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ABSTRACT

An approach is presented for estimating the need for specific types of services within a system of care for children and adolescents with serious emotional disturbances and for estimating the staff, dollars, and other resources required. Many of the issues that need to be resolved before one can "size" and cost out a system of care are also explored, such as defining the service area; defining the target population; determining how many will be served; and defining values and the organization of services. The estimating method described was used by the District of Columbia (D.C.) in its 1985-86 child mental health planning process and was adapted from a model in use in South Carolina. The method is applied to several types of services, including: outpatient services; therapeutic nursery programs; psychoeducational programs; therapeutic foster care; in-home crisis intervention services; therapeutic group homes; supervised independent living; residential treatment facilities; acute inpatient services; and case management services. For each type of service, information provided includes: South Carolina's estimate; D.C.'s rationale for adjusting it; and D.C.'s method for determining the amount of resources required. Appendixes contain a definition of the target population, a continuum of services and values, a framework of cost breakdowns, inpatient bed needs assessment, and intensive case management criteria. (35 references) (JDD)

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OVERVIEW

This monograph describes one approach to estimating the need for specific types of services within a system of care for children and adolescents with serious emotional disturbances. It is intended to help state and local administrators, legislators, planners and advocates determine how much of each type of service (*i.e.*, outpatient, therapeutic foster care, inpatient, etc.) is needed within a system of care and, therefore, estimate the staff, dollars and other resources required. It is not intended to be prescriptive, but, rather, to illustrate one approach to the question: How much of each kind of service is needed?

The method described in the monograph was used by the District of Columbia in its 1985-86 child mental health planning process. The monograph explores many of the issues that need to be resolved before one can "size" and cost out a system of care, and it illustrates a way of thinking about the issues that can be adapted by other states and locales. Hopefully, it will assist states and local jurisdictions to incorporate greater specificity in their planning processes with respect to service capacity and resources required so that more systems of care for children will move from theoretical conceptualization to operational reality.

Throughout the 1980s, beginning with the publication of *Unclaimed Children* in 1982, there has been increasing documentation of the need for improved services for children with serious emotional disorders and their families (Knitzer, 1982; Isaacs, 1984; Stroul and Friedman, 1986; Saxe, *et al.*, 1986; National Mental Health Association, 1989). Much of the recent literature emphasizes the importance of having in place a range of community based services that is organized into a system of care. Important work has been done to delineate a philosophy and a conceptual framework for a system of care and to describe the continuum of services that is desirable (Behar, 1985; Stroul and Friedman, 1986).

Recent work defines a system of care for children and their families as follows:

> **A system of care is a comprehensive spectrum of mental health and other necessary services which are organized into a coordinated network to meet the multiple and changing needs of children and adolescents who are severely emotionally disturbed and their families.** (Stroul, 1988).

The system of care concept embraces certain core values, specifically, that the system must be *child-centered*, *family-focused* and *community-based*, and it incorporates the following desirable key service and operational components:

COMPONENTS OF THE SYSTEM OF CARE

1. MENTAL HEALTH SERVICES

Nonresidential Services:

- Prevention
- Early Identification & Intervention
- Assessment
- Outpatient Treatment
- Home-Based Services
- Day Treatment
- Emergency Services

Residential Services:

- Therapeutic Foster Care
- Therapeutic Group Care
- Therapeutic Camp Services
- Independent Living Services
- Residential Treatment Services
- Crisis Residential Services
- Inpatient Hospitalization

2. SOCIAL SERVICES

- Protective Services
- Financial Assistance
- Home Aid Services
- Respite Care
- Shelter Services
- Foster Care
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- Screening & Assessment
- Primary Care
- Acute Care
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5. VOCATIONAL SERVICES

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- Vocational Assessment
- Job Survival Skills Training
- Vocational Skills Training
- Work Experiences
- Job Finding, Placement & Retention Services
- Supported Employment

6. RECREATIONAL SERVICES

- Relationships with Significant Others
- After School Programs
- Summer Camps
- Special Recreational Projects

7. OPERATIONAL SERVICES

- Case Management
- Self-Help & Support Groups
- Advocacy
- Transportation
- Legal Services
- Volunteer Programs

(Stroul, 1988)

During the 1980s, several initiatives were launched at the national level that encourage states and local jurisdictions to develop systems of care for children with serious emotional disturbances and their families. These have included: in 1984, the Child and Adolescent Service System Program (CASSP) of the National Institute of Mental Health; Public Law 99-660, known as the State Comprehensive Mental Health Planning Act of 1986; and, in 1987, the Robert Wood Johnson Foundation Child Mental Health Initiative.

