the level of effort required to implement all 71 of our recommendations would be approximately $27 million per year above the level of FY 1974 expenditures, depending on how state officials implemented the recommendations. This represents a 77 percent increase. One of our recommendations, for increase in the income assistance level in the Supplemental Security
Income program, will benefit both physically and mentally handicapped people; only the cost of the increase associated with the mentally handicapped population is included in the above estimate. Implementation of our recommendations is not inexpensive, but we believe it is necessary if Nevada is to achieve its official goal for the mental health and mental retardation service delivery system.

The fact remains that there are great unmet and inadequately met service needs of Nevadans with mental health disorders, mental retardation, and alcohol and drug abuse problems. It is up to Nevada to say how far it is willing to go in meeting those needs.
Chapter 3
THE MENTALLY HANDICAPPED POPULATION

In estimating the number of people needing services because of mental retardation, alcohol or drug abuse, and mental health problems, we begin with a projection and analysis of Nevada's total population today and ten years in the future. We then estimate the prevalence rates of various mental handicaps in the Nevada population; those rates, applied to the total population, yield numerical estimates of the various types of mentally handicapped people. We chose a ten-year planning horizon because many major substantive program and facility changes require five to ten years for full implementation, and hence require planning now. It is both less essential and less feasible to plan fully for more than ten years in the future, because of uncertainties concerning Nevada's population growth beyond ten years, and because it is not necessary to make immediate decisions on most program changes that would take place so far in the future. Given the uncertainties about population growth and about the fractions of the population with various mental handicaps, the best planning strategy would be to make service decisions that allow for flexibility in growth of the number of people served, and to reassess periodically the extent to which mentally handicapped people in need are known to be unserved.

In most service areas in Nevada today, current service providers know of unserved mentally handicapped people or have relatively untapped sources of referrals. Consequently, if the state decides to expand program service, it can do so in most service areas without fear that the added capacity will not be needed. The primary point is that although the projected unmet need for most service programs in Nevada is uncertain, it exceeds any expansion that appears achievable in the near future (in terms of ability to obtain funding, and ability to create and adequately staff new facilities and programs).

Concerning definitions and prevalence of different types of mental handicaps, which are covered in more detail in later sections of this chapter, our prime observations are that (1) definitions presently used in the service system often vary from agency to agency, if an agency defines mental handicaps at all; (2) the stated definitions are generally subject to considerable interpretation and are almost never clear; and (3) the general unavailability of reliable data on prevalence results in divergent estimates by different sources.

From the standpoint of this study, a mentally handicapped person is broadly defined as a person with a significant mental impairment that substantially limits his or her functioning in one or more major life activities, and results in a substantial need for special services that nonhandicapped people do not require. Because this study is concerned with the policy of providing services, a handicap is defined in terms of the need for services.

The study focuses primarily on people afflicted with what are generally called problems of mental health, mental retardation, and alcohol or drug abuse. Our

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1 Definitions used by different programs are presented in the relevant subsequent chapters, where the programs are discussed in detail.
occasional use of the shorthand generic term "mental handicap" refers to people with one or more of these four problems who need service, but it in no way assumes a commonality of need for particular services by so widely diverse a group. The needs of people whose primary problems are with other types of mentally related handicaps, such as cerebral palsy, epilepsy, Parkinson's disease, and stroke, are equally important but beyond the scope of this study.

Although much has been written on the difficulties of classifying people to be served, and on the hazards of labeling, classification is useful in obtaining appropriate services for people in need, for planning and seeking support for programs, and for evaluation. Some sort of classification is unavoidable. The aim should be to retain its usefulness while striving always to minimize the sometimes negative effects of labels.  

Estimates of the number of mentally handicapped people vary widely depending on the definitions used, the data accepted, and the type of service needed. While we are not fully satisfied with the reliability of the estimates we present in this chapter, we are confident that they represent the correct order of magnitude of those people requiring at least some of the special services described in this report. We make no attempt here to settle on the "best" single definition of each handicapping condition, since we believe that a single definition of a handicap to use in determining eligibility for every type of service would be inappropriate even if it were semantically satisfying. Our objective here is to discuss some commonly used definitions.

First, handicapping conditions usually have multiple dimensions. A person may be handicapped in one dimension or type of functional capability and not in another. Ideally, from a standpoint of service policy, the definition of a particular handicap, used for establishing a client's eligibility for service, should be based on the client's need or functional capability as well as ability to benefit from the service. In short, the definition should depend on the type of service to be given. Operationally, this means that a set of definitions, not a single definition, is needed for each generic type of handicap.

Given that one wants to decide who is and who is not to be served, another problem is where to draw the line. In defining mental retardation, for example, some agencies arbitrarily set the boundary at an IQ of 70. It is not so easy to explain, however, why a child with, say, an IQ of 68 should need educational services different from those given to a child with an IQ of 72. With mental retardation, as with all other handicaps, there is a continuum in the degree of severity of the handicap; moreover, the handicap can be measured on different dimensions (e.g., IQ and several types of adaptive behavior for mentally retarded persons). One-dimensional and purely binary definitions—the person either is or is not handicapped—are blunt instruments for measuring a person's need for service.

Finally, the severity of a handicapping condition depends on the environment in which the child and later the adult finds himself or herself. That is, the need for  

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particular services depends on the person's functional capabilities in the environment (e.g., school or work, city or country).

Because of these difficulties in developing definitions, later in this chapter we delineate our assumptions about the various types of mental handicapping conditions and their prevalence, so that those who disagree can alter our estimates to arrive at their own conclusions. Throughout this chapter we present a range of prevalence estimates for the various mental disorders; Table 3.1 summarizes the conservatively estimated minimum numbers of people with each type of disorder who need services. Note that at least 66,000 people needed some type of substantial services in Nevada in 1975 because of mental disorders; the minimum number in need of services will grow to about 89,000 by 1985. (Alcohol and drug abusers may outnumber people with mental health or mental retardation problems two to one, but depending on the objectives and priorities one sets, equal importance may not be assigned to serving all people in each of these different mental handicap groups.) If we were to use the top rather than the lower end of our range of estimates of prevalence for each type of disorder, the estimated maximum number in need of some services is about 122,000 in 1975 and 163,000 in 1985.

Table 3.1

<table>
<thead>
<tr>
<th>Type of Handicap</th>
<th>Number</th>
<th>1975</th>
<th>1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health problems</td>
<td></td>
<td>11,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Mental retardation</td>
<td></td>
<td>11,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Alcohol and drug abuse</td>
<td></td>
<td>44,000</td>
<td>59,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>66,000</strong></td>
<td><strong>89,000</strong></td>
</tr>
</tbody>
</table>

**SOURCES:** See text of Chap. 3.

**POPULATION PROJECTIONS AND ANALYSIS**

This section presents demographic projections to 1985 for the state of Nevada and its two metropolitan areas, Las Vegas and Reno. The projections and accompanying background analysis provide a basis for forecasts of the mentally handicapped population. Their applicability may be broader, however, in that the projections point up some major demographic uncertainties that condition such forecasts.

In this section, we derive our "best-estimate" projection of 759,000 for 1985; it is based on an assumed continuation of recent fertility and migration trends, and it follows the post-1970 trend in Nevada's population rather closely. Our illustrative "low" projection of approximately 689,000 differs only in its assumption about the subsequent rate of migratory growth. The migration component is the major uncertainty in projecting Nevada's growth.
It would be difficult to select an illustrative "high" projection on other than arbitrary grounds. Nevada's relatively small population and its inherent sensitivity to California's migration make the potential for growth very large. As an alternative, then, we explore several possible scenarios of future growth without using specific numbers. One such scenario envisions a modest economic boom in the state. Another explores the possibility that Nevada may emerge as a major national terminus for retirement migration.

In mentioning either low or high projections, there is always the danger that the forecaster will be misunderstood as flatly predicting a particular outcome or declaring it to be the limit of what can reasonably be regarded as possible. We hope to be spared such misunderstanding. Demographers themselves are aware that population forecasting has become a hazardous occupation full of unsettling surprises (as witness the sudden drop in the national fertility rate and the recent trend of migration to nonmetropolitan areas). We therefore present these alternatives to our "best-estimate" projection to create an awareness of possibilities that might otherwise be ignored.

The remainder of this section discusses details of the Nevada general population estimates. Readers more interested in definitions and in the prevalence of various types of mental handicapping conditions may wish to proceed to the next section.

Evaluation of Available Projections

In evaluating demographic projections, two yardsticks are necessary. One is analytical and concerns the validity of the projection model's basic assumptions. The other is performance-related and concerns how closely the projected trend agrees with the trend observed to date. In judging a given projection, it is necessary to ask whether certain analytical standards are met, regardless of performance to date. In choosing between two projections that are equally sound analytically, performance to date becomes a basis for choice.

In reviewing the available demographic projections to find likely candidates for use, we have focused on those published by three separate agencies: (1) the State of Nevada water planning report No. 5, prepared by Victor R. Hill, (2) the most recent published projections by the Bureau of Economic Analysis (BEA), and (3) the standard series of projections prepared by the U.S. Bureau of the Census. These projections are shown in Table 3.2, along with postcensal estimates of population through 1974.

Between 1960 and 1970, Nevada's population increased 71 percent (an average annual rate of 5.4 percent), better than five times the national rate of increase. The state's population reached 489,000 according to the 1970 Census. Since then, its average annual growth rate has slowed to 3.5 percent. About two-thirds of the decline in the annual growth rate can be attributed to a reduced net inflow of migrants; one-third is attributable to a decline in the crude birth rate. (The reader should not make too much of these estimates, however; they are rather unstable, especially the one concerning migration.)

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1 A fourth source discussed later in this section, is the work of Dr. S. F. Chu of the University of Nevada's Bureau of Business and Economic Research. It was used to make the projections by major subregions of Nevada. One other source consulted was the National Planning Association's Regional Demographic Projections: 1960-85. These were judged to be too out of date.
Table 3.2

PROJECTIONS OF NEVADA’S RESIDENT POPULATION, 1975-2000,
WITH POSTCENSUS ESTIMATES TO 1974
(Numbers in thousands)

<table>
<thead>
<tr>
<th>Sources and Assumptions</th>
<th>Projected Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nevada water planning report</td>
<td>620</td>
</tr>
<tr>
<td>(no explicit assumptions)</td>
<td></td>
</tr>
<tr>
<td>Bureau of Economic Analysis</td>
<td>616</td>
</tr>
<tr>
<td>(fertility = 1972 level;</td>
<td></td>
</tr>
<tr>
<td>migration = by-product of economic</td>
<td></td>
</tr>
<tr>
<td>growth)</td>
<td></td>
</tr>
<tr>
<td>Bureau of the Census</td>
<td>589</td>
</tr>
<tr>
<td>Series I-C (high fertility;</td>
<td></td>
</tr>
<tr>
<td>continued migration)</td>
<td></td>
</tr>
<tr>
<td>Series III-C (high fertility;</td>
<td>528</td>
</tr>
<tr>
<td>no net migration)</td>
<td></td>
</tr>
<tr>
<td>Series I-E (1972 fertility;</td>
<td>584</td>
</tr>
<tr>
<td>continued migration)</td>
<td></td>
</tr>
<tr>
<td>Series III-E (1972 fertility;</td>
<td>524</td>
</tr>
<tr>
<td>no net migration)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Nevada’s population in the 1970 Census was 489,000. Its estimated population in 1972 and 1974, according to the U.S. Bureau of the Census, Current Population Reports, Series P-25, was:
1972: 533,000 (Report No. 520, July 1974);

If the recent growth rate actually continued, Nevada’s population should have reached 587,000 by mid-1975. Although this hypothetical target is two years beyond the latest available estimate, it provides a performance-related yardstick for appraising the above projections. There is now substantial reason to doubt the 1975 population projection of 620,000 appearing in the state water planning report (representing a 4.9 percent annual rate of increase). It appears too high when viewed against the actual 1970-1973 trend; more important, it has several limitations analytically. According to the published report, the projection lacked explicit assumptions about the demographic components (fertility, mortality, and migration) of projected change.

The BEA and Census projections, in contrast, rest on satisfactory analytical assumptions. Both assume completed cohort fertility to be 2.1, births per woman (the standard Census Series E assumption corresponding to the 1972 fertility level); they differ with respect to their assumptions about migration. The BEA projection assumes that net migration responds to changes in Nevada’s income and employment (as projected by BEA using a highly disaggregated model of national, regional,
and state economic growth). But judged against the post-1970 trend, BEA's projection is proving low. For 1980, the BEA model projects a population of 616,000, or an implied ten-year increase of 127,000, between 1970 and 1980. By 1973, however, it was estimated that Nevada's population already had increased 59,000, implying a further increase (under the BEA's projection) of only 68,000 during the remaining seven years of the decade.

Of the Census Bureau's state-level projections, Series I-E is now the most reasonable, given the national fertility decline. It rests on the same fertility assumption as the BEA projection, but unlike the latter it involves no specific assumptions about the economic determination of migration. All Census Series I projections assume a continuation of 1960-1970 gross migration trends. Since there is no basis for expecting BEA's untested procedure for handling migration to be superior to the Census procedure, we must rely on performance-related criteria to choose between the two. On these grounds, Census Series I-E is preferable: its 1975 projection of 584,000 tracks closely to the observed trend through 1973 (which, were it to continue for two more years, would reach 587,000). Indeed, the expected error in the estimate of Nevada's 1973 population could easily account for the differences between these two figures.

In summary, the preferred choice for the "best-estimate" projection is Census Series I-E: its analytical assumptions are realistic in view of current fertility and apparent migration; and the population’s actual rate of increase since 1970 tends to confirm their expectations. For an illustrative "low" projection, the BEA projection is our choice: it differs from Series I-E only with respect to migration, which is the critical factor of uncertainty about Nevada's demographic future. On grounds of its performance to date, the BEA projection appears to be low.

Future Growth Possibilities: Two Scenarios

In the previous section, we used demographic and performance-related criteria to select "best-estimate" and illustrative "low" projections of Nevada's future growth. When it comes to selecting a single "high" projection, other considerations complicate the choice. The state's population is very small, consisting of two medium-size metropolitan settlements—Las Vegas and Reno—with the remaining population scattered thinly about the state. Equally important, Nevada's population growth is closely linked to flows of migration to and from heavily populated California. Any shift in the numbers or destinations of migrants departing that state, although minor from a Californian vantage point, could amount to a major exogenous change from the vantage point of Nevada. The net result is that Nevada is susceptible to virtually limitless possibilities for growth over the near to intermediate term.

That point can be illustrated by examining directional migration flows between Nevada and California. Between 1965 and 1970, 110,100 migrants entered Nevada;

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4 This assumption results in an automatic gradual moderation of the future net migration rate, for technical reasons that need not concern us here. (For details, see U.S. Bureau of the Census. Current Population Reports, Series P-25, No. 477, March 1972.) This moderation of net migration is a desirable characteristic of the projection. It is consistent with the idea that migration is responsive to economic and social imbalances and that migration will to a large extent tend to moderate the imbalances existing at the beginning of the projection period. This characteristic makes no allowances, of course, for a change in trend due to imbalances that may develop.

5 The migration flows discussed here relate to a five-year migration interval derived by comparing 1965 and 1970 places of residence. These data register only a fraction of all moves that occur. For example,
of these 43,000 (39 percent) originated in California. During the same period, 89,000 migrants left Nevada, of whom 32,600 (37 percent) went to California. Nevada therefore gained 21,100 new residents through net migration, with California contributing fully 10,400, or 49 percent.

Migrants going to Nevada represent a mere 3.2 percent of California's 1.3 million outmigrants—a minor demographic subtraction from a large population base at origin. But to Nevada's small population base (one-fortieth the size of California's), these migrants represent a sizable addition. Minor shifts in the destination choices of departing Californians, therefore, could make for extraordinary fluctuations in Nevada's net migration rate. For example, if the percentage of California's outmigrants going to Nevada rose only from 3.2 to 4.0 percent, net migration from California to Nevada would increase from +10,400 to +21,200, producing approximately a 50-percent increase in Nevada's total net immigration.

The following two scenarios elaborate on this uncertainty by considering how such shifts might come about.

**Scenario 1: An Economic Boom in Nevada.** Let us postulate a modest economic boom in Nevada triggered by exogenous changes. For example, Nevada might be selected as the site for a major military installation. Or, domestic tourism may expand as the cost of European travel increases. Or, price increases may revitalize the relatively dormant gold and silver mining industry. Whatever the origin of the boom, there would be little friction impeding the tendency for economic and migratory growth to reinforce each other. Since California represents a relatively unlimited labor pool on which Nevada can draw, the influx of migrants into Nevada could be prompt. Spending by new wage-earners would tend to stimulate further employment growth by increasing the demand for local goods and services, thereby drawing still more migrants to fill new jobs. Although specific magnitudes can only be guessed at, concrete examples offer some guidance. In Orlando, Florida (a metropolitan area whose 1970 population of 428,000 was comparable in size to Nevada's), growth in the recreation industry has attracted a major influx of migrants. After Disneyworld opened, Orlando's population increased 34 percent during the 1960's and an additional 20 percent between 1970 and 1973. Metropolitan Huntsville, Alabama (with a population about half that of Nevada in 1960), increased 48 percent during the 1960's, illustrating the local effects of a defense boom.

**Scenario 2: Nevada as a Major Terminus of Retirement Migration.** In coming years, retirement migration may be increasingly important to the growth of certain states. For one thing, there will be a gradual rise in the national percentage of the population aged 65 and over. Table 3.3 provides relevant data on this trend for the nation and for Nevada's all-important neighbor, California. Note that the percentage of elderly Californians is expected to rise from 9.16 in 1970 to 10.43 in 1990, an overall 61-percent numerical increase from 1.804 to 2.910 million.

Where this increasing number of elderly persons—especially those in California—migrate is a matter of considerable importance to Nevada. Quite possibly, the locational options of the elderly may be enlarged by new sources of income, such as

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some persons move several times within a five-year period; others who migrate and then return appear as nonmigrants. Nevertheless, the five-year data employed here allow us to compare the relative magnitudes of different directional migration streams.

Table 3.3
PROJECTED POPULATION AGED 65 AND OVER, UNITED STATES
AND CALIFORNIA, 1975-1990
(In percent)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>9.77</td>
<td>10.36</td>
<td>10.73</td>
<td>11.00</td>
<td>11.26</td>
<td></td>
</tr>
<tr>
<td>Californiaa</td>
<td>9.16</td>
<td>9.73</td>
<td>9.99</td>
<td>10.19</td>
<td>10.43</td>
<td></td>
</tr>
</tbody>
</table>

For California: Population Research Unit, California State Department of Finance, unpublished projections of population by age, based on Census Series D fertility assumption (completed cohort fertility of 2.50 children per woman), and annual in-migration of 150,000. (Only the Series D projection is available by age.)
aCivilian population only.

the federal Supplemental Security Income program and other income maintenance programs likely to be enacted in coming years. Assured of a steady income regardless of where they live, many retirees may become floating consumers predisposed to migrate in highly directed ways to locales offering a favorable cost of living.

Referring again to the census migration data: 150,000 persons 65 and over migrated out of California between 1965 and 1970. While the exact percentage going to Nevada is not known, it is likely to be in the vicinity of 3.2 percent (the figure for all ages). Turning this figure around, 96.8 percent of elderly California outmigrants went somewhere other than Nevada. If only one in twenty of these outmigrants had gone to Nevada instead, total net migration (all ages) into the state of Nevada would have been approximately one-third higher. (California-Nevada net migration itself would have been 70 percent higher.)

Such a 5-percent shift in the destination preferences of the elderly is not implausible. A local escalation of living costs in major retirement areas like Florida or Arizona could divert a small fraction of the stream of retirees from California and other states to Nevada. The same might happen if large corporations developed retirement communities in Nevada modeled after places like Leisure World, California, and Sun City, Arizona.

Whatever the immediate causes of an influx of retirees, its effects would not be confined to the elderly. As Florida’s experience shows, the demands for services generated by retirees create new jobs which, in turn, attract more immigrants to the state.

Projecting Age Composition

For certain of the analyses to follow in later chapters of this report, we require an age-specific population projection, which is not furnished for either the Census or BEA series we are using. Therefore, we have adapted national age-specific
projections for use in conjunction with the "best-estimate" and "low" projections. An all-purpose projection of relative age distribution has been derived and applied to both numerical projections.

Largely because of fluctuations in annual births during most of the twentieth century, population trends in most age groups have differed greatly from trends in total population. Especially noteworthy are the sustained post-World War II fertility rise and subsequent decline, which began in the mid-1960's and is still under way. The bumper crop of children in the 1950's crowded the schools in the 1960's, and are now seeking jobs and homes (but having fewer children) in the 1970's.

In addition to accounting for these national demographic impulses, which affect the population in every state, we also must allow for current and future differences between the national age distribution and that of Nevada. In 1970, with respect to the nation as a whole, Nevada's population had a surplus in the under-10 and 25-to-54 age brackets, and a deficit in the 15-to-24 and 55-and-over brackets (see Table 3.4, col. 3). These atypical features of Nevada's age distribution probably derive from the complex age-selectivity of migration; also, they may be linked to the population's distinctive racial, ethnic, and religious makeup. These differences have to be taken into account, since they could be of some consequence for future programs to serve handicapped populations of a particular age.

The projection method adopted here is premised on three assumptions: (1) completed cohort fertility will be 2.11 births per woman; (2) Nevada's population will reflect the impending national changes in age composition with equal intensity; (3)

Table 3.4

<table>
<thead>
<tr>
<th>Group</th>
<th>1970</th>
<th>1970</th>
<th>(1) ÷ (2)</th>
<th>Projected Nevada Age-Distributiona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>8.97</td>
<td>8.39</td>
<td>1.07</td>
<td>8.39 8.86 9.27 8.80</td>
</tr>
<tr>
<td>5-9</td>
<td>10.36</td>
<td>9.71</td>
<td>1.07</td>
<td>8.67 8.07 8.43 8.88</td>
</tr>
<tr>
<td>10-14</td>
<td>10.14</td>
<td>10.16</td>
<td>1.00</td>
<td>9.38 7.81 7.19 7.58</td>
</tr>
<tr>
<td>15-19</td>
<td>8.22</td>
<td>9.42</td>
<td>0.87</td>
<td>8.52 7.85 6.48 6.02</td>
</tr>
<tr>
<td>20-24</td>
<td>8.00</td>
<td>8.39</td>
<td>0.95</td>
<td>8.62 8.93 8.14 6.80</td>
</tr>
<tr>
<td>30-34</td>
<td>6.98</td>
<td>5.63</td>
<td>1.24</td>
<td>8.00 9.63 10.25 10.58</td>
</tr>
<tr>
<td>40-44</td>
<td>6.36</td>
<td>5.82</td>
<td>1.09</td>
<td>5.67 5.61 6.30 7.56</td>
</tr>
<tr>
<td>45-49</td>
<td>6.31</td>
<td>5.96</td>
<td>1.06</td>
<td>5.84 5.18 5.08 5.76</td>
</tr>
<tr>
<td>50-54</td>
<td>5.73</td>
<td>5.40</td>
<td>1.06</td>
<td>5.83 5.42 4.75 4.71</td>
</tr>
<tr>
<td>55-59</td>
<td>4.84</td>
<td>4.88</td>
<td>0.99</td>
<td>4.91 4.96 4.55 4.05</td>
</tr>
<tr>
<td>60-64</td>
<td>3.66</td>
<td>4.23</td>
<td>0.87</td>
<td>3.76 3.83 3.82 3.55</td>
</tr>
<tr>
<td>65-69</td>
<td>2.62</td>
<td>3.34</td>
<td>0.78</td>
<td>2.80 2.86 2.89 2.92</td>
</tr>
<tr>
<td>70-74</td>
<td>1.69</td>
<td>2.75</td>
<td>0.61</td>
<td>1.67 1.76 1.78 1.82</td>
</tr>
<tr>
<td>75+</td>
<td>2.02</td>
<td>3.76</td>
<td>0.54</td>
<td>2.18 2.26 2.32 2.38</td>
</tr>
</tbody>
</table>

**NOTE:** Columns may not total exactly to 100 because of rounding.

*a Assumes Census Series E fertility.*
the atypical features of Nevada’s age distribution (as indexed in col. 3 of Table 3.4) will persist. (There is no basis for assuming these differences will disappear, given the likelihood of substantial future migration into Nevada.)

Operationally, the method entailed three steps. First, the relative age distribution was derived from the national Census Series E projection for each of the target projection dates (1975, . . . , 1990). The ratios in col. 3 of Table 3.4 were then used to adjust the national age distribution at each target projection date, yielding expected Nevada age distributions (cols. 4 to 7). (These all-purpose relative distributions can be used to segment any projection of Nevada’s total population that is consistent with the Census Series E fertility assumption.) Applying the relative age distributions in Table 3.4 to the “low” and “best-estimate” numerical projections chosen earlier yields the age-specific projections shown in Table 3.5.

Table 3.5

Age-Specific Projections of Nevada’s Population
(In thousands)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>43.8</td>
<td>49</td>
<td>58</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>5-9</td>
<td>50.7</td>
<td>51</td>
<td>54</td>
<td>64</td>
<td>74</td>
</tr>
<tr>
<td>10-14</td>
<td>49.6</td>
<td>55</td>
<td>53</td>
<td>55</td>
<td>63</td>
</tr>
<tr>
<td>15-19</td>
<td>40.2</td>
<td>50</td>
<td>53</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>20-24</td>
<td>39.1</td>
<td>50</td>
<td>60</td>
<td>62</td>
<td>57</td>
</tr>
<tr>
<td>25-29</td>
<td>37.5</td>
<td>54</td>
<td>67</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>30-34</td>
<td>34.1</td>
<td>47</td>
<td>65</td>
<td>78</td>
<td>89</td>
</tr>
<tr>
<td>35-39</td>
<td>31.4</td>
<td>37</td>
<td>48</td>
<td>65</td>
<td>77</td>
</tr>
<tr>
<td>40-44</td>
<td>31.1</td>
<td>33</td>
<td>38</td>
<td>48</td>
<td>63</td>
</tr>
<tr>
<td>45-49</td>
<td>30.8</td>
<td>34</td>
<td>35</td>
<td>39</td>
<td>48</td>
</tr>
<tr>
<td>50-54</td>
<td>28.0</td>
<td>34</td>
<td>36</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>55-59</td>
<td>23.7</td>
<td>29</td>
<td>33</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>60-64</td>
<td>17.9</td>
<td>22</td>
<td>26</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>65-69</td>
<td>12.8</td>
<td>16</td>
<td>19</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>70-74</td>
<td>8.3</td>
<td>10</td>
<td>12</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>75+</td>
<td>9.9</td>
<td>13</td>
<td>15</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>488.8</td>
<td>584</td>
<td>673</td>
<td>759</td>
<td>836</td>
</tr>
</tbody>
</table>

³ Available only for 1980 and 1990. See Table 3.2.

Projections for Major Subregions of Nevada

For our purposes, we also need projections for three major subregions of Nevada: (1) the Las Vegas Standard Metropolitan Statistical Area (Clark County), (2) the Reno SMSA (Washoe County), and (3) the remainder of Nevada. The only available regional projections, though otherwise acceptable, were too far out of date for our

purposes; nevertheless, we can use their relative relationships to allocate our state-wide projections among the three subregions.

Table 3.6 presents our “best-estimate” and “low” projections allocated by major subregion, based on the fractions shown in parentheses. It will be noted from these fractions that metropolitan Las Vegas is projected to gain a gradually larger proportion of Nevada’s population, while metropolitan Reno’s position will remain essentially unchanged. Overall, however, the projection portrays no sharp divergence among regions.

Table 3.6

<table>
<thead>
<tr>
<th>Major Subregion</th>
<th>1970 Census</th>
<th>1973 Estimate</th>
<th>Projections (Midyear)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Las Vegas SMSA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best estimate</td>
<td>273.3</td>
<td>306.1</td>
<td>392.0</td>
</tr>
<tr>
<td>Low estimate</td>
<td>273.3</td>
<td>306.1</td>
<td>358.8</td>
</tr>
<tr>
<td>Fraction of state total</td>
<td>(0.559)</td>
<td>(0.556)</td>
<td>(0.583)</td>
</tr>
<tr>
<td>Reno SMSA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best estimate</td>
<td>121.1</td>
<td>134.3</td>
<td>165.5</td>
</tr>
<tr>
<td>Low estimate</td>
<td>121.1</td>
<td>134.3</td>
<td>151.5</td>
</tr>
<tr>
<td>Fraction of state total</td>
<td>(0.248)</td>
<td>(0.244)</td>
<td>(0.246)</td>
</tr>
<tr>
<td>Remainder of state</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best estimate</td>
<td>94.3</td>
<td>110.6</td>
<td>115.5</td>
</tr>
<tr>
<td>Low estimate</td>
<td>94.3</td>
<td>110.6</td>
<td>105.7</td>
</tr>
<tr>
<td>Fraction of state total</td>
<td>(0.193)</td>
<td>(0.201)</td>
<td>(0.172)</td>
</tr>
</tbody>
</table>

NOTE: Fractions are derived from unpublished projections by county, prepared by S. F. Chu, Bureau of Business and Economic Research, University of Nevada, Reno, dated March 1971.


MENTAL RETARDATION

Mental retardation is a common problem in all societies. Reacting to a variety of descriptors of mental retardation (e.g., age at onset, IQ, mental age, educability), an attempt by the American Association on Mental Deficiency (AAMD) to combine the concepts of functional proficiency and measured intelligence has gained wide acceptance:

Projected 1950-2020, National Technical Information Service (NTIS), July 1972. For several reasons (including lack of closure), these latter two sources could not be used with any confidence.

Chu’s projection method assumes that differentials among individual county growth rates will gradually disappear, converging to the statewide rate of growth. Looked at another way, the fractions of the state total shown in Table 3.6 are assumed to stabilize at fixed values (although these stabilized values of the fractions are not expected to have been reached by 1990).

Mental retardation refers to substantially subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period.9

Under AAMD definitions, the developmental period extends up to age 18, and substantially subaverage means an IQ test score of at least two standard deviations below average (i.e., approximately 70 or below). The definition of mental retardation adopted by the American Psychiatric Association (APA) is basically the same as the AAMD definition.10

The legal definition of mental retardation in Nevada also is essentially the same as that given above: "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period."11

Mental retardation is sometimes divided into levels indicating severity: mild (Stanford-Binet test IQ of 52-68); moderate, (IQ 36-51); severe (IQ 20-35), and profound (IQ below 20).12 Other categorizations, such as "educable" and "trainable," are often used by educators to indicate the type of special educational assistance needed; they are related to IQ only loosely, since the child's functional proficiency is a major factor in determining need for service. The AAMD relates the special education classification to IQ as follows:

Mild retardation is roughly equivalent to the educational term educable; moderate retardation includes those individuals who are likely to fall into the educational category of trainable; the severe group includes individuals sometimes known as dependent retarded; individuals in the profound retardation level are among those sometimes called "life-support" level. These terms are, of course, not absolute nor static. A child classified as mildly retarded may be better served in a "trainable" class than an "educable" one; some children at the severe retardation level may function successfully in a "trainable" group; children may move up or down between categories. The level does not necessarily dictate the particular service needed, but may be helpful as one criterion in planning.13

The term "developmental disability" includes several disabilities, of which mental retardation is the most prevalent. Specifically, a developmental disability is a substantially handicapping condition which: (1) is attributable to mental retardation, cerebral palsy, epilepsy, or to other neurological conditions found by the Secretary of the U.S. Department of Health, Education, and Welfare to be closely related to mental retardation or to require treatment similar to that required for mentally retarded individuals; (2) originated before the individual reached age 18 and can be expected to continue indefinitely.14

Mental retardation is a flexible concept, a fact reflected in the experience of the so-called "disappearing retardate," i.e., a person who as a child was identified and treated as retarded but who lost that identification in later life through integration

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9 AAMD. A Manual on Terminology.
11 Nevada Revised Statutes, Chap. 433, as amended by Senate Bill 374, Sec. 20, Nevada State Legislature, 1975.
12 AAMD. A Manual on Terminology.
13 Ibid.
into the society. This is possible since the parameters used to identify one as mentally retarded relate both to assessments of subnormal intelligence and to adaptive behavior (which can be modified throughout the person’s life-span).  

The question now is how many mentally retarded people there are in Nevada with a substantial need for one or more types of special services. The answer is that no one knows for sure, but we do know the magnitude of the number, primarily because there is a fairly commonly accepted definition of retardation (unlike the case with mental health problems) and because of the diagnosability of mental retardation (compared with mental health). Using a relatively low estimate of prevalence of 2 percent of the population yields a prevalence of approximately 11,000 retarded Nevadans in 1975 and 15,000 in 1985 (assuming our best estimate of the total Nevada population in 1985). Using the most widely quoted estimate of prevalence, 3 percent of the population, yields a prevalence of approximately 17,000 in 1975 and 23,000 in 1985. In the remainder of this section we discuss sources of data used to estimate the 2 to 3 percent prevalence range for mental retardation in Nevada. As we indicated earlier, the prevalence of those needing service depends on age, and 2 to 3 percent is an average for all ages.

Considering national sources of information, the National Association for Retarded Citizens (NARC) uses a prevalence rate of about 3 percent for all ages. The association reports that

once a mentally retarded child reaches the age of five or six, he has a good chance of achieving normal life expectancy. In fact, the life expectancy today of mildly retarded individuals is about the same as that of nonretarded individuals. For the other levels [of severity of retardation], particularly profoundly and severely retarded persons, it is substantially less.

Of the 3 percent of the population that is retarded, the NARC provides the following breakdown: 89 percent mild, 6 percent moderate, 3.5 percent severe, and 1.5 percent profound retardation. Of course, those percentages are based on IQ alone; not all people with an IQ below 70 meet the second part of the mental retardation definition —deficits in adaptive behavior— and hence not all are functionally mentally retarded. In Nevada, both the Washoe Association for Retarded Citizens (Reno area) and the Opportunity Village Association for Retarded Citizens (Las Vegas area) use the 3 percent prevalence figure. R. Conley has conducted what is probably the most thorough recent analysis of the large number of limited studies that have been done throughout the years around the nation on the prevalence of mental retardation. Those studies show a wide range of prevalence, but his best estimate is that, nationwide, IQs less than about 70 prevail among 3 percent of the population, and that the prevalence varies by age as follows: about 4 percent for age 0 to 4 years, 3.3 percent for age 5 to 19 years, 2.7 percent for age 20 to 64 years, and 2 percent for 65 years.

15 George Tarjan et al., "Natural History of Mental Retardation: Some Aspects of Epidemiology," American Journal of Mental Deficiency, Vol. 77, 1973, pp. 369-379, contend that as many as two-thirds of the mildly retarded adolescents and young adults lose their identification as retarded simply through aging and adaptation and/or through retesting with more sensitive instruments.


17 Ibid.

of age and over.\textsuperscript{19} Again, not all of these people are functionally mentally retarded. The U.S. Bureau of Education for the Handicapped, in its 1970 estimate of the number of handicapped children aged 5 to 19 years in the United States who need special education, used a prevalence rate of 2.3 percent.\textsuperscript{20}

The U.S. Bureau of the Census reported that in 1970, for the population aged 16 to 64 years, 9.5 percent were disabled in Nevada (5.1 percent in and 4.4 percent not in the labor force).\textsuperscript{21} These data on disability are not helpful here, since they are not disaggregated to show mental disabilities. Census data also suffer from difficulties of self-reporting, and from emphasis on the interpretation of work limitations, which are the focus of the census disability questions.

A 1973 study of the prevalence of handicapping conditions in Nevada indicated that 3 percent of the population had \textit{some} mental handicap. The data are not very helpful, however, since they were based on a small and inadequate sample of clientele \textit{actually being served} by Nevada agencies.\textsuperscript{22}

The most recent available data on the prevalence of mental retardation in Nevada were obtained for children under 12 years of age by a Nevada Division of Rehabilitation general population survey of 1750 Nevadans in 1974. Adults in the households surveyed were asked which, if any, of a list of conditions their children had. The list included "Down's Syndrome (Mongoloid)" and "Diagnosed Mentally Retarded."\textsuperscript{23} This question can be expected to yield a low estimate of prevalence, since many of the undiagnosed mentally retarded children would not be reported, and some families may choose not to report the presence of a diagnosed mentally retarded child. In fact, the survey did not seek information on retarded adults because

\ldots an extensive review of survey literature revealed no method of phrasing a question in an interview that would allow the researchers to discriminate between mentally retarded and non-mentally-retarded adults. The sensitive nature of the question in this culture precludes the direct question, 'Are you mentally retarded?' as the respondents' emotional reaction could seriously contaminate the rest of the interview. Problems with the validity of responses to this question are self-evident.\textsuperscript{24}

The survey data on mentally retarded children indicated 0.4 percent either had "Down's Syndrome" or were "diagnosed mentally retarded,"\textsuperscript{25} a figure both we and the author of the Nevada survey report view as unrealistically low.\textsuperscript{26}

\textsuperscript{19} R. Conley, \textit{The Economics of Mental Retardation}, The Johns Hopkins University Press, Baltimore, Maryland, 1973, p. 39.


\textsuperscript{24} Ibid., p. 13.

\textsuperscript{25} Interview with J. Pollard, Nevada Rehabilitation Division, Carson City, Nevada, June 10, 1975.

\textsuperscript{26} Ibid.
Owing to the above-mentioned deficiencies and uncertainties of the Nevada survey data, especially the percentage of mentally retarded children who are not diagnosed and/or not reported in the survey as such, we cannot make a highly reliable estimate of the prevalence of retardation in Nevada. However, we feel confident in saying that 2 to 3 percent of the state population is the correct order of magnitude of the prevalence of mental retardation, and that 2 percent is probably a low estimate. These figures are consistent with what one would expect, based on national prevalence data. Retardation is known to be related to age, race, socioeconomic status, and other factors, but those relationships are not well understood quantitatively. Thus, given the basic imprecision of the total estimate, it would not be fruitful to try to adjust for various factors to make estimates of geographic differences in prevalence within Nevada.

Throughout this report, we shall estimate the need for one or more types of special services by mentally retarded people based on the conservatively low 2 percent prevalence figure. When and if programs expand and serve that 2 percent, then Nevada officials can reassess whether more than 2 percent need service in view of known unmet needs and prevalence data available at that time. Currently, not even 2 percent of the population are receiving needed services. We know from data presented in later chapters of this report that the unmet needs are large—though we are unsure exactly how large—and the appropriate policy direction is clearly toward expansion if the objective is to meet those mentally retarded people’s needs.

ALCOHOL AND DRUG ABUSE

As with any target population receiving services, an assessment of the adequacy of existing programs for alcohol and drug abuse must necessarily start with a definition of alcohol and drug abuse and a determination of prevalence. At the outset, we are again beset by a host of definitional and methodological difficulties.

There are no universally accepted definitions for either alcoholism or drug addiction. There are legal definitions for intoxication while driving an automobile, usually the presence of 0.1 percent alcohol in the blood, and of course there are formal definitions for illegal possession of drugs such as heroin, barbiturates, and marijuana. But these legal definitions often refer to specific behaviors believed to endanger the public’s immediate welfare or safety and not to the medical illness of addiction per se. Many alcohol addicts do not drive at all, and many intoxicated drivers do not have an alcohol addiction problem; a similar differentiation may be made for illegal drug use as opposed to drug addiction.

The legal definition of an alcoholic or drug abuser in the Alcohol and Drug Abuse Chapter of the Nevada Revised Statutes (NRS) is "a person whose consumption of alcohol or other drugs, or any combination thereof, interferes with or adversely affects his ability to function socially or economically."27 "Alcoholic" means "any person who habitually uses alcoholic beverages to the extent that he endangers the health, safety or welfare of himself or any other person or group of persons."28 The legal definitions of an alcohol or drug abuser for purposes of commitment to the

27 Nevada Revised Statutes, 458.010.
28 Ibid.
Nevada Mental Health Institute are: "Alcoholic means a person so far addicted to the intermate use of alcoholic beverages as to have lost the power of self control," and "Drug addict means a person who (a) habitually takes or uses any controlled substance as defined in chapter 453 of NRS, other than opium, heroin, morphine, or any derivative or synthetic drug of that group, or other than any maintenance dosage of a narcotic or habit forming drug administered pursuant to chapter 453 of NRS or (b) is so far addicted to the use of any controlled substance as defined in chapter 453 of NRS as to have lost the power of self-control."

Aside from definitional accuracy or inaccuracy, however, there are substantial methodological barriers to collecting valid and reliable data on the prevalence of particular modes of alcohol or drug use. Since excessive alcohol or drug use is considered deviant behavior by society at large, many people may be unwilling to admit to it. But even assuming honest replies, a random sample of the general population of households may miss entirely those groups with the most serious addiction problems, such as public inebriates or ghetto "street people."