As a result of this activity, most states and many local jurisdictions are engaged in some level of planning, developing and/or implementing service system change for this population. Forty-seven states and nine local jurisdictions, for example, have had CASSP grants. Twelve states and cities have been involved in the Robert Wood Johnson initiative. All states are required by P.L. 99-660 to develop and implement comprehensive, community based services for persons with serious mental illnesses, which the National Institute of Mental Health has interpreted to include children and adolescents, as well as adults. (NIMH, DESSL, 1987).

The point is that much has been accomplished in recent years to heighten awareness, to articulate a vision and a philosophy of care and to delineate a service system conceptual framework for children and adolescents with serious emotional disturbances and their families. *Much remains to be done, however, to translate these advances into operational realities.* Many states, for example, have embraced system of care values and design concepts as the basis for the child and adolescent sections of their P.L. 99-660 state plans. While this is a marked departure from Knitzer's findings in 1982, that most states had no specific policy or planning focus on children with serious emotional disorders, few states or locales have moved from this conceptual framework to an operational plan that is tied to specific implementation steps and dollars. In part, this is a function of will and time. Concerted interest in children with serious emotional disorders lags at least six or seven years behind the Community Support Program (CSP) movement to develop service systems for adults with serious mental illness. States and locales have not been helped, however, by the relative lack of tools that are child-specific in the areas of cost data, needs assessment, staffing patterns, program standards and the like. Fortunately, more information has begun to emerge in the last couple of years in these areas (Behar, *et al.*, 1987; Stroul, 1988; Goldman, 1988; and Stroul, 1989), drawing upon the experiences of states and locales and many private programs that are engaged in planning and implementation.

Much of the recent literature describes the kinds of services that should be in place for this population, but not how much of each type of service. An important exception is work done by Behar, Holland and MacBeth to describe a method for delineating the relative proportion of each type of service to a whole continuum based on the Willie M. experience in North Carolina (Behar, Holland & MacBeth, 1987). In addition, Friedman has developed estimates of service capacity in a balanced system of services, based on extrapolations from the Behar, *et al.* methodology and on data from several communities both in and outside of Florida (Friedman, 1987).

Without an understanding of discrete service capacity needed, a state or locale cannot undertake planned and concrete service system development. The formal field of mental health needs assessment, however, largely has left unaddressed the issue of how much service capacity is needed (Bell, Goldsmith & Lin, 1988). Friedman indicated in 1988 that the question of how much of each service is needed was the question most frequently asked by legislators, mental health officials, children's directors and child advocates (Greenbaum, Friedman, *et al.*, 1988).

Not only has needs assessment research failed to address the issue of service capacity, it generally has been heavily adult-focused. It tends to be adult diagnoses-related and does not encompass the kinds of services, such as therapeutic foster care or in-home crisis services, that are relevant to children and adolescents, and which only recently have begun to gain stature as necessary components in a continuum of care. Additionally, the research fails to consider the interrelatedness of other child-serving systems. The methodology utilized by the Graduate Medical Education National Advisory Committee (GMENAC), for example, is one of the only methods on a national level to address some specific service needs. However, it is almost entirely adult-focused, does not estimate the need for specific components in the context of a system of care, and is now close to ten years old (Health Resources Administration, 1981). A number of program modalities for children have emerged since the GMENAC methodology as viable and necessary components in a system of care (in addition to the entire concept of a system of care) that need to be encompassed in needs assessment research.

There has been some work done in the area of determining inpatient bed requirements for children and adolescents. Again, GMENAC provides one such methodology. Also, some new bed need methodologies have been developed in recent years at state and local levels, often by the private, for-profit sector to support expansion of inpatient and/or residential treatment beds. The major problem with these needs assessments is that, again, they do not occur in the context of a system of care for children, where the availability of a broad range of services should affect inpatient demand. Also, these methods do not use necessarily valid assumptions about length of stay, occupancy rates or relevancy of diagnoses to inpatient use, and they make no distinctions based on cultural or ethnic differences. Also, differing incentives may influence bed need methodologies. For example, the operation of child and adolescent inpatient beds tends to be a costly proposition for the public sector, but a profitable one for the private, for-profit sector, which can more easily control types of admissions, lengths of stay, salaries and the like, and which can choose to serve a predominantly "paying" clientele. Thus, it may be in the interest of private, for-profit providers to justify expansion of beds through a needs assessment, but quite the opposite incentive may be operating for public providers.

The state of the art in mental health needs assessment, in effect, has left child planners, administrators and advocates with little direction on how to size components across a continuum. Yet, as several in the field note, "Administrators of mental health organizations *still* must make decisions about what services to expand or contract." (Bell, Goldsmith, Lin, 1988).