In spite of the conceptual and empirical difficulties, at least an order-of-magnitude estimate of the alcohol and drug abuse problem must be made to enable the intelligent planning of treatment programs. Federal agencies and researchers in the field have used a number of methods to estimate prevalence, and these methods can be applied to Nevada. Thus far, few persons or agencies involved in Nevada's alcohol and drug problems appear to have applied these methods to any considerable extent, particularly for alcohol abuse. For example, the 1974 Nevada state plan for alcohol problems makes no application of the widely used Jellinek formulas for estimating alcoholism rates, other than a reference to U.S. National Institute of Alcohol Abuse and Alcoholism (NIAAA) figures for Nevada, nor does it use the relatively well-known Ledermann equations for estimating alcohol abuse rates. The main empirical data submitted are based on a mail-questionnaire survey of various Washoe County groups, including a "general public" cross section with a very low 21 percent response rate. The situation for drug use is not much better; the 1974 state report relies exclusively upon arrest and death statistics. The recent state Rehabilitation Facility Plan for both drug and alcohol abuse makes some improvement by offering data from a recent state general population survey of alcohol and drug use and abuse. The 1975 Nevada State Plan for Preven-

28 Ibid., 433.248.
29 Ibid.
tion, Treatment and Rehabilitation of Substance Abuse relies primarily on that same survey for estimating alcohol and drug abuse rates. Nonetheless, it is not clear that a general population survey with self-reporting by abusers is the best method for estimating alcohol and drug abuse, but sometimes it is the only method available.

Alcoholism

Two techniques are in widespread use at the present time for estimating rates of alcoholism or alcohol abuse. The classic method derives from an equation offered by Jellinek based on deaths due to cirrhosis of the liver, a disease known to be causally associated with heavy alcohol consumption. The second method uses statistics on per capita consumption, and assumptions about the shape of the consumption distribution curve, to estimate the percentage of a population drinking more than a specified daily amount of ethanol (absolute alcohol). Under the second method an alcoholic or, more accurately, an alcohol abuser, is defined as a person who regularly drinks more than five ounces of ethanol a day. This would be equivalent to about 12 ounces or three-quarters of a pint of 86-proof spirits, 10 cans of beer, or 1½ bottles of wine per day. In other terms, it could correspond to having two beers at lunch, two drinks before dinner, two glasses of wine with dinner, and two drinks during the evening every day.

Table 3.7 presents estimates of alcoholism rates in Nevada calculated by these two methods. There were 130 cirrhosis deaths in Nevada during 1970; this yields an estimate of 26,831 alcoholics for the state as a whole, or 7.8 percent of the population aged 15 years and over. (The convention of using 15 years and older as the population base stems from the not uncommon observation that many alcoholics start drinking heavily in their teens.)

Since cirrhosis deaths are not tabulated by county or city, the regional breakdowns in Table 3.7 are estimated by assuming rates in different areas proportional to rates shown by the recent state survey of alcohol and drug use. The number of deaths due to cirrhosis has been relatively stable in Nevada since 1970; the figures are 130, 101, 160, 137, and 132 (projected) for 1970 through 1974. The alcoholism rate of 7.8 percent shown for Nevada in Table 3.7 therefore is probably valid for all years in this range.

The second column of Table 3.7 is an estimate of the number of persons who consume over five ounces of ethanol a day. This is an arbitrary definition of alcoholism, but it is well established that consumption at this level over many years will at least lead to higher risk for various complications such as liver cirrhosis. Overall consumption is estimated for each state in the country by retail beverage sales data. It has been known for some time that Nevada has the highest per capita consumption rate of any state in the country: 5.73 gallons of ethanol annually per person aged 15 years and over, or two ounces of ethanol per day. (The national average is 2.61 gallons. The next-highest state average is that of New Hampshire, with 4.95 gallons


37 Ibid. In our opinion the overall alcoholism rate figures in the state survey are far too low, but the relative regional differences should be fairly similar over different measures.
Table 3.7
ESTIMATED RATES OF ALCOHOLISM IN NEVADA, 1970

<table>
<thead>
<tr>
<th>Region</th>
<th>Estimate Based on Cirrhosis Deaths&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Estimate Based on Consumption&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Alcoholics&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Rate&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Las Vegas SMSA&lt;sup&gt;e&lt;/sup&gt;</td>
<td>17,623 9.1%</td>
<td>19,862 10.3%</td>
</tr>
<tr>
<td>Reno SMSA</td>
<td>4,722 5.5%</td>
<td>5,325 6.2%</td>
</tr>
<tr>
<td>Rural counties</td>
<td>4,486 6.9%</td>
<td>5,056 7.7%</td>
</tr>
<tr>
<td>Total, Nevada</td>
<td>26,831 7.8%</td>
<td>30,243 8.8%</td>
</tr>
<tr>
<td>Total, nation</td>
<td>3,587,458 2.7%</td>
<td>3,559,050 2.8%</td>
</tr>
</tbody>
</table>

<sup>a</sup>Using a modified Jellinek formula, A = CD, where A is total alcoholics and D is total deaths from liver cirrhosis. C is a constant reflecting the proportion of cirrhosis deaths usually resulting from alcoholism (0.628 for men and 0.216 for women) divided by the proportion of all alcoholics with cirrhosis symptoms (0.12 according to clinical studies) times the annual mortality rate (0.02 assuming an average life-span of 50 years for cirrhosis cases after onset of drinking). For Nevada in 1970, D = 130 (88 males and 42 females). Thus, C = 262 for men and 90 for women.

<sup>b</sup>Based on the Ledermann assumptions about consumption distribution (De Lint and Schmidt, op. cit.). An alcoholic is defined as a person who consumes an average of five ounces of ethanol a day.

<sup>c</sup>Numbers based on 1970 total adult population of 344,680, of which 56 percent is in the Las Vegas SMSA, 25 percent in the Reno SMSA, and 19 percent in rural counties.

<sup>d</sup>Regional rate differences are based on rate differences in the state substance abuse survey (Pollard, op. cit.). Rate is percent of persons 15 years of age and older.

<sup>e</sup>SMSA = Standard Metropolitan Statistical Area. Clark County is the Las Vegas SMSA, Washoe County the Reno SMSA.

—a value known to be inflated by the heavy purchasing of its cheaper beverages by neighboring Massachusetts residents. Consequently, applying the Ledermann equation to Nevada’s consumption rate leads to the highest per capita rate of alcoholism, with 8.8 percent of the adult population consuming over five ounces of ethanol per day, as opposed to a national rate of 2.8 percent. It is known that tourists account for a considerable portion of this consumption, of course. Nonetheless, a close correspondence exists between the estimates of Nevada’s alcoholism rate based on consumption and that based on liver cirrhosis deaths (8.8 percent compared with 7.8 percent). Since cirrhosis is a long-term disease that usually does not lead to sudden death, the cirrhosis death rate is most likely a characteristic of the resident population, with few occurrences among tourists, and hence probably leads to a more accurate estimate for Nevada residents.

How do these figures compare with other data? The recent Nevada state sur-
vey\textsuperscript{38} yields a very low rate of 1.7 percent. A similarly low figure appears in the 1975 Nevada State Plan for Prevention, Treatment and Rehabilitation of Substance Abuse. We believe that figure to be a serious underestimate due to several causes: unconventional use of the NIAAA consumption measure (i.e., average use of 6.3 ounces of ethanol a day or above instead of the conventional 5.0 ounces or above to indicate alcoholism); surveys' missing alcohol consumers who do not reside in conventional households; and the well-known phenomenon of under-reporting of alcohol consumption in surveys of users. National studies indicate that such under-reporting may be typically on the order of 50 percent.\textsuperscript{39} In short, unadjusted users-surveys are not accurate. One exploratory technique for correction for survey error and under-reporting, currently in the research stage, is to (1) estimate total state consumption by residents based on survey data (by multiplying the average self-reported consumption times the state population); (2) form a ratio between that estimate and a total consumption estimate based on sales (corrected for estimated consumption by out-of-staters, e.g., tourists in Nevada); and (3) use that ratio to adjust the self-reported consumption of alcohol in the survey. Employing this procedure to correct the survey data for under-reporting yields an estimate of alcohol abuse in 8.7 percent of the Nevada resident population.\textsuperscript{40} Although that estimate is based on a number of assumptions and an exploratory technique, we believe it is of the correct order of magnitude; we are also sure it is closer to the unknown true prevalence than is the unadjusted survey prevalence rate of 1.7 percent. Note the similarity of the 8.7 percent estimate obtained here and the two estimates (7.8 percent and 8.8 percent) in Table 3.7 obtained by other methods.

Data tabulated in a national study using cirrhosis deaths also show Nevada as having the highest rate of alcoholism in 1970—6.77 percent as opposed to a national average of 4.2 percent.\textsuperscript{41} California is second with 6.61 percent and Rhode Island third with 6.07 percent. Further, the Washoe County survey found that 7.6 percent of the general public sample classified themselves as "heavy," "hard," or "alcoholic" drinkers. While the terms "heavy" and "hard" were not defined in the Washoe County questionnaire, it might be reasonable to assume they denote consumption near the level of 5 ounces a day. This projects to a total of 6545 alcohol abusers in Washoe County, a figure close to those shown in Table 3.7.

While different methods and definitions lead to somewhat different estimates of alcohol abusers and alcoholics, the convergence of the several techniques reported here (with the explained exception of the state survey) makes two conclusions certain: Nevada has the highest rate of alcohol abuse of any state in the country, a rate that yields an alcoholic or abuser population over age 15 in 1975 of at least 33,000 (using the lowest estimate, the cirrhosis-based rate of 7.8 percent). Moreover, these

\textsuperscript{38} Ibid.


\textsuperscript{40} We estimate an average consumption by Nevada residents, excluding tourist consumption, of about 1.2 ounces of ethanol per day in 1970. The estimate of average resident consumption based on user self-reporting in the survey is about 0.6 ounce of ethanol per day. Thus, \((0.6 \text{ oz} / 1.2 \text{ oz} \times 5 \text{ oz}) = 2 \text{ oz.}\), which is the corrected dividing point we used to indicate alcoholic drinking in interpreting the Nevada survey data.

\textsuperscript{41} V. Efron, M. Keller, and C. Gurioli, Statistics on Consumption of Alcohol, Rutgers Center of Alcohol Studies, New Brunswick, N.J., 1972. This study uses a slightly different Jellinek formula from that used in Table 3.7; our formula yields a national rate of 2.7 percent.
persons are not distributed equally; nearly two-thirds reside within the Las Vegas SMSA. Projecting these figures to 1985 yields an estimated 44,000 people in the alcoholic or alcohol abuser population.

Drug Abuse

It is even more difficult to estimate drug abuse rates than it is to estimate alcoholism. Few diseases are associated specifically with drug addiction, as liver cirrhosis is with alcoholism. Even deaths caused by overdoses of certain drugs cannot necessarily be attributed to addiction; for example, they can be the result of an occasional drug user's suicidal mental depression. Moreover, since the drugs are illegally produced or purchased, there are no gross quantitative data on usage rates analogous to per capita alcohol consumption.

In this context there are only two major sources of information on drug abuse in Nevada: arrest statistics and a recent Nevada survey of substance use. Data from both of these sources are displayed in Table 3.8.

The arrest figures in Table 3.8 were taken from the 1973 Nevada State Plan for Drug Abuse. In 1972, arrests numbered 2453 for the state as a whole across all drug types, with the non-opiate drugs accounting for the great majority of cases (2108). Of the latter arrests, half were due to marijuana, perhaps the least dangerous of all illegal drugs. The Las Vegas area contributes about 69 percent of the arrests, but contains only about 56 percent of the total Nevada population. Arrest figures probably yield a serious underestimate of the true number of drug addicts, since it is assumed that the number of addicts who are never arrested exceeds the number of non-addicts who are arrested.

The second two columns in Table 3.8 present information compiled from the state survey; the same survey was the basis for data in the 1975 Nevada State Plan for Prevention, Treatment and Rehabilitation of Substance Abuse. While we do not believe survey methods are the best source for estimating drug abuse, and in fact we are certain the state survey underestimates alcohol abuse, there is at present no alternative method for establishing drug abuse incidence rates in Nevada. For the state as a whole, marijuana users make up almost 60 percent of the estimated 25,356 persons using drugs (weekly or more often); serious opiate addiction is estimated to afflict only 2909 persons.

Interestingly, the regional distribution is not proportional to population. The Reno SMSA has only one-fourth of the total population but nearly one-half of the drug abusers; this may be because Reno has a younger age distribution of population. It also appears that drug laws are more strictly enforced in Las Vegas than in Reno; in Las Vegas, arrest rates reflect nearly 14 percent of the survey-indicated abuser population, as compared with only 3 percent in Reno. Of course, it could also be that the survey results do not accurately reflect true abuse rates. Using the state survey results as the best available estimate, the number of opiate and other dangerous drug abusers (as distinct from drug users) numbered approximately 11,000 in 1975 and are projected to number approximately 15,000 in 1985.

Table 3.8

Drug Abuse Rates in Nevada, by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Arrests, 1972</th>
<th>Estimated “Heavy” Usage Based on 1974 State Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Rate</td>
</tr>
<tr>
<td>Las Vegas SMSA (Clark County)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>729</td>
<td>6,948</td>
</tr>
<tr>
<td>Dangerous drugs</td>
<td>729</td>
<td>4,246</td>
</tr>
<tr>
<td>Opiates</td>
<td>238</td>
<td>965</td>
</tr>
<tr>
<td>Total, Las Vegas area</td>
<td>1,696</td>
<td>12,159</td>
</tr>
<tr>
<td>Reno SMSA (Washoe County)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>175</td>
<td>8,962</td>
</tr>
<tr>
<td>Dangerous drugs</td>
<td>175</td>
<td>2,327</td>
</tr>
<tr>
<td>Opiates</td>
<td>58</td>
<td>1,551</td>
</tr>
<tr>
<td>Total, Reno area</td>
<td>408</td>
<td>12,840</td>
</tr>
<tr>
<td>All other counties combined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>150</td>
<td>720</td>
</tr>
<tr>
<td>Dangerous drugs</td>
<td>150</td>
<td>1,244</td>
</tr>
<tr>
<td>Opiates</td>
<td>49</td>
<td>393</td>
</tr>
<tr>
<td>Total, other counties</td>
<td>349</td>
<td>2,357</td>
</tr>
<tr>
<td>Nevada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>1,054</td>
<td>14,630</td>
</tr>
<tr>
<td>Dangerous drugs</td>
<td>1,054</td>
<td>7,817</td>
</tr>
<tr>
<td>Opiates</td>
<td>345</td>
<td>2,909</td>
</tr>
<tr>
<td>Total, Nevada</td>
<td>2,453</td>
<td>25,356</td>
</tr>
</tbody>
</table>

aTaken from The Nevada State Plan for Drug Abuse Prevention, Treatment and Rehabilitation, Governor’s Advisory Board on Drug Abuse, Carson City, Nevada, 1973, pp. 29-30. Total arrests for each region are based on regional data; the breakdown of total arrests within each region by type of drug is based on the breakdown of the statewide total arrests by type of drug involved.

bTaken from J. Pollard, Survey of Nevada Rehabilitation Needs, 1975, Nevada Rehabilitation Division, Department of Human Resources, Carson City, Nevada, 1975. “Heavy usage” in that survey means once a week or oftener. The dangerous drug rates were obtained by adding rates for hallucinogens, stimulants, and depressants. Numbers are based on the 1970 adult population of 344,680.

cIncludes LSD, barbiturates, amphetamines, etc.

dIncludes heroin, morphine, and other opiates.

MENTAL HEALTH

The difficulties of defining and measuring the prevalence of mental retardation and alcohol abuse pale in comparison with those associated with defining and measuring mental health. When professional mental health personnel agree upon what constitutes mental health, and reliable methods of measuring it are available, then high-quality data can be collected on the prevalence of mental health problems. As will be seen, current definitions are vague and leave extremely wide latitude for interpretation and judgment on the part of service personnel, and virtually no
reliable data exist on the prevalence of need for mental health services in Nevada. Given this situation we cannot be definitive in specifying need for services, but must content ourselves with laying out what is known of people currently being served (in subsequent chapters of this report) and be rather arbitrary in specifying a conservative estimate of need. For purposes of this study, we consider a person to have primarily a mental health problem if he or she has a substantial need for psychological or psychiatric services due to a mental disorder other than mental retardation or alcohol or drug abuse. Of course, people with mental retardation or alcohol or drug abuse problems may also need psychological or psychiatric services, but such people are considered separately in this report.

Since mental health can be described on many different dimensions, since a person's current mental condition can fall anywhere on the continuum of each of those dimensions, and since society's views on what is "normal" change with time and circumstance, one is necessarily being arbitrary when one draws lines between "normal" and "not normal" on combinations of those dimensions. For practical reasons, society itself must arbitrarily cut through this Gordian Knot; there are people who, in the judgment of the majority of today's society, have mental health problems and need substantial psychological or psychiatric services. For purposes of planning those services, we must try to shed some light, however wavering, on the number of persons needing mental health services in Nevada.

The American Psychiatric Association (APA) has published a manual of approved diagnostic terms for "mental disorders." It places diagnosed mental disorders into ten categories: (1) mental retardation, (2) organic brain syndromes (psychotic and nonpsychotic), (3) psychoses not attributed to physical conditions listed under organic brain syndromes, (4) neuroses, (5) personality disorders and certain other nonpsychotic mental disorders, (6) psychophysiological disorders, (7) special symptoms, (8) transient situational disturbances, (9) behavior disorders of childhood and adolescence, and (10) conditions without manifest psychiatric disorders and nonspecific conditions.

A psychosis is by definition a severe mental disorder and falls within the scope of this study. Other types of mental disorders can be classified by severity as "mild," "moderate," or "severe," and hence may include people who do not have a substantial need for special services and therefore do not fall within the scope of this study. However, the APA manual makes no attempt to define what constitutes the three levels of severity; as a result, statistics sorted among those levels are not fully meaningful.

In this Nevada study, the term "mental health problems" will include primarily the problems of people in five of the APA categories: virtually all psychotic people, and people with more severe disorders within the categories of organic brain syndrome, neurosis, personality disorder (not due to alcohol or drug abuse), and transient situational disturbances.

We first cover definitions of the APA categories, and then turn to definitions used officially in Nevada.

Definitions of mental retardation were discussed earlier. Organic brain syndromes are defined in brief by APA as:

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*Diagnostic and Statistical Manual.* A new edition of the APA "Psychiatric Glossary," to be released in 1975, was not yet available at the time of this writing.

*Ibid., p. 22. In addition to the brief definitions given, the APA Manual presents more extensive definitions of most disorders in the course of discussing subcategories of major types of disorders.*
Disorders caused by or associated with impairment of brain tissue function. These disorders are manifested by the following symptoms:

(a) Impairment of orientation
(b) Impairment of memory
(c) Impairment of all intellectual functions such as comprehension, calculation, knowledge, learning, etc.
(d) Impairment of judgment
(e) Lability and shallowness of affect

The organic brain syndrome is a basic mental condition characteristically resulting from diffuse impairment of brain tissue function from whatever cause. Most of the basic symptoms are generally present to some degree regardless of whether the syndrome is mild, moderate, or severe.

Patients with organic brain syndrome may or may not be psychotic. Psychosis is defined in brief as follows:

Patients are described as psychotic when their mental functioning is sufficiently impaired to interfere grossly with their capacity to meet the ordinary demands of life. The impairment may result from a serious distortion in their capacity to recognize reality. Hallucinations and delusions, for example, may distort their perceptions. Alterations of mood may be so profound that the patient's capacity to respond appropriately is grossly impaired. Deficits in perception, language and memory may be so severe that the patient's capacity for mental grasp of his situation is effectively lost. 45

Psychoses may occur with or without organic brain syndrome. A frequently used diagnosis in Nevada in the latter case would be schizophrenia, which is defined in brief as:

A group of disorders manifested by characteristic disturbances of thinking, mood and behavior. Disturbances in thinking are marked by alterations of concept formation which may lead to misinterpretation of reality and sometimes to delusions and hallucinations, which frequently appear psychologically self-protective. Corollary mood changes include ambivalent, constricted and inappropriate emotional responsiveness and loss of empathy with others. Behavior may be withdrawn, regressive and bizarre. 46

Schizophrenia eludes precise definition; the manual's foreword contains the admission that "Even if it had tried, the Committee could not establish agreement about what this disorder is; it could only agree on what to call it." 47

Neuroses are briefly defined in the following terms:

Anxiety is the chief characteristic of the neuroses. It may be felt and expressed directly, or it may be controlled unconsciously and automatically by conversion, displacement and various other psychological mechanisms. Generally, these mechanisms produce symptoms experienced as subjective distress from which the patient desires relief. The neuroses, as contrasted to the psychoses, manifest neither gross distortion or misinterpretation of external reality, nor gross personality disorganization. A possible exception to this is hysterical neurosis, which some believe may occasionally be accompanied by hallucinations and other symptoms encountered in psychoses.

46 Ibid., p. 33.
47 Ibid., p. ix.
Traditionally, neurotic patients, however severely handicapped by their symptoms, are not classified as psychotic because they are aware that their mental functioning is disturbed.48

The APA manual characterizes "personality disorders and certain other non-psychotic mental disorders" in brief as (1) disorders of personality marked by "deeply ingrained maladaptive patterns of behavior that are perceptibly different in quality from psychotic and neurotic symptoms. Generally, these are life-long patterns, often recognizable by the time of adolescence or earlier"49 (e.g., paranoid, obsessive-compulsive, antisocial); (2) sexual deviations; (3) alcoholism, defined as occurring when "patients whose alcohol intake is great enough to damage their physical health, or their personal or social functioning, or when it has become a prerequisite to normal functioning;"50 and (4) drug dependence, afflicting "patients who are addicted to or dependent on drugs other than alcohol, tobacco, and ordinary caffeine-containing beverages. Dependence on medically prescribed drugs is also excluded so long as the drug is medically indicated and the intake is proportionate to the medical need. The diagnosis requires evidence of habitual use or a clear sense of need for the drug."51

Psychophysiologic disorders are "characterized by physical symptoms that are caused by emotional factors and involve a single organ system, usually under autonomic nervous system innervation."52

The "Special Symptoms" category includes people whose special symptoms (e.g., disturbance of speech, learning, sleep, feeding, or several other aspects of life) are not the result of an organic illness or defect or other mental disorder.53

The "transient situational disturbances" category "... is reserved for more or less transient disorders of any severity (including those of psychotic proportions) that occur in individuals without any apparent underlying mental disorders and that represent an acute reaction to overwhelming environmental stress. ... If the patient has good adaptive capacity his symptoms usually recede as the stress diminishes."54

"Behavior disorders of childhood and adolescence" is a term "... reserved for disorders occurring in childhood and adolescence that are more stable, internalized, and resistant to treatment than Transient situational disturbances but less so than Psychoses, Neuroses, and Personality disorders. ... Characteristic manifestations include such symptoms as overactivity, inattentiveness, shyness, feeling of rejection, over-aggressiveness, timidity, and delinquency."55

We now turn to mental health definitions as used officially in Nevada. As defined in the Nevada Revised Statutes, "mental illness" means "any mental dysfunction leading to impaired ability to maintain oneself and function effectively in one's life situation without external support."56 The Nevada requirement for in-

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48 Ibid., p. 39.
49 Ibid., p. 41.
50 Ibid., p. 45.
51 Ibid., p. 46.
52 Ibid.
53 Ibid., p. 48.
54 Ibid., pp. 46-49.
55 Ibid., p. 50.
voluntary court-ordered admission and emergency admission to a mental health facility is that a person "has demonstrated observable behavior the consequence of which presents a clear and present danger to himself or others, or presents observable behavior that he is so gravely disabled by mental illness that he is unable to maintain himself in his normal life situation without external support."\textsuperscript{57} An emotionally disturbed child is defined in that same NRS chapter as someone aged 2 to 17 years whose progressive personality development is interfered with or arrested by a variety of factors so that he shows impairment in the capacity expected of him for his age and endowment:

1. For reasonably accurate perception of the world around him;
2. For impulse control;
3. For satisfying and satisfactory relations with others;
4. For learning; or
5. For any combination of the above.\textsuperscript{58}

On the matter of the prevalence of mental health problems, a general concern for the need for better information is elaborated on by Rexford in these pointed comments about mentally ill children:

As a nation we have not been able to look honestly at the scope of the problem of emotional disturbance in children and youth nor at the size and quality of resources available to cope with these children. We have not developed the systematic surveys, the categories of conditions, the conceptual models, nor the adequate reporting and analyzing systems to know where we are.

However concerned we may be about the lacunae in our information regarding emotionally disturbed children identified by psychiatric facilities, the total situation may be far more serious. Many of the children residing in correctional institutions, welfare homes, state schools, and foster homes undoubtedly suffer from emotional and behavioral disturbances. They may be labeled dependent, neglected, delinquent, or retarded and there is no way under present circumstances to include them in a comprehensive mental health survey. Each grouping of institutions has its own nomenclature and its own programming. There are those who believe that the reform schools and correctional institutions of the country are the sites of the same neglect of mentally disturbed young individuals as the state hospitals' back wards were of adults.\textsuperscript{59}

Comprehensive epidemiologic data in the mental health area barely exist nationally. Not only are there few consistent definitional criteria, but identification of those whose behavior is disordered or deviant is severely underdeveloped. At best, the occasional survey of patients being treated in a location gives one a crude idea about these matters, but mainly how many are being served, not how many need service. Nationally, in 1971, there were reportedly 847 patients per 100,000 population receiving inpatient psychiatric services, and 1134 per 100,000 population receiving outpatient services at state, county, private, general with psychiatric service, and Veterans Administration hospitals.\textsuperscript{60} In addition, 305 people per 100,000 popu-

\textsuperscript{57} Ibid., Sec. 22.
\textsuperscript{58} Ibid., Sec. 14.
\textsuperscript{59} Eveleen Rexford, as quoted in Joint Commission on Mental Health of Children, Crisis in Child Health: Challenge for the 1970s, Harper & Row, New York, 1969, pp. 257-258.
lation received inpatient, outpatient, and day treatment services at federally funded community mental health centers. The above numbers include those people who were active clients at the beginning of 1971, plus those admitted to the program during the year. There is some unknown amount of duplication of counting because of people who are admitted more than once per year and/or served by more than one program in 1971. Adding the total clients served by the different programs nationally, including the duplications, yields a total of 2286 per 100,000 population, or about 2.3 percent; eliminating duplications would probably bring the number of different people receiving some psychiatric service nationally to somewhat under 2 percent.

In an often-cited survey conducted in Manhattan in 1955, it was believed that about 10 percent of the population suffered from a "definite psychiatric disorder." It has become clear, however, from accumulating experience with community mental health centers across the country, that the mere opening of such a center may be enough to "surface" those in need. One wonders how many of these new clients were mentally ill all along, but were hidden away by protective and frightened friends and relatives. It strains the credulity to think that people generally become more prone to mental illness at about the same time as the development of new programs. A further question is whether these high levels of untreated mentally ill are actually "sick," i.e., whether in fact they would be better served under other auspices than the community mental health centers. Creating community mental health centers, rather than community health centers or community social service centers, may encourage definition, labeling, and treatment of problems solely as mental health problems. Given the poor quality of available information, no one really knows the answers to these questions.

In 1970 the President’s Task Force on the Mentally Handicapped concluded that 20 million Americans (about 10 percent of the population) could benefit from mental health services. The national Joint Commission on Mental Health of Children cited a figure of 1.4 million youngsters under age 18 in need of immediate psychiatric care (2 percent of the young population), and further opined that this estimate by the National Institute of Mental Health was "considered by that institute and most mental health professionals to be a conservative figure." The report goes on to estimate that "an additional 8 to 10 percent of our young people are afflicted with emotional problems (neuroses and the like) and are in need of specialized services."

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63 Muriel Hammer, "Influence of Small Social Networks as Factors in Mental Hospital Admissions." Human Organizations, Vol. 22. Winter 1963-64. pp. 243-251. thinks that because of the disconnected nature of the identification and referral processes—mainly as they relate to geographic separation from primary care facilities—this may be a possible explanation for the sudden overloading of newly opened community facilities. The evidence presented is not conclusive.
The U.S. Bureau of Education for the Handicapped uses a figure of 2 percent for the national prevalence of children with "emotional disturbance" severe enough to require special education services.\(^67\)

Reliable data on the prevalence of mental health problems in Nevada do not exist. The Nevada Division of Rehabilitation attempted to obtain such data through the household survey cited previously in this chapter.\(^68\) That survey asked respondents to self-report using the question, "Which, if any, of the conditions listed below currently limit your activities?" The list included the item "emotional, nervous, or mental condition." If they said they had such a condition, they were further asked if they had "ever lost a job" or "ever been denied a raise or promotion due to this condition." Based on the survey responses, it was estimated that 1.9 percent of Nevadans over age 12 had an activity limitation due to an "emotional, nervous, or mental condition" due to the nature of the sample, the 95-percent confidence interval for the 1.9-percent estimate is about 1.3 to 2.6 percent.\(^69\) The comparable estimates (and confidence limits on those estimates) for three regions of the state are: Clark County, 2.3 percent (1.4 to 3.2 percent); Washoe County, 0.8 percent (0 to 1.7 percent); and all other counties combined, 1.9 percent (0.3 to 3.5 percent). In addition, 1.2 percent had lost or been denied a job and 0.3 percent had been denied a raise or promotion due to an emotional, nervous, or mental condition (no confidence limits were available on those percentages).

Regarding interpretation of the above survey data, a positive response by a person in connection with activity limitations due to a mental condition means that the person: (1) thinks he or she has some emotional, nervous, or mental condition, but we cannot know from the response whether it is minor or severe; (2) thinks he or she has some activity limitation, but we cannot know from the response whether it is minor or severe; and (3) is willing to admit perceiving the condition. For purposes of this study, the survey data on activity limitation due to an emotional, nervous or mental condition have little meaning because of the vagueness of the terms used in the survey and the inherent difficulty of obtaining valid mental health information from one or two self-reported responses in a survey. The serious problem of under-reporting mental disorders in such a survey is illustrated by the low 1.9 percent prevalence figure, which is less than the low estimates of the prevalence of mental retardation alone. Even the relationship of reported rates between various counties may not be valid, because of differential reporting rates in the three major areas of Nevada. Consequently, we must conclude that most of the data obtained on "emotional, nervous, and mental conditions" in the Division of Rehabilitation survey are grossly inadequate.\(^70\)

The question then is how one does estimate the prevalence of need for substantial psychological services in Nevada. The answer is that one cannot do so accurately. The best we can say is that the prevalence is on the order of 2 to 10 percent of the population based on national data, and that 2 percent is probably a conservatively low estimate. We can also resort to a variety of indicators. While the annual suicide rate is not an unambiguous indicator of the rate of mental health disorders

\(^{67}\) Ibid., p. 254.
\(^{68}\) Pollard. Survey of Nevada Rehabilitation Needs.
\(^{69}\) Interview with Dr. Y. Koh, University of Nevada, Reno, May 12, 1975.
\(^{70}\) The deficiencies of the survey on the subject of mental conditions are well known to, and acknowledged by, J. Pollard, the author of the survey report (interview, June 9, 1975).
in a population, the two rates are related. In the first half of 1974 there were 79 suicides in Nevada. That figure, according to Jack Homer, Vital Statistics Chief of the Nevada State Health Division, was "quite a bit above the national average."\(^{11}\) The expectation would have been about 33 suicides for the comparable time period if one applied the national average suicide rate for early 1974 to Nevada's population.\(^{12}\) In 1973, the latest full year for which statistics are available, the annual rate of suicides per 100,000 population was 12.0 nationally and 22.3 in Nevada.\(^{13}\) Thus, as suggested by one measurable scale at least, the prevalence of mental disorders in Nevada may be above the national average.

Using the minimum 2 percent figure for the prevalence of mental health problems in Nevada yields an estimate of about 11,000 people in 1975 and about 15,000 in 1985. Policywise, the judicious strategy in circumstances with this much uncertainty is to expand the service system gradually, to aim to serve at least the 2 percent minimum prevalence figure, but have the flexibility to expand beyond that figure if necessary, and to reassess periodically to see if clients in substantial need of psychological and psychiatric services continue to be identified in sufficient numbers to justify further expansion.

This excursion into descriptive information on the mentally handicapped population is meant to stress the fundamental difficulty of analyzing programs and services for this group. It is difficult to obtain basic agreement as to definitions, and to obtain even "order of magnitude" information about the number and kinds of causative factors. The situation in Nevada is no exception to these general observations.

\(^{11}\) As reported in the Las Vegas Review Journal, September 28, 1974.


Chapter 4
DIRECTION

Direction is an information-based service that attempts to match a client's needs with an appropriate mix of available services. It also provides coordination and continuity among the many programs designed for meeting the client's service needs. Because those needs change over time, the direction concept further requires their periodic and systematic reassessment to ensure a "best mix" of services. The notion of "best" in this context includes the amount, quality, and costs of services. The direction service we propose in this chapter would evaluate the needs of mentally handicapped people for such services as education and training; psychological services; residential treatment; residential living; vocational, medical, and financial aid; and transportation. The direction service would then coordinate their provision by other service programs. The direction service program also could coordinate such important services as prevention and identification, which are not the prime responsibility of any agency in Nevada and are provided unevenly now.

DIRECTION IN NEVADA

Direction is not well developed in most public service systems in the United States; for mentally handicapped people in Nevada, it is in a primitive state of development. No single identifiable institution in the state, in either the public or the private sector, is primarily concerned with direction. In the scattered offices that do provide some direction, it is not the main order of business and is provided typically on an ad hoc basis. Some slight and incomplete direction service is to be found in the two Special Children's Clinics in the Division of Health, in the two Mental Retardation Interdisciplinary Committees run by the Division of Mental Hygiene and Mental Retardation, and at Nellis Air Force Base for a select population of military-related people. And, doubtless, some individual public health nurses, social workers, teachers, psychologists, physicians, and others working within the system try to secure a complete range of needed services for individual clients. Despite the efforts of these unsung exemplars, the lack of coordinated services and comprehensive direction remains a major deficiency in Nevada as elsewhere.

The following are not complete characterizations of the organizations described, but rather cover those operational and structural properties that appear to be "direction-like." Subsequent chapters discuss other aspects of each organization, e.g., the prevention, identification, and education aspects of the Special Children's Clinics.

Special Children's Clinics¹

Two clinics, operated by the Nevada Division of Health and located in Reno and

¹ Information in this section was obtained in 1974 through interviews with J. Edwards, Northern Nevada Special Children's Clinic, Reno, and J. Ashbaugh, Southern Nevada Special Children's Clinic, Las Vegas.
Las Vegas, were established to provide diagnostic and some treatment services for children from birth to age 21 who demonstrate developmental delays and possible mental retardation, although the primary focus is on the birth to age 6 child. Typical treatment might include counseling of families, and preschool education and training services for a limited number of children.

Direction to appropriate services should be the next logical step after diagnosing a child as mentally retarded; but although the clinics are natural focal points for direction of the families concerned, the direction service provided is rudimentary and ad hoc. It is not defined as part of the clinics' charter and neither staff nor finances are provided for it.

Some of this direction and referral service takes place at the meetings with parents that follow the completion of diagnosis, and at a meeting of clinic staff concerning the child. Especially in the Southern Nevada Special Children's Clinic in 1974, however, there appeared to be minimal follow-up of diagnosis with service, and minimal collaboration with other agencies in 1974. As described to us in 1974 by the head of the Southern Nevada Special Children's Clinic, "follow-up services are few and far between" and the "weakest part" of the program. In 1975, major substantive changes occurred in the entire Southern Nevada Special Children's Clinic program, which now has a new director, some new staff members, and a new facility; according to the new director, follow-up services have been substantially improved. Also, in the fall of 1975, a special education teacher from the Washoe County School District reviewed and evaluated all Washoe County children between 2 years and 6 years old who were known by the Northern Nevada Special Children's Clinic to be mentally retarded; these children were directed to programs within the school system.

Periodic reassessment and redirection are not fully implemented at the Special Children's Clinics. In both clinics, however, the clinic administrator, social worker, or a trained secretary telephone each client's family once a year to reassess the situation and, when necessary, advise on the next steps; in a few cases they arrange home or office visits with the family.

Mental Retardation Interdisciplinary Committees

Two committees are operated by the Division of Mental Hygiene and Mental Retardation, one in northern and one in southern Nevada, which review and recommend a course of services for new applicants in some division programs, and for existing clients on an ad hoc and nonperiodic basis as they may require a major change in services. The committees consist of representatives of the division, the Mental Retardation section of the Nevada Mental Health Institute, the Northern or Southern Mental Retardation Center, and specialists in psychology, social work, and vocational services. These committees do not serve all retarded people, only applicants and clients of the division's residential treatment programs at the Nevada Mental Health Institute and two Mental Retardation Centers, and the program of sheltered residential living in developmental homes. Thus, service by the committees focuses on more severely retarded people beyond about age 3, and on retarded people in their late teens and beyond. Although serving only a very limited number of people, these committees do provide multidisciplinary diagnosis and some direc-

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2 Interview with J. Ashbaugh, July 17, 1974.
tion to service programs both within and outside the Division of Mental Hygiene and Mental Retardation.

A pervasive problem in Nevada is the narrow range of options available. Even if the Interdisciplinary Committee wanted to provide superior direction, there is not always sufficient service capacity in programs where clients might be referred. During one Interdisciplinary Committee meeting attended by Rand researchers, a decision was reached to advise one family seeking assistance to try to avoid taking their child out of a California hospital when they moved to Nevada, and then to move on to New Mexico as soon as possible (an option the family was actively considering prior to applying for division services). The representative of the Nevada Mental Health Institute, the logical place for serving the child, said that the Institute presently had no waiting list but that it still would be a four- to six-month wait for services since the Institute was currently over capacity.

Nellis Air Force Base

Surprisingly, some of the better direction in Nevada is provided routinely through a small mental health clinic located at Nellis Air Force Base, just outside of Las Vegas. Keeping detailed records of their patient load, the Nellis facility provides as much or more direction as it does conventional service to its clients. The clientele is drawn from the base’s small and limited military population and their dependents. If a patient cannot be served on the base, he or she is sent to a regional Air Force facility (an option not open to most of the nonmilitary population of Nevada) or to one of the private or public service providers in Las Vegas. The Nellis staff maintains a record of certain available local services, including a running assessment of patient treatment modalities, costs, and care received, for the purpose of directing patients who need services in excess of the small capabilities of the staff, which consists of one psychologist, one social worker, and two mental health technicians.

Among direction services provided to some degree to Air Force personnel and their dependents at Nellis are diagnosis, to determine service needs; planning, to establish an individualized course of treatment; referral, to obtain good-quality service elements integral to that treatment at lowest cost; and follow-up, to evaluate the outcomes of the prescribed treatment and to reevaluate the plan. A critical element of the direction service is missing, however: comprehensive coverage of the mentally handicapped population.

PROBLEMS WITH THE DIRECTION SERVICE IN NEVADA

The direction service—comprehensive matching of a mentally handicapped person’s needs with available services—is nearly nonexistent in Nevada and is sporadic and uneven where it does occur. Follow-up, a requirement directly related to direction, is lacking. Information about the overall service system and its components, its assets, and its deficiencies, is simply not available in comprehensive form to either those needing services or those responsible for providing them. In this situation, much of the responsibility for matching a mentally handicapped person’s needs with the available services falls by default to the handicapped person or to family and friends. Virtually by definition, mentally handicapped people are poorly
equipped for that task, and friends and relatives confront the same lack of information as everyone else.

Poor direction and coordination of services have stark implications for the overall operation of the service system. Without them, the system should not be expected to work very well, and it often does not. One of the major obstacles confronting us in carrying out this evaluation was the dearth of information about many of Nevada’s programs. Data exist, to be sure, but they have not been compiled fully and integrated; consequently, no one can readily determine what the whole system contains, how its various parts interact, and how well it is serving Nevada’s citizens. Without that information, not even top management can fully understand the problems of the service system; and at the other end, clients have little chance of learning how to “work the system” so as to match needs with service resources. A number of specific questions need to be answered.

Who are the patients and clients served by the present system, and what package of services has each received? At present, even a rough answer to those simple questions can be had only by piecing together the records of numerous agencies. Even at that, because such records as do exist are not in compatible formats, aggregates and compositional information cannot be determined readily. Furthermore, much “basic” information about the system simply does not exist.

Who are the servers in the system? Nowhere in the state is there one complete listing of all public and private service programs for mentally handicapped people, including specific information about their case loads, treatment modalities, costs, and relationships with other private and public service providers (let alone program effectiveness). Nowhere is there an up-to-date compilation of all programs in a readily understandable form so that handicapped people, their relatives, and other service providers might be fully informed about what is available throughout the state and elsewhere.

But what about consumer’s choice for the mentally handicapped person? After all, he or she can “shop around” for services satisfactory both as to quality and price. Unfortunately, appeals to marketplace arguments do not suffice in this instance. The consumer may not have the resources or the time to shop around when it comes to mental health and mental retardation services. As discussed below, information on which to make a well-reasoned consumer’s choice is usually not readily available, or is not available at all. In many instances in Nevada, choice is made all the more problematic because providers and essential programs are in short supply, are often under-funded in relation to need, or do not exist at all.

But won’t the client’s physician (or psychologist in the local community mental health center, special educator, vocational rehabilitation specialist, social worker, or almost any other specialist) be able to tell the client or a relative where to go for help? Perhaps, but perhaps not. Besides the basic lack of information any or all of these people will have about other programs operating in the same service system, serious professional-ideological constraints are at work. An “interface” problem prevails among the physicians, social workers, psychologists, and other professionals.

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who jointly serve mentally handicapped people. The problem is especially difficult when questions of professional status arise, as they inevitably do. It is a problem of great consequence in Nevada, where much energy has been expended in 1974 and 1975 in what some people have simplistically billed as a conflict between psychiatrists and psychologists (primarily psychologists administering programs in the Nevada Division of Mental Hygiene and Mental Retardation).