Lacking formal data, many states and locales either are not moving beyond global expressions of need (which seldom get translated to operational realities) or are relying on idiosyncratic methods. This document describes one method utilized in the District of Columbia to size components of care. While itself idiomatic, it offers a generally useful framework, that is adaptable to individual state and local characteristics, for approaching the "how much of what" question in the context of a system of care, where it is assumed that individual components interact to operate as a coordinated network.

While D.C.'s method may prove useful in helping planners and others to determine the size and cost of specific program components, it does not address capacity issues in the type of individualized care (*i.e.*, non-component focused) model represented by the Alaska Youth

Initiative, the Kaleidoscope Program in Illinois or Project Wraparound in Vermont. Friedman notes that, in the individualized care model, more resources are left "unattached" to specific program components so that they can be used for highly individualized and usually very time-limited services to a given child and family, such as a tutor attached to a child's school, a homemaker in the family or a recreational service, such as therapeutic horseback riding (Friedman, 1988). Some work is underway to assess the role of individualized care in a service delivery system that will be helpful to those trying to integrate component and individualized care approaches (Burchard and Clarke, 1990).

D.C.'s method also does not cover every conceivable component one might wish to have in a system of care. It can, however, be adapted fairly easily to include additional or different components.

No "correct" way of determining service capacity has emerged. In the absence of an agreed-upon formula, states and locales are drawing on whatever tools are available to help them make decisions about what services to develop, expand or reduce. The purpose of this monograph is to make another tool available. The D.C. method has advantages in that it is expedient, adaptable and, as it proved in the District of Columbia at least, acceptable to legislators, advocates, administrators and others involved in budget and policy decisions. In D.C., it proved useful, both as an analytic tool for understanding the kind and extent of system change needed, and as a strategic approach to producing change.

BACKGROUND

In late 1984, the U.S. Congress passed legislation to transfer St. Elizabeths Hospital—a 1,700-bed psychiatric inpatient facility (with 32 child and adolescent beds) in Washington, D.C.—from the jurisdiction of the federal government to that of the District of Columbia government. The legislation required D.C. to develop a plan for a comprehensive mental health care system that included, not only the hospital, but a full range of community services.

The service system in D.C., at the time of the legislation, was largely adult-focused. Out of a combined federal, state and local service dollar pool of $60 million, only $4 million was spent on child and adolescent services, and most of that went to inpatient care. In addition to the legislation, which was adult service oriented, the mental health system was under a deinstitutionalization court order that mandated community based services for adults.

In this adult-oriented environment, one of the challenges facing child planners and advocates was to document an unmet need for services, based on a credible methodology, which would make the expansion of services (and dollars) anticipated to be needed seem reasonable. The transition of the hospital to the city created a potential window of opportunity in that it provided some new dollars in the form of a transition subsidy, and it emphasized expanding community services, though the legislation did not assume activity in the children's area. The potential for change, however, heightened awareness of the need to quantify the children's plan as much as possible, to enumerate specific implementation steps tied to dollars so that, when it came time for program and budget discussion, the needs of children could be articulated in specific programmatic and budgetary terms. A methodology was needed that could relate the numbers of children needing services to the quantity of services required by type so that proposals could be made, and decisions reached, about which components to develop, expand or contract and by how much.

After a nationwide search that produced very few methodologies, the District's approach was to adapt a methodology utilized in 1983 by the South Carolina Developmental Disabilities Council to ascertain the need for different types of services by children and youth with emotional disturbances (Spencer, 1983). Much like the GMENAC approach in 1981, the South Carolina method used a Delphi (panel of experts) process to estimate the percentages of persons that would need various service components. Unlike the GMENAC procedure, however, the South Carolina method was exclusively child and adolescent focused: it addressed only the needs of children and adolescents; it encompassed the concept of a continuum with a broad range and newer types of services, such as in-home crisis services; it examined the need for services in the context of a system of care; and, it did not ascribe service responsibility to any one agency, but looked at what children would need, regardless of who provided or paid for the service. In this respect, it lent itself well to the kind of multi-agency planning process underway in D.C. It was the only identified methodology at the time that included all of these features.

The District adapted the South Carolina method in a number of ways. D.C. adjusted the percentages arrived at in South Carolina by its own expert opinion process, using its multi-agency, multi-disciplinary planning group as its panel of experts. It applied to the South Carolina percentages its own assumptions of need based on socio-demographic characteristics unique to D.C. (particularly important given the rural nature of South Carolina and the urban, minority characteristics of D.C.). D.C. also factored in knowledge of utilization trends in the District's system and the impact of goals and values peculiar to the D.C. plan. So, for example, South Carolina estimated that, within its target population, 3% would need therapeutic nursery services. In its own estimation, D.C. increased the percentage to 8% based on the following: (a) the extremely high-risk characteristics of D.C.'s infant and pre-school population, including very high infant mortality, low birth weight, teen pregnancy and child poverty rates; (b) recommendations made by D.C.'s expert panel; (c) heavy utilization of existing therapeutic nursery programs; and (d) an emphasis in D.C.'s plan on increased early intervention.