The Nevada service programs and the people responsible for them are in flux; considerable turnover of direct service personnel exists. Therefore, the state cannot rely solely on individual staff members to provide quality direction services on a continuing basis. Certain aspects of the direction and coordination service need to be formalized if it is to be effective; as a necessary first step, for example, the information base of the service system needs to be on paper rather than merely in service people’s heads, so that the information is readily transferred when personnel turnover occurs. It is better, in our view, to work hard on the creation of one or two service institutions whose primary task is to keep track of what is currently available, both locally and in contiguous states, so as to lessen the search and discovery time for those in need of services.

The uncertainty about the current and future size of the mentally handicapped population (see Chap. 3) adds another dimension to the direction service requirement. It is essential that overall system planning be tied to effective record-making and record-keeping so as to alert top-level decisionmakers as soon as possible to fundamental changes in the aggregated population’s service needs. Lacking comprehensive, aggregate information on the nature of the population’s service needs, which a direction program could help provide for all those in receipt of services, planning tends to become a reactive rather than an anticipatory activity.

Defective or nonexistent coordination and communication among programs and service providers pervades the service system in Nevada and does not seem to be readily or easily correctable. Inadequacies of current coordination and communication among programs were mentioned in most of the interviews we conducted. The following examples are only illustrative. When we asked the Nevada Governor’s Mental Hygiene and Mental Retardation Advisory Board what they felt were problems with current services, the first three mentioned were: (1) how to deliver and finance services in rural areas; (2) communication and lack of continuity of therapeutic service upon patient release from the Nevada Mental Health Institute (an example was cited in which the family and private psychiatrist of a patient released from the Institute first learned of his release when he arrived home in Las Vegas); and (3) the public does not know whom to get service from or what service is available. In our terminology, the second and third problems cited concern the lack of direction service in the state. Another example of lack of coordination stems partially from the problem of insufficient funding for a service program in relation to need: speaking of the Henderson Mental Health Center, a high-level staff member at that Center said, "We don't want to advertise because we're already swamped, but I guess we should let more people know about our work to improve coordination." The lack of cooperation is not restricted to the public sector; one private provider indicated that "the competitiveness for dollars among private agencies goes

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4 Interview with Governor’s Mental Hygiene and Mental Retardation Advisory Board, Las Vegas, Nevada, January 6, 1975.
5 Interview with Mr. Eversaul, Henderson Mental Health Center, Henderson, Nevada, July 16, 1974.
over into service provision.” An improved direction and coordination service is no instant cure for these difficulties, but it should help considerably.

Deficient follow-up is a basic and unresolved problem for mentally handicapped people and their families. There is little comprehensive and continuing follow-up to insure that they are integrated into their communities or into other service programs when they have completed a course of treatment or have ceased receiving specialized services in a particular program, e.g., residential treatment, special education, or vocational training.

A direction and coordination service can be created to help resolve many of these problems, and the means for doing so are well within the resources and abilities of Nevada.

REGIONAL DIRECTION CENTERS

Basic Requirements for a Direction Service

Adequate coordination and direction have not been achieved and probably cannot be achieved by relying solely on the individual staff members of various programs. We believe it is better to establish a separate state program responsible for direction and coordination of the service system on behalf of individual clients. The information essential for direction and coordination comes from all service programs, and it is more efficient to have that information available and up to date in one place than to try to keep every program up to date on every other program in sufficient detail so that every program could provide a complete and effective direction service. Assigning direction and coordination responsibilities to a separate program staff also would visibly place primary responsibility for direction with that staff, and would eliminate the possibility of having direction and coordination be neglected because attention is diverted to meeting other pressing service demands (as can easily happen when a program is primarily responsible for some other service). Another argument in favor of having a separate state direction program is that there are interdependencies among different service programs that may not be adequately taken into account if direction were to be provided by each of those various programs rather than by a separate state-level program. For example, benefits and costs of a service program may be received or borne beyond the bounds of that particular service program; these benefits and costs can be termed "externalities" from the viewpoint of that particular service program. If direction and coordination of client services by each of these particular service programs is provided by a separate state program, then certain factors that are external from the particular service program’s viewpoint can be internal from the viewpoint of the state direction program with its broader perspective. Furthermore, it is unlikely that anything less than a separate state direction program will achieve the desired coordination of services for individuals, since it is unlikely that other existing state service programs can be effectively coordinated in practice by personnel who are not placed above those programs in the bureaucracy.

We consider the following to be critical requirements for a quality direction and

coordination service program, to be administered by the Regional Direction Centers we recommend below. The program should:

- Be a well-publicized point of entry to the service system and a one-stop source of both general and specific information for Nevada citizens in need of services because of mental handicaps.
- Collect and maintain information about all components of the public and private system serving mentally handicapped people in Nevada so that individuals can be effectively matched with the appropriate available services.
- Emphasize the individual, human dimension to create a specific and comprehensive service plan for each client's particular needs to the extent feasible with the existing service system, and coordinate with other programs to obtain needed available services for the client.
- Serve as a representative for individual clients in interacting with the service system to facilitate service delivery.
- Provide for periodic review, through active follow-up, of the appropriateness of the mix of services being provided to each client in light of changing needs and programs.
- With adequate privacy safeguards, collect and maintain information on each client served by the system, for the client's and the system's mutual benefit, in order to facilitate follow-up, coordination of other service programs in meeting the client's needs, and in the aggregate to provide information on needed improvements in the service system.
- Provide a multidisciplinary staff, since people trained in single disciplines generally cannot provide all needed expertise on the continuum of service needs of mentally handicapped people.
- Provide separate staff expertise for people with needs due to (1) mental health problems, (2) mental retardation, and (3) alcohol and drug abuse problems, since the service needs and programs for serving those groups are significantly different.
- Provide direction and coordination as the primary service of the program, so that attention is not diverted to the meeting of other pressing service demands.
- Be separate from other major direct service programs in the bureaucracy, so that it is not captured by those programs, and so that too much emphasis is not placed on direction to certain services.
- Provide the direction service program as part of the public rather than the private service sector, since it is unlikely that the public sector programs could be coordinated by the private sector.

**Regional Direction Center Recommendation**

We recommend that Regional Direction Centers be established: in Reno serving all of northern Nevada, and in Las Vegas serving all of southern Nevada, with separate but cooperating staffs for mental health, mental retardation, and alcohol and drug abuse clients. We further recommend that these centers be placed under the operational control of the Nevada Department of Human Resources, and be placed above the administrative level of the various divisions providing the services that the Regional Direction Centers would coordinate. Since not all service programs are within the Department of Human Resources, e.g., education and private service programs, the Direction Centers may need legal authority to coordinate with
and exchange information with other public programs, and to provide limited information (with the individual's permission) to private service programs. Privacy safeguards on the information will be essential.

These Direction Centers could operate under the auspices of the Nevada Governor's Mental Hygiene and Mental Retardation Advisory Council, the Nevada Developmental Disabilities Council, and the Nevada Alcohol and Drug Abuse Advisory Board, all of which we have recommended be strengthened significantly (see Chap. 2).

These Regional Direction Centers should be configured to meet the basic requirements for a quality direction service noted above. Direction Center personnel would provide diagnostic, planning, referral, and follow-up services either directly or through consultants who would supplement regular direction service providers. However, it would not duplicate other services, such as diagnosis, if provided adequately in other programs (e.g., a mental health center or rehabilitation program). Initially, the Direction Center personnel would not have direct authority over other operating program personnel but would attempt to coordinate services to individuals through persuasion and the exchange of information. Later, if the voluntary approach to coordinating services for individuals proves inadequate in Nevada, the Direction Centers might need to be given greater powers. The intent, under this concept, is not to duplicate existing services or to dictate to existing programs, but to make them more coordinated, responsive, and effective.

Diagnosis would be a primary function of the Direction Center, particularly for mentally retarded and alcohol or drug abusing people. Mental problems are complex and normally demand resolution from many different perspectives. Diagnosis could include the services of a direction counselor as well as personnel skilled in diagnosing specific types of mental handicaps. Consultative assistance, of the type found in practice in Reno's Special Children's Clinic, for example, would draw on the talents of medical specialists, mental retardation professionals, and other specialized talent. Besides collection and collation of previous diagnoses and work-ups on clients entering or reentering the Nevada service system, a basic purpose of the initial diagnostic intake would be to reevaluate, only if necessary, the current nature and extent of the individual's handicapping condition. Where necessary, additional diagnostic testing and evaluations may be required before a plan of service for a specific client can be formulated. Direction Center personnel, e.g., the direction counselor assigned to the specific case, would be responsible to see that these additional tests and evaluations are carried out if (and only if) needed, ensuring that duplication of diagnostic and other studies is minimized or eliminated. Evaluations will necessarily vary from case to case, but in all cases the paramount objective will be to determine as well as possible the client's level of functioning and needs.

At the conclusion of the intake and diagnostic portion of direction, a planning phase would follow. Once again, such planning is necessarily multidisciplinary. Its intent would be to assess the client and his or her situation, to clearly establish the needs, to set goals in both near and longer terms, and to develop an individualized plan of service and action consistent with available services. The products of this phase would be information that would be made available to individual servers to the extent necessary, and a step-by-step course of action that the client and his or her family could pursue.

The process would not stop with diagnosis, planning, and referral for service;
follow-up is an important step to help ensure that what has been planned is carried out as intended.

A toll-free telephone number should link the centers and provide access for citizens and service agencies throughout the state. As soon as the centers become fully operational, this number should be widely publicized. It would help if an easily remembered number were selected, e.g., something like 800-SERVICE or 800-COUNSEL.

While the start-up costs of the Direction Centers might be derived from private sources, the centers should be publicly operated. This is primarily a service for the general consuming public. If it were privately operated, it would in our view be much harder to attain public agency cooperation and to obtain public program case information, both essential to success. If it were not organizationally situated to ensure direct access to the Director and the bureaucratic power of the Director of a Department, we fear that much of the desired effectiveness would be forfeited. At the Department of Human Resources level, potential coordination benefits appear significant.

Although, to enhance their effectiveness, the Direction Centers should report to a very high level in the bureaucracy, we believe they must operate at the local level and interact with the direct service providers at the local level to achieve the best coordination of services for the client’s benefit.  

One could argue that an elegant and expensive computer system would be necessary for an institution whose basic purpose includes the collection and dissemination of information. Such systems exist, but we believe Nevada does not need one, because of the relatively small size of its at-risk population. Conventional record-keeping methods should suffice; if they prove burdensome in the future, the operation can be computerized.

We recommend starting small, with a staff of perhaps 6 at the Northern and perhaps 12 at the Southern Nevada Regional Direction Centers. The operating procedures could be developed, tested, and refined on this small scale with limited numbers of clientele. If shown to be worth the relatively small cost per client, they could then be expanded later to meet the full direction service needs of various types of mentally handicapped people.

A possible method of paying for these direction centers—one requiring legislative consideration, in all probability—would be to earmark a very small, but fixed percentage of all service funds currently provided, e.g., 1 percent, for use in providing direction and coordination services. For instance, a mentally retarded child is entitled to special education, and special education is costed separately in the state’s current operating budget. If only a small fixed “tax” were levied on the special education budget, and in similar fashion on all other programs providing services, a pool of continuing funds could be created to operate and sustain the programs of the Regional Direction Centers.

Volunteers might be used to reduce costs, as they are in some prototype direc-

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7 For discussion of a series of efforts to coordinate mental health systems, see Martin Gittelmann, “Coordinating Mental Health Systems: A National and International Perspective,” *American Journal of Public Health*, Vol. 64, No. 5, May 1974, pp. 496-500, where this concluding comment, of applicability to Nevada as well, is made (p. 500): “Get it all together through action and coordination and responsibility at the local level. No edicts or management from above can do the job; responsibility for, and direction of, services must be centered in the community.”

8 The State of Maryland’s “Data System for the Handicapped” is a notable and operational example.
tion programs of which we are aware. One offsetting cost reduction would come from elimination of the need for other programs to provide their present inefficient and partial direction, which is based on little comprehensive information about the service system. In view of the potential for standardized, accurate, and rapidly accessible management information (currently available in only the most rudimentary forms), this direction service expenditure could provide significant benefits. It is difficult to assign a dollar value to the additional humane, quality-of-life benefits that would accrue to mentally handicapped people and their families from receipt of appropriate services, but the value must be significant. Similarly, it is not possible to calculate exactly the benefits deriving from savings in services that people will not need later in life because of timely evaluation of needs and case management, but the savings would be significant in the individual case and positive in the aggregate. The savings in rediagnosis and recertification realized by a simple transfer of client records from the Direction Center to various other servers will be considerable, but not reliably calculable. The savings that would result from more efficient matching of the needs of a handicapped person with the locally available services are not measurable, using available data, but would be positive.

In brief, the cost per person for a direction and coordination service is not in itself high, and the potential benefits and later savings from that service could be large, but they cannot be accurately estimated using available data.

Some Other Examples

It should be stressed at the outset that this Regional Direction Center recommendation differs in significant ways from specific proposals advanced in earlier Rand analyses* and from current operations of the California Regional Centers for the Mentally Retarded.10 While many of the operational concepts have been derived from our analyses of direction needs of handicapped children, as reported in our work for the Secretary of the Department of Health, Education, and Welfare, one must consider some important adjustments in adapting the concepts to Nevada.

Our prior work was concerned only with sensorially handicapped children, whose direction needs generally converge with the needs of the mentally impaired of all ages in Nevada, but for whom specific differences exist with respect to methods of identification, diagnosis, and follow-up. For instance, less direct contact is thought to be necessary for sensorially handicapped children, whose difficulties tend to stabilize once all available medical remediation has been administered. By contrast, a mentally ill adult conceivably may never achieve a long-term and steady state condition, depending on the nature of the disorder; that fact implies a quite different pattern of intake, diagnosis, planning, and periodic review. At the least, provision for more frequent and ready access to the direction service would have to be designed for mentally handicapped people, and the disciplines represented in staffing will depend on the type of handicap.

In scale of operations, the sensorially handicapped population's direction needs differ vastly in scale from those the mentally impaired in Nevada would require.

* See J. Kahalik et al., Improving Services to Handicapped Children, The Rand Corporation, R-1420-HCW, Santa Monica, California, May 1974, Chap. 3.

Catchment areas for direction of sensorially handicapped children are several times as large in design because of the much lower incidence rate of sensorial handicaps; many more and different service providers have to be accounted for than would be required in Nevada; and the use of the computer is a necessity.

A basic difference between what we propose here and the California Mental Retardation Regional Centers is that the California Centers can purchase services on their clients' behalf from other public and private programs; arguments can be marshalled to support this economic "stick," to insure that services are provided at reasonable cost and quality. For Nevada, with its much smaller and more easily manageable service system, the potential benefits do not appear to justify disruption of the current system by having most funding flow through the Regional Direction Centers. The California Centers themselves also provide some services that are not basically informational or directional, a practice that diverts the institution somewhat from its basic purpose. For example, they often provide long-term social worker services; they are responsible for all admissions and discharges from state hospitals; and they are deeply involved with so-called "Area Boards" in the development of detailed regional plans. The California Centers also typically serve mentally retarded children and a provision of the enabling legislation allows them to maintain a client for life in the event the condition causing the handicapping is permanent. Other differences exist, but these are the major ones.

One final key aspect is that the California Centers have been vested with the legal right to guardianship for their clients, i.e., the legal right to act as a "wise parent" if a client's parents or guardians decide to relinquish this responsibility to the Director of the State Department of Health through court action. Such a guardianship role might also be considered for the Nevada Regional Direction Centers, whose creation we propose.

For more details on the direction center concept, and a review of several other types of direction-like programs throughout the United States and in Europe, refer to our earlier report on services to handicapped children.¹¹

¹¹ Kakalik et al., Chap 3.
INTRODUCTION

Traditionally, two classes of prevention have been distinguished: primary and secondary. Primary prevention tries to forestall some harmful process or event. Secondary prevention concentrates on early identification and treatment, so that the consequences of the potentially debilitating process or event either do not appear or are rendered less harmful. Standard public health doctrine also considers the possibility of tertiary prevention, efforts to reduce the duration of negative effects through a course of treatment.

Eli M. Bower has further refined and qualified these general prevention definitions for use by mental health practitioners:

- Primary refers to those activities done for the entire "population at large," not specifically the handicapped population.
- Secondary is done for the limited population of "identified vulnerable, high-risk groups."
- Tertiary includes all "treatment and rehabilitation" of handicapped people.\(^1\)

Prevention of mental disorder is so self-evidently a "good" objective that no one can dispute its usefulness or desirability, but only its costs, methods, and feasibility. Politicians have occasionally turned prevention into a rallying cry, as President Kennedy did in 1963:

First, we must seek out the causes of mental illness and of mental retardation and eradicate them . . . For prevention is far more desirable for all concerned. It is far more economical and it is far more likely to be successful. Prevention will require both selected specific programs directed especially at known causes, and the general strengthening of the fundamental community, social welfare, and educational programs which can do much to eliminate or correct the harsh environmental conditions which often are associated with mental retardation and mental illness.\(^2\)

Prevention is far harder to practice than to preach, however. Experience has shown that prevention not only is difficult to define, it is even more troublesome to put into action. Nevada is a case in point. The state's programs for the prevention of mental disorders are in an embryonic, underdeveloped stage, but Nevada is not at all alone in that regard.

Several explanations are possible for the stunted growth of prevention pro-

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grams in Nevada and elsewhere. One may be that officialdom undervalues the investment in preventive activities. Conserving today's prevention funds may make good short-term economic sense to a hard-pressed public official; in the long run, such a policy may be penny-wise and pound-foolish. What appear to be savings—even small savings—may inflict prolonged and expensive consequences when one considers the high human and economic costs of an impaired individual over the years, to both the person and to society. Underinvestment in this neglected service may also occur because those who administer, or who are supposed to create and administer, preventive programs do not reap for their own agencies the savings that prevention realizes in such services as special education, vocational services, and welfare, which are administered elsewhere. Another reason for neglect is that basic knowledge about the causes and cures of many mental disorders is inconclusive or missing. That is not true for all mental disorders, however; many causal connections and preventive measures are known and those measures should be undertaken to a far greater extent. Also, no one agency of government has been assigned responsibility for prevention in a direct and inclusive way, at either the federal, state, or local level.

The following three sections of this chapter deal with the prevention of mental health disorders, mental retardation, and alcohol and drug abuse. Each summarizes the state of knowledge about and practice of prevention throughout the country, describes the status of prevention activities in Nevada, and makes recommendations for improvements when warranted. The discussions are limited wherever possible to primary and secondary prevention. Subsequent chapters of this report that describe treatment services deal more fully with tertiary prevention through treatment of people with mental handicaps (e.g., special education so that a mentally retarded child is not functionally retarded as an adult).

Current expenditures in Nevada for the prevention of mental handicaps are impossible to estimate accurately; so is the number of handicaps prevented. Some very small but inestimable fraction of programs to improve societal-environmental living conditions for the general population can be considered as going for primary prevention of mental handicaps. More directly, some small fraction of expenditures for maternal and infant care, counseling, family planning, nutrition, immunizations, Medicaid, and other programs contribute partly to the prevention of mental handicaps, but we have no meaningful way of estimating that fraction with available data. The following are the only expenditures we located that we could specifically attribute to the primary and secondary prevention of mental handicaps: alcohol and drug abuse education, currently about $300,000 a year; genetic testing and counseling for mental retardation, about $75,000; and less than $50,000 for Crisis Call and Suicide Prevention telephone programs.

PREVENTION OF MENTAL HEALTH DISORDERS

So little is known about the specific causes and prevention of mental health

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3 This is precisely the conclusion of Ronald W. Conley, The Economics of Mental Retardation, The Johns Hopkins University Press, Baltimore, Maryland, 1973, a sophisticated and convincing analysis of service programs for the retarded.


5 As primary sources we use information obtained from our medical consultants; for textual documentation we use Frederick C. Redlich and Daniel X. Freedman, The Theory and Practice of Psychiatry, Basic Books, New York, 1966, esp. Chap. 10.
disorders that preventive measures lack precision and it is difficult to evaluate their effects. Prevention of mental illness is not a new idea; but it is seldom made into an operational program. Even successful prevention is hard to prove. The central predicament is dramatized in the following commentary on the causes of manic-depressive behavior disorders, thought to account for as many as three to four mentally ill persons per 100,000 population (so afflicted as to require in-patient care):

Although etiological theories are many, our knowledge of the causative factors is scanty, and we must view affective behavior disorders as of unknown and exceedingly complex etiology. Statements about etiology in the literature do not differentiate between severe and mild disorders, between single depressive or manic attacks and recurrent and cyclic disorders. In general, it is assumed that in severe and cyclic disorders, organic factors, and in milder and sporadic reactions, psychological events are more likely to be contributory. This clearly is a gross oversimplification.¹

Other disorders of mental health are similarly opaque to reliable and consistent etiologic discrimination.

Table 5.1 provides some crude suggestions about conditions that account for mental disorders, and compares age cohorts according to primary diagnoses. The large percentage of the total devoted to "Other"—25 percent—again reflects the crudity of etiologic knowledge.

Because available data are so poor, it is a matter for debate whether biology or environment is the greater force in mental health disorders (although there are those who believe otherwise). It appears that "Major disorders are, indeed, distributed more or less equally through space and time," and that "all major disorders seem to occur in all cultures," but then again, no one really has adequate evidence about the prevalence and causes of mental health disorders.

How does one "prevent," in the crudest sense, disorders whose causes are so poorly understood?

Genetic control programs are of no significance in practice today. In the absence of etiologic data, genetic counseling for mental health problems has yet to pass from the realm of academic inquiry into application. If and when it does, the questions we raise later concerning genetic counseling in the mental retardation area will have to be addressed. Researchers have explored schizophrenic families and occasionally deduced that the children of such families tend to be socially and psychologically maladjusted.² But are they so because of their genes or because they are reared in an unstable environment? (In either case, some people argue that psychot-

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¹ Ibid., p. 539.
² In a much-heralded work, M. Harvey Brenner divined a consistent relationship between economic cycles and mental hospital admissions.

First, it is clear that instabilities in the national economy have been the single most important source of fluctuation in mental-hospital admissions or admissions rates. Second, this relation is so consistent for certain segments of the society that virtually no major factor other than economic instability appears to influence variation in their mental hospital rates. Third, the relation has been basically stable for at least 127 years and there is considerable evidence that it has had greater impact in the last two decades.

Table 5.1

ESTIMATED NUMBER OF TOTAL TERMINATIONS FROM OUTPATIENT PSYCHIATRIC CLINICS IN THE UNITED STATES BY MENTAL DISORDER AND AGE, 1969

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>All Ages</th>
<th>&lt;5</th>
<th>5-9</th>
<th>10-14</th>
<th>15-17</th>
<th>18-19</th>
<th>20-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>818,865</td>
<td>15,426</td>
<td>89,049</td>
<td>113,751</td>
<td>79,959</td>
<td>37,220</td>
<td>95,307</td>
<td>153,142</td>
<td>115,843</td>
<td>70,567</td>
<td>34,786</td>
<td>14,635</td>
<td>8,180</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>29,879</td>
<td>2,900</td>
<td>8,180</td>
<td>7,931</td>
<td>3,183</td>
<td>1,186</td>
<td>1,755</td>
<td>2,042</td>
<td>1,211</td>
<td>836</td>
<td>451</td>
<td>113</td>
<td>91</td>
</tr>
<tr>
<td>Organic brain syndromes associated with alcoholism</td>
<td>4,833</td>
<td>—</td>
<td>—</td>
<td>13</td>
<td>35</td>
<td>45</td>
<td>227</td>
<td>726</td>
<td>1,186</td>
<td>1,352</td>
<td>890</td>
<td>278</td>
<td>81</td>
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<tr>
<td>Organic brain syndromes associated with syphilis</td>
<td>552</td>
<td>—</td>
<td>13</td>
<td>82</td>
<td>20</td>
<td>7</td>
<td>13</td>
<td>53</td>
<td>57</td>
<td>84</td>
<td>138</td>
<td>52</td>
<td>33</td>
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<tr>
<td>Organic brain syndromes associated with drug or poison intoxication</td>
<td>2,770</td>
<td>2</td>
<td>20</td>
<td>94</td>
<td>371</td>
<td>357</td>
<td>765</td>
<td>486</td>
<td>283</td>
<td>123</td>
<td>52</td>
<td>35</td>
<td></td>
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<tr>
<td>Organic brain syndromes associated with cerebral arteriosclerosis and senile brain disease</td>
<td>5,388</td>
<td>—</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>35</td>
<td>61</td>
<td>229</td>
<td>1,002</td>
<td>2,165</td>
<td>1,877</td>
</tr>
<tr>
<td>Other organic brain syndromes</td>
<td>16,746</td>
<td>904</td>
<td>3,598</td>
<td>2,552</td>
<td>981</td>
<td>474</td>
<td>1,141</td>
<td>1,664</td>
<td>1,488</td>
<td>1,386</td>
<td>1,234</td>
<td>762</td>
<td>562</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>100,784</td>
<td>480</td>
<td>1,717</td>
<td>2,897</td>
<td>3,880</td>
<td>4,331</td>
<td>14,333</td>
<td>27,158</td>
<td>23,381</td>
<td>14,189</td>
<td>6,000</td>
<td>1,777</td>
<td>641</td>
</tr>
<tr>
<td>Major affective disorders</td>
<td>12,519</td>
<td>7</td>
<td>13</td>
<td>25</td>
<td>69</td>
<td>70</td>
<td>443</td>
<td>1,045</td>
<td>2,043</td>
<td>3,834</td>
<td>3,466</td>
<td>1,218</td>
<td>286</td>
</tr>
<tr>
<td>Psychotic depressive reaction</td>
<td>5,470</td>
<td>6</td>
<td>23</td>
<td>85</td>
<td>141</td>
<td>128</td>
<td>477</td>
<td>1,021</td>
<td>1,185</td>
<td>1,001</td>
<td>847</td>
<td>390</td>
<td>166</td>
</tr>
<tr>
<td>Other psychoses</td>
<td>3,371</td>
<td>17</td>
<td>47</td>
<td>85</td>
<td>90</td>
<td>112</td>
<td>352</td>
<td>575</td>
<td>636</td>
<td>657</td>
<td>520</td>
<td>217</td>
<td>63</td>
</tr>
<tr>
<td>Depressive neuroses</td>
<td>70,340</td>
<td>89</td>
<td>507</td>
<td>1,967</td>
<td>2,584</td>
<td>2,854</td>
<td>10,626</td>
<td>19,504</td>
<td>14,682</td>
<td>9,467</td>
<td>5,410</td>
<td>1,983</td>
<td>667</td>
</tr>
<tr>
<td>Other neuroses</td>
<td>56,060</td>
<td>218</td>
<td>2,678</td>
<td>4,581</td>
<td>2,685</td>
<td>2,562</td>
<td>9,108</td>
<td>15,865</td>
<td>10,056</td>
<td>4,892</td>
<td>2,237</td>
<td>694</td>
<td>463</td>
</tr>
<tr>
<td>Personality disorders</td>
<td>124,455</td>
<td>420</td>
<td>4,914</td>
<td>13,769</td>
<td>12,996</td>
<td>7,281</td>
<td>22,192</td>
<td>31,441</td>
<td>18,980</td>
<td>8,668</td>
<td>2,477</td>
<td>840</td>
<td>537</td>
</tr>
<tr>
<td>Alcohol addiction</td>
<td>17,188</td>
<td>3</td>
<td>2</td>
<td>22</td>
<td>64</td>
<td>91</td>
<td>566</td>
<td>3,373</td>
<td>5,696</td>
<td>4,861</td>
<td>2,074</td>
<td>347</td>
<td>89</td>
</tr>
<tr>
<td>Drug dependence</td>
<td>7,558</td>
<td>—</td>
<td>2</td>
<td>122</td>
<td>648</td>
<td>867</td>
<td>2,127</td>
<td>2,134</td>
<td>1,013</td>
<td>401</td>
<td>152</td>
<td>65</td>
<td>27</td>
</tr>
<tr>
<td>Psychophysologic disorders</td>
<td>5,319</td>
<td>35</td>
<td>317</td>
<td>502</td>
<td>372</td>
<td>207</td>
<td>616</td>
<td>1,126</td>
<td>1,018</td>
<td>614</td>
<td>345</td>
<td>128</td>
<td>39</td>
</tr>
<tr>
<td>Transient situational disturbance and adjustment reaction to infancy</td>
<td>144,089</td>
<td>3,115</td>
<td>27,610</td>
<td>41,326</td>
<td>29,822</td>
<td>7,924</td>
<td>9,262</td>
<td>11,154</td>
<td>7,337</td>
<td>3,545</td>
<td>1,453</td>
<td>883</td>
<td>708</td>
</tr>
<tr>
<td>Infant mortality</td>
<td>211,544</td>
<td>7,230</td>
<td>30,404</td>
<td>37,655</td>
<td>22,014</td>
<td>8,722</td>
<td>21,299</td>
<td>32,740</td>
<td>25,530</td>
<td>14,429</td>
<td>5,967</td>
<td>2,721</td>
<td>1,795</td>
</tr>
</tbody>
</table>

SOURCE: Unpublished data from the National Institute of Mental Health, HSMHA, as reported in the Mental Retardation Sourcebook of the Department of Health, Education, and Welfare. DHEW publication No. (OS) 73-81, September 1972, p. 91.
ic parents should not attempt to rear children at all. In a massive compilation of family data spanning four generations, Sheldon Reed and his associates have done a great service in terms of basic data collection, but nonetheless, they are able only to "suggest" the possibility of hereditary factors in psychosis.

A large literature on neurotic etiologies has amassed over the years, but hard knowledge remains in short supply. David Cohen has recently summarized work in this field; however, his concluding comment about needed further research speaks for itself:

This kind of research would be worth the enormous time, expense, and effort required. It would facilitate the development of true theories capable of predicting onset, duration, intensity, and type of reaction.

Providing a stable and stimulating living environment is a preventive "good," but then, so are many similar activities. Teaching people how to know themselves, to perceive and understand reality, to make realistic plans, to relate to others, to care and be cared for, to accept and deal with change, to accept responsibilities, and to practice effective birth control are all potential preventive approaches. Each has proponents and detractors, and each has some claim to legitimacy. For all of these approaches there exist related intervention practices, but for all of them—approaches and practices alike—the preventive aspect of reducing mental health disorder is still open to question. There is less doubt about the need to increase public awareness of mental health problems (most books on the issue recite that need like a litany), but even here there are few clear prescriptions, many all-too-clear problems, and not many notable successes.

It is hard to disagree with those who urge more research and more attempts at primary prevention. Knowledge is what we need; we are still far from being able to make confident recommendations about preventive "activities done for the 'population at large,'” to recall Bower's operational classification scheme discussed at the beginning of this chapter.

Society is somewhat better equipped to provide secondary prevention to help "identified vulnerable, high-risk groups," but there are problems here, too. A person with a high risk of developing a mental disorder is too seldom in touch with skilled mental health providers to be identified early, so that secondary preventive measures can be taken. More often than not the disorder develops and advances over an

10 Michael Rutter, Children of Sick Parents, Oxford University Press, New York, 1966, examines many aspects of this question.
14 S. Richard Sauber, Preventive Educational Intervention for Mental Health, Ballinger, Cambridge, Massachusetts, 1973, has detailed a thorough, logical plan for public education and this work warrants attention. The results are not in yet, however, Gerald Caplan, a prominent spokesman for prevention, has laid out some of the requisites in his Support Systems and Community Mental Health, Behavioral Publications, New York, 1974.
16 The optimistic note resounds in Gerald Caplan, Principles of Preventive Psychiatry, Basic Books, New York, 1964. The pessimistic echo is that the Federal Government in 1974 was spending only about $3 million a year on the problem. The near-term prognosis is not rosy.
extended period of time as the person becomes a subject of concern and perhaps hostility to family, friends, co-workers, physicians, ministers, teachers, and so on. Ultimately, if fortunate, the person is taken on by a competent psychologist or psychiatrist, by which time the object is treatment, not prevention. Procedures should be designed to make the mental health service system and its prospective clients more readily accessible to each other.\textsuperscript{17}

One especially interesting example of a program that makes the mental health service system more accessible is the Suicide Prevention and Crisis Call Center in Reno. Its experience also illustrates many of the typical problems found in this and other sectors of the system. The Reno Center is a joint operation between the University of Nevada and volunteers,\textsuperscript{18} partially financed in the amount of about $7000 per year by United Way. The University provides the building rent-free and offers a semester of training for the volunteers who answer the telephones. There are 75 nonprofessional volunteers and 11 professional back-ups, e.g., social workers, psychologists, ministers. The Center operates 24 hours a day, but offers telephone assistance only—no walk-ins. A total of 4589 initial calls were received in 1973; only about 10 percent were not related to crisis or suicide. As to be expected, the calls are rather long and result in referrals to other community agencies. The Center tries to call back later to check on the troubled persons, but does not always succeed. Professionals do not usually answer the phones, but provide backup. About 10 to 20 percent of the calls are in fact suicide-related; the remainder are concerned with depression, psychosis, lodging, food, and so forth. As of April 1974 it was the only 24-hour service of its type in northern Nevada (the Reno Mental Health Center, however, has recently begun answering its telephone on a 24-hour basis). Despite these impressive beginnings, there are problems. Outside of the hours from 8 a.m. to 5 p.m. on weekdays, direct services from psychologists and psychiatrists were said to be often unavailable; and not many people know about the center and its program. (In a recent survey, less than 5 percent of those questioned had even heard of the Reno program.\textsuperscript{19}) Las Vegas has two similar privately financed 24-hour telephone programs called the Hotline and the Suicide Prevention Center.\textsuperscript{20}

While the Community Mental Health Center (CMHC) movement, often hailed as a “third revolution” in mental health,\textsuperscript{21} was intended to tackle both prevention and treatment, it is clear from the record that prevention has remained more promise than actuality.\textsuperscript{22}

\textsuperscript{17} Redlich and Freedman note one actual case, in Amsterdam, where procedures appear to be working reasonably well: Paul V. Lemkau and Guido M. Crocetti, “The Amsterdam Municipal Psychiatric Service,” American Journal of Psychiatry, Vol. 117, 1961, pp. 779-786. The implementation appears straightforward; however, Amsterdam is not Nevada and the procedures may or may not be transferable.

Collaborative efforts between Vancouver’s public health nurses and psychiatrists were found effective in reducing the lag time; transfer of the experience to Nevada is problematic. See M. Albert Menzies, “Preventive Psychiatry: The Psychiatric Team as Consultant to the Public Health Nurse,” Canadian Medical Association Journal, Vol. 93, October 2, 1965, pp. 743-747.

\textsuperscript{18} Interview with J. Mikawa, Suicide Prevention and Crisis Call Center, Reno, Nevada, April 23, 1974.

\textsuperscript{19} Ibid.


Mandating prevention in the CMHC program nationwide did not facilitate matters—it merely raised legislative and public expectations and heaped yet another service responsibility on the fledgling CMHCs. Trying to satisfy the mandate, consultation and education units were ordered by the National Institute of Mental Health (NIMH) to prevent mental disorders. The order is all the more mystifying when one considers the persistent paucity of NIMH research programs specifically focused on preventive issues. Despite the fact that the study of prevention is a part of NIMH's legal mandate,

There is an obvious need for coordination of activities and effective communication between the different components of the Institute. Research is unevenly distributed amongst the range of possible preventive techniques.

There is a lack of hard conceptualization and no evaluation of decisionmaking in regard to where research might be most useful.

There are only a relatively few staff members who are interested in prevention and have any understanding of the nature of preventive techniques.

A prime need is for research to investigate whether it is possible to establish some of the claims in regard to prevention. . . .

The point is that national leadership is absent. It is no wonder that, nationally, the preventive dimension of the consultation and education units of CMHCs have floundered, or that Nevada's prevention services for mental health disorders have had little success.

Characteristic practices identified as secondary prevention include counseling for people who are grappling with one of life's many crises, such as death of a family member, serious illness, handicaps, accidents, and economic deprivation; helping people resolve problems of interpersonal relations (husbands and wives, parents and children, bosses and workers, and so on); and identifying "developmental" and "situational" conflicts early enough that appropriate treatment can be pursued (the distinction between treatment and prevention blurs at this point).

The problem from a policymaker's viewpoint, with all of these possible secondary prevention practices, is exceedingly complex. Which practices are the more effective? Which ones even work? The lack of data poses fundamental difficulties not to be resolved in this or any other analysis. All that can be responsibly said is that any or all of these practices may contribute to a reduction in the incidence and prevalence of mental health disorders.

Allocating scarce resources, the practical matter at hand, is of course related to one's priorities and objectives. We believe there are more demonstrably effective ways for Nevada to spend money than on additional primary and secondary prevention of mental health disorders, important though that is. Consequently, we have no recommendations for additional expenditures in this area.

24 NIMH Research Task Force, Study Group on Treatment Techniques, Report to the Director. NIMH, Vol. 8, Washington, D.C., 1973, p. 103 (mimeograph). According to the same source, NIMH expends no more than $3 million per year on prevention, and these funds are not concentrated in the programs of the Institute, but spread throughout (p. 90).
Because tertiary prevention is directed toward "treatment and rehabilitation," there is no practical difference between it and services discussed in other sections of this report. We note that some of our recommendations later in this report, such as those for improving the identification of people with mental health disorders and for improving the service capacity of the mental health service system, will enhance early treatment of mental health disorders and hence improve tertiary prevention.

PREVENTION OF MENTAL RETARDATION

The parameters used to identify a person as mentally retarded relate to assessments of subnormal intelligence and the person's adaptive behavior at each state of the lifespan (see Chap. 3). Evidence indicates that one's IQ is somewhat modifiable, considerations of testing fidelity and even reliability aside; one's adaptive behavior or level of functioning in society is even more subject to adjustment by the provision of services such as special education and training (a form of tertiary prevention discussed in Chaps. 7 and 11).26

There are some data on the more than 200 identified specific causes of mental retardation, but these are far from complete, either as to prevalence for any specific disorder or for comprehensiveness among disorders. Metabolic errors, genetic anomalies, drug abuse, environmental pollution, radiation of pregnant women, infections, accidents, improper nutrition, and even the accelerating capacities of the medical system to sustain life have all at one time or another been implicated as causative elements in mental retardation. Societal conditions affecting behavioral adaptation are also related to mental retardation, but the data on the nature and extent of the relationships are poor.

The data presented in Table 5.2, however, are at least suggestive of proportionate distributions among causative etiologies. As noted in the table, 32.2 percent of the new patients were diagnosed as "Uncertain cause—functional reaction alone manifest"; and an additional 16.9 percent were diagnosed as "Unknown cause—structural reactions manifest." In other words, the retardation of 49.1 percent of the new patients in mental retardation clinics who were medically classified had uncertain or unknown causes. It appears that research is needed into possible ways of improving basic data collection on the reasons for patients' mental retardation and in time into the basic causes of retardation itself.

When the generic categories of causation are further broken down into the specific medical classifications, we find that the largest group ("Uncertain causes—functional reaction alone manifest") breaks down principally into the vague and unilluminating categories of "Other," 13.3 percent, and "Cultural familial," 8.78 percent. For the second most prevalent generic classification, "Prenatal influence," congenital cerebral defects were the most often reported, at a total of 9.76 percent, and mongolism (Down's Syndrome) was second at 8.15 percent. The "Other" category, which is the most prevalent under "Unknown cause—structural," is also unil-

26 George Tarjan et al., "Natural History of Mental Retardation: Some Aspects of Epidemiology," American Journal of Mental Deficiency, Vol. 77, 1973, pp. 369-379, contend that as many as two-thirds of the mildly retarded adolescents and young adults lose their identification as retarded people through adaptation or retesting, or both.
### Table 5.2

**Number and Percent of Mentally Retarded New Patients in Mental Retardation Clinics in the United States by Medical Classification and Subgroup, FY 1971**

<table>
<thead>
<tr>
<th>Primary Medical Diagnosis of Condition Causing or Associated with Mental Retardation</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Total mentally retarded</td>
<td>13,744</td>
</tr>
<tr>
<td>Infection</td>
<td></td>
</tr>
<tr>
<td>Prenatal infection</td>
<td>851</td>
</tr>
<tr>
<td>Postnatal cerebral infection</td>
<td>372</td>
</tr>
<tr>
<td>Intoxication</td>
<td></td>
</tr>
<tr>
<td>Toxemia of pregnancy</td>
<td>479</td>
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<tr>
<td>Other maternal intoxications</td>
<td>163</td>
</tr>
<tr>
<td>Bilirubin encephalopathy (Kernicterus)</td>
<td>51</td>
</tr>
<tr>
<td>Post-immunization encephalopathy</td>
<td>120</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
</tr>
<tr>
<td>Trauma or physical agent</td>
<td>92</td>
</tr>
<tr>
<td>Prenatal injury</td>
<td>2,912</td>
</tr>
<tr>
<td>Mechanical injury at birth</td>
<td>792</td>
</tr>
<tr>
<td>Anoxemia at birth</td>
<td>336</td>
</tr>
<tr>
<td>Prenatal injury</td>
<td>517</td>
</tr>
<tr>
<td>Metabolism, growth, or nutrition</td>
<td></td>
</tr>
<tr>
<td>Cerebral lipoidosis, infantile</td>
<td>18</td>
</tr>
<tr>
<td>Other disorders of lipid metabolism</td>
<td>24</td>
</tr>
<tr>
<td>Phenylketonuria</td>
<td>142</td>
</tr>
<tr>
<td>Other disorders of protein metabolism</td>
<td>33</td>
</tr>
<tr>
<td>Galactosemia</td>
<td>16</td>
</tr>
<tr>
<td>Other disorders of carbohydrate metabolism</td>
<td>27</td>
</tr>
<tr>
<td>Arachnodactyly</td>
<td>6</td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>73</td>
</tr>
<tr>
<td>Gargoylism (Lipochondrodystrophy)</td>
<td>31</td>
</tr>
<tr>
<td>Other</td>
<td>147</td>
</tr>
<tr>
<td>New growths</td>
<td>182</td>
</tr>
<tr>
<td>Neurofibromatosis</td>
<td>85</td>
</tr>
<tr>
<td>Trigeminal cerebral angiomatosis</td>
<td>10</td>
</tr>
<tr>
<td>Tuberous sclerosis</td>
<td>59</td>
</tr>
<tr>
<td>Intracranial neoplasms, other</td>
<td>28</td>
</tr>
<tr>
<td>Prenatal influence</td>
<td>3,397</td>
</tr>
<tr>
<td>Cerebral defect, congenital</td>
<td>989</td>
</tr>
<tr>
<td>Cerebral defect, congenital associated with primary cranial anomaly</td>
<td>352</td>
</tr>
<tr>
<td>Laurence-Moon-Biedl syndrome</td>
<td>9</td>
</tr>
<tr>
<td>Mongolism</td>
<td>1,120</td>
</tr>
<tr>
<td>Other</td>
<td>927</td>
</tr>
<tr>
<td>Unknown cause--structural reactions manifest</td>
<td>2,316</td>
</tr>
<tr>
<td>Diffuse sclerosis of brain</td>
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</tr>
<tr>
<td>Cerebral degeneration</td>
<td>39</td>
</tr>
<tr>
<td>Prematurity</td>
<td>866</td>
</tr>
<tr>
<td>Other</td>
<td>1,371</td>
</tr>
<tr>
<td>Uncertain cause--functional reaction alone manifest</td>
<td>4,430</td>
</tr>
<tr>
<td>Cultural-familial</td>
<td>1,207</td>
</tr>
<tr>
<td>Psychogenic, associated with environmental deprivation</td>
<td>585</td>
</tr>
<tr>
<td>Psychogenic, associated with emotional disturbance</td>
<td>554</td>
</tr>
<tr>
<td>Psychotic (or major personality) disorder</td>
<td>279</td>
</tr>
<tr>
<td>Other</td>
<td>1,805</td>
</tr>
</tbody>
</table>

luminating. In the "Trauma" category the most frequently reported cause, at 5.76 percent, was anoxemia at birth (subnormal oxygenation of the arterial blood).

Putting aside the difficulties in counting the exact extent of retardation due to specific causes, one may still gain insight about preventive initiatives by considering certain disorders or biological processes that do in fact cause retardation. However, since no one knows conclusively exactly how much retardation is "caused" by various classes of disorders, we do not have much guidance to inform decisions about the allocation of preventive resources among disorder classes. The best one can say at the moment is that certain disorders are known major causes of mental retardation, and that programs to combat them will probably reduce the incidence of retardation in the population.

The literature repeatedly cites four major causative factors of mental retardation, around which the following discussion is organized:27

- Genetic disorders
- Maternal and child health factors
- Malnutrition and undernutrition
- Societal-environmental influences

Genetic Disorders

Genetic diseases and disorders account for a significant but imprecisely known share of the mentally retarded population. Many exciting preventive therapies are being devised, stemming largely from recent major discoveries about the nature of genetic structure and process,28 but direct and widespread application of this knowledge is still years away. Cystinosis, Wilson's Disease, Tay-Sachs Disease, and many others may one day be conquered through careful modification of the afflicted person's enzymatic processes or through sophisticated transplant procedures; however, the state of knowledge and related technology are such as to counsel against premature attempts. It is important for those providing mental retardation care to keep abreast of developments in these rapidly changing and improving fields.

The following discussion takes up three major activities in the prevention of genetic disorders: genetic counseling and associated practices; Rh immunization; and phenylketonuria (PKU) screening and treatment.

Genetic Counseling. Carriers of genetic disorders comprise a small but significant proportion of the general population.29 For example, the genes for PKU and other "in-born errors of metabolism" are carried by some 3 percent of the population.30 Genetic knowledge has been translated into both primary and secondary

27 Our discussion is adapted from Michael J. Begab, "The Major Dilemma of Mental Retardation," American Journal of Mental Deficiency, Vol. 78, No. 5, 1974, pp. 519-529. It is an excellent, thoughtful, and concise treatment of the major issues.
preventive methods for parts of this group, although difficulties remain with applications of these methods.

Genetic counseling is a potentially important form of prevention in mental retardation, but will demand much careful thought and both human and capital investment. Counseling includes informing prospective parents of the probable odds that they will have an abnormal child. A problem is that such counseling can be given realistically only to potential parents in families that already have a history of abnormal children. The counseling can occur before pregnancy and hence influence the decision to conceive the child, or after pregnancy has begun, when diagnostic procedures can provide specific information about certain types of genetic disorders. For a few disorders, e.g., Tay-Sachs and galactosemia, there are straightforward diagnostic procedures; others demand very sophisticated equipment and personnel. It nearly goes without saying that screening and counseling of possible carriers of genetic disorders must be simple, inexpensive, and reliable to warrant large-scale application efforts. "To the extent that groups of women vulnerable to genetic disease can be identified, screening becomes feasible and prevention possible." ²³²

Several disorders are detectable in the unborn fetus with in utero assessment techniques, but realizing the full preventive potential depends upon the accessibility of an up-to-date preventive diagnosis and care program, genetic counseling, and the decision on the part of the parents regarding the desirability of terminating a pregnancy when a genetic disorder is actually detected. (Relatively safe techniques (amniocentesis) exist for sampling amniotic fluid from the sac surrounding the unborn fetus. No one has devised a safe technique for sampling fetal blood, but when this happens, a larger number of genetically related disorders will become likely candidates for in utero detection.)

Down's Syndrome is an important causative category in mental retardation, occurring in about one in every 600 babies.²³ Its prevention through family planning and in utero assessment (amniocentesis) is within the limits of available knowledge. We know certain characteristics of the population most likely to have Down's Syndrome or mongoloid children. Table 5.3 shows the relationships between the age of the mother, birth order, and the likelihood of a pregnancy resulting in mental impairment.

H. A. Lubs and F. H. Riddle have conducted a detailed epidemiological study which indicates that some 1 to 2 percent of the children born to women over 35 years of age will have chromosomal malformations, and Down's Syndrome is predominant among these.²⁴ Women over 35 account for only about 13 percent of all pregnancies, and yet they have nearly half of all Down's Syndrome children.²⁵ Women under 20 also produce a disproportionately large number of Down's-related mentally retarded children.²⁶ The use of prenatal diagnostic procedures, such as amniocentesis, for

Table 5.3
BIRTH ORDER AND MATERNAL AGE AS FACTORS IN MENTAL DEFICIENCY

<table>
<thead>
<tr>
<th>Birth Order</th>
<th>Ratio of Observed to Expected (Percent)</th>
<th>Maternal Age</th>
<th>Ratio of Observed to Expected (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52</td>
<td>Under 20</td>
<td>121</td>
</tr>
<tr>
<td>2</td>
<td>92</td>
<td>20-24</td>
<td>95</td>
</tr>
<tr>
<td>3</td>
<td>135</td>
<td>25-29</td>
<td>88</td>
</tr>
<tr>
<td>4</td>
<td>145</td>
<td>30-34</td>
<td>95</td>
</tr>
<tr>
<td>5</td>
<td>268</td>
<td>35 and over</td>
<td>146</td>
</tr>
</tbody>
</table>


these two at-risk groups would allow the parents to make informed decisions concerning therapeutic abortion, and depending on those parental decisions, could reduce the incidence of mongolism significantly.37 We stress that we are not taking a stand for or against abortion, which is a matter for parental and legal decision.

Detecting chromosomal abnormalities *in utero*, and other revolutionary advances in diagnostic procedures, demand sophisticated laboratory facilities most likely to be provided in modern medical centers. Genetic counseling is highly useful today in preventing mental retardation; it will become even more useful as new diagnostic techniques are developed, including the taking of fetal blood and tissue cultures for chromosome morphology.38

Experience with a national genetic screening program to detect sickle cell anemia has shown that the underlying intentions of those running the programs are not necessarily shared by those being screened and that the unanticipated, and frequently negative, consequences of the program bear some serious consideration.39

- Mass screening had indicated the need to resolve a number of issues related to public education, community relations, and the private lives of the identified trait-carriers.
- The identified individual's reactions are not always positive and favorable.
- Community resistance is commoner and far greater than any of those responsible for the program had expected.
- There is a real danger that those identified as carrying the trait will be stigmatized.
- The eugenic implications of the entire program loom large and are far from being resolved.

38 The current *International Directory, Genetic Services*, The National Foundation—March of Dimes, White Plains, New York, 1971 ed., lists some 680 genetic service units throughout the United States and Canada, a four-fold increase over the previous five years.
Other reports on genetic screening programs have similar messages. For example, Leonard, Chase, and Childs have reported on a study sample of parents who had previously produced children with cystic fibrosis, phenylketonuria, and Down's Syndrome (the last two are causes of mental retardation). After receiving genetic counseling, only about half the parents had "a good grasp of the information given, ¼ gained something, and ¼ learned very little." The amount of information the parents absorbed appeared to be related to the individual physicians who participated in the counseling program, among other factors. The information level attained by parents is critical in determining whether and how they will use their information in making decisions about having additional children. Their predicament is often made all the more difficult by religious concerns, emotional conflicts between the parents, and parents' lack of understanding of genetics and the practical significance of probabilities associated with having handicapped offspring.

The general issue of genetic screening and counseling represents a clear instance of medical knowledge having outpaced the society's ability to accept, use, and cope with the knowledge. Many people, fortunately, are becoming concerned with some of the implications.

 Genetic counseling is still at an embryonic stage of development in Nevada. In the public sector, the two state Special Children's Clinics provide genetic counseling and testing to a limited number of people, and the 1975 legislature has approved the hiring of a geneticist by the Nevada Mental Health Institute.

In addition, the March of Dimes has funded a very small genetic clinic in Las Vegas for about three years. A clinician from California flies to Las Vegas monthly to meet with patients who have been found and referred by public health nurses. This small effort is being carried out in conjunction with other clinical programs at the Southern Nevada Memorial Hospital and costs the March of Dimes about $400 monthly. The program is a worthwhile beginning. It contains other desirable preventive aspects, e.g., a birth defects registry, and training of Nevada physicians in principles and applications of neonatology. However, it is only a beginning; it is being done on a shoestring with private "seed money" of uncertain duration. The total expenditures in all three genetic programs noted above probably approximate $75,000 per year. The March of Dimes in northern Nevada has planned and funded another genetic clinic in Reno, similar to the one in Las Vegas, and the first of four clinics to be held each year will be in April 1976. We do not know the extent of

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42 Public education may be especially critical in this regard. See, for example, Ellen Beck et al., "Advocacy and Compliance in Genetic Screening," New England Journal of Medicine, Vol. 291, No. 22, November 28, 1971, pp. 1166-1170.
genetic counseling by physicians for their private patients in Nevada, but some such counseling probably exists.

Private physician screening for genetic disorders, such as Down’s Syndrome, using amniocentesis may be occurring in Nevada, but we are unaware of the extent of it. There are reasons for less than optimal employment of this important technique; they include basically technical matters, e.g., some physicians who are untrained in the technique, inadequate equipment and facilities in some areas, and moral issues underlying much of the debate on therapeutic abortion.44

Were a genetic screening, counseling, and diagnosis service to exist, the need for decisions on therapeutic abortion would be an obvious consequence of true positive identifications through amniocentesis, chromosomal morphology, or other assessment techniques yet to be developed and perfected. While recent court decisions have helped to clarify the issue of abortion as a medical practice, the case is far from closed. In an assessment of the practice made in 1969, Beck and her associates stressed that many important research issues remain to be resolved, several of which have clear policy implications.45 The discussion and the research issues appear to merit continuing serious consideration.

Sterilization as a family planning practice to prevent handicapping is, if anything, an even more controversial subject—a point underscored in recent revisions and clarifications of Department of Health, Education, and Welfare guidelines on the practice in federally funded programs.46

Recent sensational revelations to the effect that parents and pediatricians in charge of an infant intensive-care unit at the Yale-New Haven Hospital had given some 43 seriously deformed and impaired infants what some journalists have called the “right to die,” deserve mention as perhaps the logical and moral limit in preventive strategies.47 The magnificent lifesaving technologies that medical science has produced in the last decade or so have brought with them moral and ethical questions that demand full and humane inquiry. Should a seriously impaired infant, who is in need of extensive medical treatment to maintain life, be allowed to die? Bound up in this chilling question are other imponderable issues: What constitutes “seriously impaired?” Will improved technology and increased public awareness of population growth problems force this definition to change over the years, to the point where a “minor impairment” by 1975 standards becomes a “serious impairment” by the standards of some decades hence? Who is to decide when the child’s life should cease to be supported by medical treatment? How is one able to certify that the child’s “right to life” has not been violated? These issues are upon us and demand attention.

Rh Immunization. Development and use of the Rh desensitizing gamma

44 Amitzi Etzioni, a sociologist and an authority on genetic issues, announced at the recent annual meeting of the American Association for the Advancement of Science (New York, January 1975) that results of a national survey of obstetricians/gynecologists indicated that over half would not use these techniques, even with pregnant patients over age 40. He stated that the primary reasons were related to medical conservatism about adopting new practices and techniques.


47 The disclosure has attained widespread public attention. See, for example, “43 Deformed Infants Given ‘Right to Die,’” Los Angeles Times, October 27, 1973. One can only guess at the extent of the practice elsewhere in the United States.
globulin has reduced jaundice in the newborn and thus has also reduced incidence of the associated mental disorder, kernicterus. To prevent sensitization and subsequent threat to additional children, however, the RhoGAM must be administered within 72 hours after the Rh-negative mother has terminated pregnancy of an Rh-positive child. Blood-typing and antibody screening are considered an important part of effective prenatal care; and depending on the bilirubin levels obtained in amniocentesis (when indicated), specific management procedures of mother and unborn child may be required.\textsuperscript{48} Immunization, typing, screening, evaluation, and management are all elements of responsible preventive care. The extent of the reduction in handicapping conditions resulting from this kind of care is not known, but is clearly possible.

RhoGAM therapy to desensitize blood-incompatible mothers is a matter of routine practice in most obstetric services in modern hospitals; however, it is not known whether coverage of the practice extends to all areas of Nevada.

**Phenylketonuria (PKU) Screening and Treatment.** An example of a retardation-causing etiology that has yielded somewhat to secondary preventive measures is phenylketonuria (PKU).\textsuperscript{49} Prevention in this case is pointed toward early detection; infants are screened by means of urine tests\textsuperscript{50} and by a newer and more satisfactory test (the Guthrie Inhibition Assay) for elevated serum phenylalanine.\textsuperscript{51} The latter test has been found superior for the following reasons:\textsuperscript{52}

- More reliable test results, i.e., fewer false negative results.
- Earlier diagnosis (within the first three days of life) than with urine tests.
- Better chances that all children will be tested than with urine tests (which may miss symptoms in children who do not manifest them in urine for as long as several weeks after birth, when they have gone home).

Such screening has been shown to be decidedly cost-effective, despite the low incidence of the disorder.\textsuperscript{53}

The disease is hereditarily transmitted—an error of metabolism—and may be treated and "prevented," if detected early enough, through a carefully controlled dietary regime. Untreated, PKU almost without exception results in mild to severe retardation, including a predisposition to seizures and assorted medical anomalies.

Even here, however, prevention is not a certainty. Opinions differ, ranging all


\textsuperscript{50} Including the ferric chloride test, the diaper test, the filter paper test, the Phenistix test, and the chromatographic test.

\textsuperscript{51} Described in Guthrie and Whitney, *Phenylketonuria*.


\textsuperscript{53} Massachusetts and Delaware, to cite only two states where analyses of PKU programs have been published, have had important and positive experiences. Massachusetts Department of Public Health, "Cost-Benefit Analysis of Newborn Screening for Metabolic Disorders," *New England Journal of Medicine*, Vol. 291, No. 26, December 28, 1974, pp. 1414-1416. The Delaware experience is reported in "State-Federal Spotlight," *Insight*, April 1975, p. 2, where the following claim is made: "To date [since 1962] 118,000 babies have been tested, and eight infants who were found to have the rare condition were placed on special diets... The tests cost about $600 per year [and it was noted] if the eight babies had gone untested and spent their lives in institutions for the mentally retarded, the cost to the state would have been $800,000 for each child."
the way from those who claim that the disease can be eradicated with adequate screening, diagnosis, and early treatment, to those who question both screening procedures and the efficacy of the treatments. 84

Evidence has been presented suggesting that there may be some preventive potential, easily overlooked, to be gained by testing older children. Dietary treatment has significantly increased the IQ of children as old as 8 who were found to suffer from PKU. 85

Finally, because it is genetic in origin, and both parents must carry the gene, a number of primary preventive measures could be considered. They include establishing local PKU registers for use in genetic counseling programs, and testing mothers of retarded children during subsequent pregnancies for elevated serum phenylalanine levels. 86

Testing for PKU is also a staple of good medical practice, and its preventive potential is excellent. In accord with Nevada law, testing for PKU is supposed to occur routinely for newborns.

Newborn screening for a number of other extremely low-incidence metabolic disorders leading to mental retardation is within the realm of technical feasibility. However, there are a large number of known, possible causative etiologies, 87 as well as "uncertain causes"; most are of extremely low incidence; and aside from Down's Syndrome, PKU, and Rh sensitization, most others are not the subject of widespread screening by physicians. In fact, many are as yet outside the capability of all but the best-equipped and staffed medical research centers. 88 Caution about expanding screening programs to other disorders have been stressed by Efron (and others) in the following terms:

Screening programs have thus enormously increased both our knowledge and our awareness of our ignorance. The experience with massive PKU screening in particular has indicated that we know very little about inborn errors of metabolism. Certainly, the simple concepts which were the basis of the compulsory legislation for PKU are open to question. It is hoped that we can pursue our course of investigation of the other inborn errors of metabolism without imposition of compulsory screening programs which necessarily lead to treatment by inexperienced persons and which necessarily imply that there is an effective 'tried and true' therapy which must be administered as soon as the diagnosis is made. Our state of knowledge about the best treatment for these disorders is as primitive as that about the pathophysiology of the diseases. 89

Maternal and Child Health Factors

Prematurity and low birth weight are known to be highly associated with men-

87 Milunsky, Prenatal Diagnosis, contains a comprehensive listing of the possibilities.
88 It should be noted, however, that the Massachusetts screening program routinely detected very-low-incidence metabolic disorders in addition to PKU; adaptation and adoption of that program in other settings could have similarly advantageous effects. Our general cautions on the need for high-quality staff and equipment remain.
tal retardation and other disorders. As medical technology has advanced and newborn survival rates have risen, the incidence of mental retardation associated with those factors has risen. As with nearly all aspects of retardation, the evidence is not uniformly consistent and there is disagreement over precise causal connections and incidence rates. For instance, the observed fact that low birth weight is correlated with race, socioeconomic status, and complications of pregnancy adds confusion to the inquiry into the true causal connection between birth weight and retardation. However, according to one knowledgeable researcher, "From the data it could be deduced that prematurity is hazardous because the immature central nervous system is more subject to damage [than the full-term one]." That view is plainly supported in the literature. A number of factors have been implicated as responsible for prematurity and low birth weight, and hence primary preventive efforts logically focus on them.

Infectious diseases, anemias in pregnancy, toxemia in pregnancy, viral diseases, toxoplasmosis, mechanical injury at birth, and anoxia have all been singled out for research attention, and success in understanding each represents a hopeful source of reduction in the incidence of retardation.

From the above and related lists of causative agents, it appears that several generalized preventive strategies afford some potential respite. Included are improved prenatal and perinatal health care, family planning, and immunization.

**Prenatal and Perinatal Health Care.** More is being learned regularly about the critical importance of maternal and child care before, during, and soon after birth as a general preventive strategy. Specific relationships between prenatal conditions and subsequent mental disorders are known, while many others are suspected and, given the prevalence of "Unknown prenatal influence" as an etiologic class, have become fitting research topics.

In an informative and concise summary of the "do's and don'ts" for a pregnant woman, Jane Brody has made the following observations, all of which can improve the chances of having a normal baby:

- Most important is the early and periodic prenatal examination by a competent physician. All adverse indicators, e.g., low birth weight, prevalence of defects, and fetal misadventure, are positively related to poor or nonexistent prenatal care.
- Drug intake, including common nonprescription, prescription, and "dangerous" drugs should be sharply curtailed or eliminated altogether. If drugs must be taken, they should be taken only with the guidance and prescription of a physician, preferably the obstetrician responsible for prenatal course of treatment. In this regard, no drug—no matter how "harmless"—is to be considered above suspicion. Definitive research simply has not been done in sufficient quantity to rule out the potentially


61 Harry A. Waisman, "Recent Advances in Mental Retardation," in Philips, Prevention and Treatment, pp. 125-144, at p. 127.


damaging effects of any drug or foreign chemical substance, and this includes aspirin, nicotine, caffeine, and vitamins taken in excessive amounts, as well as prescription medications such as steroids, progesterone, antibiotics, diuretics, antihistamines, and antidepressants.

- Proper nutrition [discussed separately in the next subsection] is important as part of sound prenatal care; protein deficiencies, for instance, are known to be related to decreased cerebral development.64
- Abdominal x-rays should be avoided, especially in the first weeks of pregnancy.
- Live virus vaccines should not be administered if pregnancy is suspected; included in this list are smallpox, measles, rubella, mumps, and yellow fever.65

Prenatal and perinatal care are available through private physicians and hospitals, with Medicaid providing some coverage for low-income people. We commend the Maternal and Infant Care Program of Clark County for their efforts to extend these services to low-income families. We understand that several hundred mothers and their children received prenatal care, e.g., examinations, laboratory work-ups, and some medication, during the first six months of 1974. This is not a full-pay program but rather defrays about one-half of the usual prenatal, delivery, and postnatal cost, which is running around $900 in Clark County. New mothers in this program can be provided with family planning information, and later can participate in an Infant Care Clinic, where the child is periodically examined and receives needed immunizations. Admirable as these initiatives are, the funds backing them come primarily from a soft-money federal grant.

**Family Planning.** A combination of better family planning and reduced family size is a preventive strategy that is relevant to both mental health problems and mental retardation. Its effects on the overall reduction of handicapping conditions in the population are not to be underestimated, for it has been demonstrated that smaller family size is positively associated with lower fetal, neonatal, and postnatal mortality and morbidity rates; with lower prematurity rates and consequently lower incidence of handicaps such as seizures and cerebral palsy; with more adequate prenatal care and better education for children; with lower incidence of infectious disease in parents and children; with better growth, in both height and weight, among preschool and schoolchildren; and with higher IQ scores.66 As we noted earlier, relationships between the likelihood of mental impairment in the infant, the age of the mother, and the total number of children in the family have been established. Family planning in this case has to do with learning in advance the odds of producing a defective child. One may surmise that wider adoption of family planning practices, such as completing the family before the mother reaches age 40, will somewhat reduce mental retardation in the overall population.

**Immunization.** Immunization is another general strategy to prevent infec-

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tion-caused mental retardation. Both the National Center for Disease Control, and recent findings of the U.S. General Accounting Office, indicate that significant fractions of children in both central city and rural areas are not being vaccinated against preventable diseases. Of central city children surveyed, for example, it was found that about one-half were not protected against measles or polio. In 1971, more than 75,000 cases of measles (a causative factor in mental retardation) were reported, an increase of 28,000 from the previous year.67 It is a persistent problem,68 reflecting both the fragmented nature of the health system generally and the particularly limited interest given to preventive measures as contrasted with most other services. It apparently takes an epidemic to force disease prevention into the forefront.

It took a major epidemic in the mid-1960's to galvanize official attention in the case of rubella (a major causative factor in mental retardation and a host of other disorders), but lacking catastrophes on a recurring basis, official attention and activity have waned. Specific details of what this entails for the rubella prevention program include the following:69

- There is marked unevenness in the quality of community-run programs and slight provision available to correct the more deficient of these.
- Identification of those at risk is not uniformly well done, with the result that coverage is uneven.
- School-based programs miss many preschoolers.
- Maintenance and surveillance are crudely developed, and "the probability of satisfactory maintenance after federal funding ends is poor."
- Private physicians are not included in the reporting procedures of the program, thereby missing much of the population and reducing the effectiveness of program appraisals.

The importance of preventive medical care has been demonstrated many times,70 and we also note that on the grounds of high economic benefits in relation to costs, a prevention program for rubella-caused handicaps through immunization is decidedly worthwhile.71

Measles is another infectious disease that can cause mental retardation but against which immunization is effective. In about one in every 1000 cases of measles, encephalitis occurs; when it does, it results in death in 10 to 20 percent of the cases.

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67 Reported in Education Daily, May 5, 1972, p. 6, where it was noted that both measles and diphtheria have risen sharply since 1970, a finding alleged to be linked to government reluctance to support vaccination programs.

68 In June 1974 the General Accounting Office again warned of the likelihood of epidemics because immunization rates had been allowed to fall far below acceptable rates nationally. Specific states were singled out for criticism. Education Daily, June 25, 1974, p. 2.


and a long lasting central nervous system defect in 33 to 50 percent. About one in 3000 children who have measles will become retarded as a result.\textsuperscript{72}

Other retardation-causing diseases may one day yield to prevention through immunization,\textsuperscript{75} but at the moment, measles and rubella are positively controllable etiologies. In Nevada, rural children are the most easily overlooked and hence require special efforts to assure that proper immunization levels are achieved and maintained.

The Nevada Division of Health has a Family Planning program with clinics in five counties and services through physicians’ offices in the remaining counties. The FY 1975 budget was about $54,000.\textsuperscript{74} In addition, the Division’s Bureau of Community Health Services has a staff of 19 public health nurses who perform a wide variety of services including family planning, prenatal and postnatal maternal counseling, and work in immunization clinics.\textsuperscript{76} The same Bureau has an FY 1975 federal grant of about $40,000 for a rural immunization clinic program (with public health nurse staffing) to provide polio, measles, rubella, diphtheria, tetanus, and whooping cough immunizations free of charge.

Well-baby clinics are operated in Nevada under District Health Department auspices for children to age 4. These clinics “travel,” in the sense that the local public health nurse advertises in advance the locations where she will be available to examine the children and to give immunizations. She is also providing an essential outreach or identification service in this program.

\textbf{Malnutrition and Undernutrition}

There is little doubt concerning the general ill effects of malnutrition and undernutrition, both to pregnant women and to developing children.\textsuperscript{79} Malnutrition studies have concentrated on animals, on follow-ups to starved wartime populations,\textsuperscript{77} and on a few “underdeveloped” countries.\textsuperscript{78} The research results tend to confirm that there is a relationship between malnutrition, socioenvironmental factors, and mental competency. The precise relationships and links are not yet known; as with many other preventive strategies, all that can be said is that an undernour-


\textsuperscript{74} Governor M. O’Callaghan, \textit{The Executive Budget, Fiscal Years 1975-76 and 1976-77}, State of Nevada, Carson City, Nevada, January 20, 1975, p. 270.

\textsuperscript{77} Ibid., p. 283.


ished mother and her child, all other things being equal, are more likely to have mental handicaps than are well-nourished ones.

Care is needed to insure that economically underprivileged and potentially undernourished segments of the population have adequate food.79

In at least one Federal Government project, strong assertions about these matters have been presented:

It has been estimated that 75-85 percent of all mentally defective children are born in a poverty environment. All the statistical data available reaffirm the connection between poverty and malnutrition, between malnutrition and disease. Malnutrition appears to be the common denominator of each of the problems—low birth weight, infant mortality, mental retardation, and intellectual malfunction. Any attempt to break the cycle of poverty characterized by these phenomena must include nutritional intervention, or this wastage of human life will continue unabated.80

The report concludes with appeals for nutritional intervention, and does so on cost-effectiveness as well as other grounds. "The total cost of a city's supplemental feeding program—$100,000-$500,000—is less than the estimates of lifetime expenses of a few retarded infants."81

Nutrition is not likely to be a significant problem for those wealthy enough to afford care in the private sector (although malnutrition is known to occur in the middle and upper classes). Nutrition for low-income households is of primary concern in two programs in Nevada: food stamps for low-income households, adding about $14 million in FY 1975 to their food-purchasing ability;82 and the Women, Infant's and Children's (WIC) Food Supplement program for low-income people, funded by the U.S. Department of Agriculture to provide about $14 per person per month in food supplements to help eliminate developmental problems due to poor nutrition.83

Mental health and mental retardation service programs do not play a major role with nutrition, but the Division of Mental Hygiene and Mental Retardation might be able to foster prevention through public education. It could prepare material describing the relationship between nutrition and handicapping conditions in children, for free distribution through doctors, public health nurses, social workers, and other professionals.

Societal-Environmental Influence

Disputes regarding biologic relationships to mental retardation pale in comparison with those attending societal-cultural-environmental relationships to mental retardation. The debate has gone on long enough to have won the handy label of "the nature-nurture" controversy.

On the one hand, the extreme "naturalist" view is summarized in an oft-cited but timeworn passage of Sarason:

81 Ibid.
82 Governor O'Callaghan, The Executive Budget, p. 363.
83 Ibid., p. 274.
Despite the well-nigh perfect correlation between the garden variety of mental deficiency and unfavorable social conditions, the consensus among workers in the field is that cultural factors are relatively unimportant.\textsuperscript{84}

Few would accept this at face value today; but equally few are willing, on the other hand, to accept so extreme a "nurturist" view as that postulated by Perry:

...to prevent the greatest number of cases from ever happening, ...[clinicians] must become concerned with radical changes in our social order ... This order produces mental deficiency by poverty; racial discrimination; tax protection of the advantaged classes ...\textsuperscript{85}

We are confronted with a practical problem in deciding where one can responsibly focus attention with an end in view of lessening the incidence of mental retardation through societal-environmental initiatives.

The societal-environmental setting does make some difference, particularly in the lives of the mildly retarded where central nervous system pathologies are not evident.\textsuperscript{86} The unresolved controversy centers on the nature and degree of the societal-environmental contribution to the extent of retardation and the amount of remediation, i.e., prevention, that can be effected on society and the environment and hence on retardation. Improvement in health, education, welfare, housing, nutrition, vocational programs, and other programs for the general population would contribute in some positive but not reliably known degree to the prevention of mental retardation. Conley has calculated that "if all groups in society had the same percentage of persons with IQs below 50 as middle- and upper-class white children, the prevalence of this level of mental retardation would decrease by almost 80%."\textsuperscript{87}

Aside from improving these types of programs for the general population, a would-be preventive interventionist has only a few strategic options.\textsuperscript{88}

- **Effective family planning** appears to be a worthwhile undertaking, particularly for intellectually subnormal parents, among whose offspring data confirm that retardation does occur with far greater frequency than would be expected purely from chance.\textsuperscript{89}
- **Early intervention**, based on the best current knowledge, can improve sensory, language, and problem-solving skills, and aid the full development of basic adaptive behavior.

We described the former strategy earlier with respect to biologic disorders, but the basic functional requisites are similar in this case. What appears to be lacking


\textsuperscript{86} Frank Riessman, *The Culturally Deprived Child*, Harper and Row, New York, 1972, is a standard source.


\textsuperscript{88} See Begab, "The Major Dilemma," pp. 526-529.

at present is a coordinating and guiding institution to implement a needed family planning education and operations program—and to sustain it.

The latter strategy is less well developed in specific relation to the prevention of mental retardation. We are aware of at least one scientifically designed and executed experiment in which intervention of several varieties has been attempted in a controlled setting. The referenced work is complete with training guides, teaching materials, and several helpful, how-to-do-it appendixes.

Recommendations for Mental Retardation Prevention

Many types of mental retardation can be prevented, including several of the more prevalent types. In 1972, the President of the United States set a national goal of reducing the occurrence of mental retardation by 50 percent by the end of the century. The explosion of knowledge in recent years gives society the potential to make larger inroads into these problems, but many practical difficulties must be overcome in applying that knowledge. PKU-caused retardation is largely preventable through dietary means in children who are found early enough, but not all children are screened properly for PKU. Reliable genetic information for a host of retardation-causing disorders can be provided to parents and prospective parents (e.g., those most likely to have an abnormal child) but social, emotional, and moral problems are associated with this procedure. Society knows how to detect Down's Syndrome in the unborn fetus, but prevention at the fetal stage depends on decisions regarding therapeutic abortion. Immunization can prevent infectious diseases that cause retardation, but many children are not immunized.

Nevada has programs to improve the societal-environmental living conditions for its general population, and offers direct service programs for Nevadans who are already mentally retarded. Those programs can be called tertiary prevention programs in the sense that they work to help mentally retarded people to alleviate or eliminate their functional retardation. Nevada has only a few programs for the direct prevention of mental retardation, however, and they are uncoordinated, highly undeveloped, and not available to all Nevadans in need.

We recommend that specific responsibility for mental retardation preventive services be established within the Department of Human Resources (perhaps in combination with the new unit for direction services recommended in Chap. 4), whose functional responsibilities would include the following:

- Coordination, monitoring, and assessment of ongoing preventive services for mental disorders.
- Leadership in the creation of new preventive services where needed in Nevada and as warranted by advances in new knowledge throughout the United States.

We are not saying that these personnel assigned overall responsibility for prevention should operate all prevention programs, since some reside appropriately within various state agencies; rather, we are saying that preventive efforts need to be coordinated, and someone needs to take responsibility for guiding the building of a

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80 Rick F. Heber et al., Rehabilitation of Families at Risk for Mental Retardation, University of Wisconsin, Rehabilitation Research and Training Center in Mental Retardation, Madison, Wisconsin, 1972.
high-quality system of preventive services in Nevada. The present scattered responsibility, or lack of assigned responsibility, appears to be one of the prime reasons for underdevelopment of preventive services in the state. Initial activity could include making a survey of all existing preventive services for mental retardation and prenatal and perinatal health, followed by publication and updating of a handy, easy-to-read guide to these services for use by private physicians, parents, volunteer groups, and others.

We recommend expanded genetic testing and counseling capabilities, accompanied by the creation of a high-risk registry, for parents and potential parents of mentally retarded children. We stress that genetic testing and counseling would be provided on a voluntary basis; the intention is not to tell families what to do, or to offer value judgments on a family’s decisions, but to provide them with information they can use in arriving at their own decisions to conceive and bear children. These capabilities should be provided by two full-time teams in the Reno and Las Vegas areas, with provisions for service to people in rural areas. Funding should be on a stable basis. The creation of a high-risk registry (with information and direction-like referral built in) would help make genetic counseling available to those most likely to benefit from it. The registry could include, among others, pregnant women over 35 and under 17, and families with a history of a retardation-causing metabolic disorder or an inherited genetic disorder capable of causing mental retardation. The various medical, mental retardation, and special education programs in the state would serve as excellent sources of referrals.

Conley has conducted a detailed economic benefit-cost analysis of amniocentesis for the detection of Down’s Syndrome children, comparing the cost of testing and prevention with the lifetime service costs. He found that screening the entire population is not justified on an economic basis alone, but that testing of high-risk groups yields economic benefits that clearly outweigh the economic costs.  

We recommend implementation of monitoring and enforcement mechanisms to help ensure that all newborn children are screened for PKU, that Rh desensitization is provided when needed, and that all children of early school-age are immunized against handicapping infectious diseases. PKU screening, Rh desensitization, and immunization for measles and rubella are effective and economically justifiable in helping prevent mental retardation and other handicapping conditions. In accord with Nevada law, PKU screening is supposed to occur routinely for newborns. These preventive services are relatively well provided in Nevada, but mechanisms are needed to insure that coverage of the subject populations is as nearly universal as possible. Specifically with regard to rubella, we recommend:

- Vaccination for all prepubescent females.
- The creation of a model code for state marriage license serologic screening practices, with the objective of including a test for the presence of rubella antibodies.
- An appeal through the mass media and professional associations to encourage all childbearing females to obtain such tests from their private physicians. The decision to proceed with vaccination, in those not naturally immune, then becomes a uniquely determined one between doctor and patient.

91 Conley, The Economics of Mental Retardation, pp. 312-315.
These recommendations are fully detailed in our previous work for the Secretary of Health, Education, and Welfare, but the following is illustrative of what might be involved for Nevada.

There being about 10,000 children of each single year of age in Nevada (see Chap. 3), it would take about 5000 vaccinations a year to reach the entire female at-risk population on an annual cohort basis. At vaccine costs of $0.50 per dose, total vaccine costs would be around $2500 per year in the steady state case. With the cost of administering the vaccine (say $5 per child) the total annual cost would be about $27,500. In contrast, merely educating one child retarded because of rubella costs approximately $32,000 for a full 13-year special education program (see Chap. 7).

In the time period immediately following birth of a child, we recommend the provision of family planning information to parents, plus creation of a registry and follow-up for children born abnormal or at high risk of being mentally retarded or having some other handicap. The registry and follow-up for high-risk children would be especially valuable in permitting early detection of retardation or other handicaps, so that preschool special education and training and other services (tertiary prevention) could begin at an early age. The Southern Nevada Special Children's Clinic has a pilot project underway in conjunction with the Sunrise Hospital to develop a registry and follow-up for children born abnormal or at high risk.

With respect to good prenatal and perinatal medical care, a clear positive factor in preventing retardation, the main question is how to secure such care for pregnant women and new mothers if they are not receiving it. One can envision increased outreach by public health nurses and others to women who are not likely to seek good prenatal health care, and to women who do not return for routine and periodic checkups of their babies. Perhaps the largest improvement, however, would come from lowering financial barriers to good medical care. The state, for example, might consider requiring that private insurance carriers cover prenatal and perinatal care fully, without deductibles, including coverage of the child from the moment of birth.

**PREVENTION OF ALCOHOL AND DRUG ABUSE**

Unlike many mental health problems, alcohol and drug abuse often involves a volitional component, at least insofar as a person decides to drink or use drugs in the first place and often decides when and how often to do so. For this reason prevention programs may well have important long-term consequences in reducing and controlling alcohol and drug abuse.

At the present time, however, there has not been a major investment in prevention programs at federal, state, and local levels; the great bulk of funds have been invested in direct provision of treatment services to alcoholics and drug addicts. Nevada is no exception. Nevada's major prevention program is a series of study units on drug and alcohol problems developed at the University of Nevada for fifth- and sixth-graders; a similar series is being prepared for seventh- and eighth-graders. Some other programs are sponsored by the Department of Education and the PTA aimed at parents and other age groups. The FY 1975 expenditures for alcohol and

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92 Kakalik, Brewer, et al., *Improving Services to Handicapped Children*.

drug-abuse education by the Nevada Bureau of Alcohol and Drug Abuse were $102,
978. It is unknown as yet how effective these programs have been, but pilot studies
done by the University of Nevada show some positive attitude change. It remains
to be seen whether the change will be enduring.

Aside from the school programs, there is very little prevention in Nevada; some
TV spots have been prepared by various groups but there is no really major “public
education” campaign in progress. The legislature has recently approved $250,000 for
continued education program development, and the Nevada Bureau of Alcohol and
Drug Abuse has just received a $50,000 two-year grant from the U.S. National
Institute of Alcohol Abuse and Alcoholism to assist in staffing for prevention. These new funds alone will do little to alter the present level of prevention activity.
In total, we estimate that the annual alcohol and drug abuse prevention expendi-
tures by all sources in Nevada are on the order of $300,000 to $400,000, with a
full-time-equivalent staff of no more than five people.

Preventive measures have not been proven to be especially effective, with the
possible exception of the strict supervision and regulation of the production of
potentially addictive substances, which cannot be done effectively at the state or
local level. With respect to drugs, Redlich and Freedman point out that past efforts
to prevent addiction have achieved little, and that punitive approaches “discourage
treatment, drive patients into the underworld, and remove them from medical
purview. Most of all, it is highly doubtful that these approaches . . . are efficient.”

Alcoholism is similarly resistant to prevention. Prohibition, a thirteen-year
“social experiment” in prevention, was a failure. Some deterrent effect of unknown
extent is probably achieved, however, through high liquor taxes, prohibition of sales
to minors, and restrictions on locations and times of sale, all of which at least reduce
drinking opportunities. Treatment and public education undoubtedly reduce the
problem to some extent, but no conclusive work has been done to establish the
relative merits and effectiveness of the few preventive options available.

It is an unfortunate fact that no one can say for sure what kinds of alcohol and
drug abuse prevention programs are effective and should be promoted. The volition-
al element in such abuse, which makes prevention theoretically attractive, affords
one of the few feeble rays of optimism in this otherwise murky picture. But until
better information is available on the effectiveness of alcohol and drug abuse preven-
tion programs, we cannot recommend any major expansion in the current preven-
tion program in Nevada.

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94 Interview with Ruth Lewis, Bureau of Alcohol and Drug Abuse, Carson City, Nevada, May 1975.
95 Ibid.
96 The Theory and Practice of Psychiatry.