The South Carolina method thus was used by D.C. as a framework within which it could draw its own conclusions and make its own estimations about service requirements. While there was a certain mixed rationality to the D.C. process, it had the advantage of taking into account many factors, in addition to need, that arguably should be part of resource allocation decisions, such as demand, policy goals and technical availability and capability (*see also* Kessler, 1988).

Even with the adaptations that D.C. made, some criticisms were voiced about use of the South Carolina methodology because of the demographic differences between South Carolina and the District. Offsetting this valid criticism was the fact that there was literally no alternative available, and the District had neither the time nor money to pursue a more formal needs assessment.

In the final analysis, the method withstood the scrutiny of the City Council and the U.S. Congress and provided the justification for an increase in child and adolescent mental health dollars from $4 million to nearly $17 million in one year. The following two sections describe the D.C. process in detail.

I. PRELIMINARY STEPS

Prior to estimating the quantity of services needed, there are a number of procedural steps that need to be taken, assumptions to be agreed upon and preliminary issues to be resolved. It is important to establish a process and a context for planning so that, when one gets to the point of asking, "How much of Service X or Service Y is needed", it is clear in what context the question is being asked and what the process is for considering the question.

D.C. organized a planning process that involved multiple agencies, multiple disciplines, advocates, family representatives, community representatives, legislative staff and other key stakeholders. The office charged with planning the transition of the hospital to the city had the lead responsibility for staffing and managing the planning process. This office reported directly to the head of the Department of Human Services, an umbrella agency which housed the mental health agency, as well as child welfare, juvenile justice and substance abuse, among others.

The focus of the child and adolescent planning process was on the service needs of children and adolescents with serious emotional disorders or at risk of developing serious emotional problems and their families. The focus was not on any one agency or funding stream, but on the population. This focus helped to ensure that the later process of sizing components of care would not get inordinately sidetracked by specific agency or funding constraints. The assumption of planners was that no one agency had all of the resources or capacity to provide or pay for all of the services and support mechanisms that the population would require. The initial objective was to determine the service needs of the population in as "unhindered" a fashion as possible, and only then begin to determine and negotiate the appropriate roles of each of the service systems. Thus, D.C. took care to include key stakeholders and players from all the major agencies in its planning process and to keep the initial focus on the population.

In the early stages of the planning process, a number of issues were resolved, which helped to create a planning context by establishing certain parameters. This section describes the issues—and D.C.'s resolution of them—that arise early in this kind of planning process and which require decisions before one can proceed with "sizing" individual program components.

Defining the Service Area

One major issue that needs to be resolved early on is the size of the service area for which plans will be made. One's ultimate focus may be an entire state, but planning, like implementation, is more realistically approached with an incremental mindset.

D.C. is, in some respects, a manageable service area in its entirety. It is small, only 68 square miles, with a child and adolescent population in 1985 of about 143,000. It combines state and local authority, making centralized policy and administration viable. For planning purposes, D.C. viewed the city as one single "catchment area" for children and adolescents.

For states and local jurisdictions that do not share D.C.'s small size and population, it is useful to break the state or locale (for purposes of planning) into manageable target areas and proceed with the idea of planning a "full" continuum of services in each area. (Obviously, some components may become state-wide or regional to achieve certain economies of scale). Behar, *et al.* (1987) suggest a similar approach based on their experience developing services for the Willie M. population in North Carolina. At the end of the needs assessment process, all or some of the target areas can be "added together" to give a picture of the state or locale as a whole (or of one region, county or city in a state or of an area in a city), depending on the needs of planners, advocates, etc. This incremental approach allows planners to break a large area, like a state, into as small and as many planning units (such as a cluster of neighborhoods) as one wishes, but enables aggregation of planning units (however small) to give the larger (*i.e.*, state-wide) picture. Burns and Friedman (1988) suggest that, *operationally*, "areas need to be large enough to provide the full continuum of services, but small enough geographically and bureaucratically to prevent a child from getting lost in the system."

Defining the Target Population

Defining the target population, while absolutely essential, too often becomes a deterrent to progress. Planning processes have a tendency to get bogged down in definitions. This is not surprising given that multiple players are addressing the issue with different mandates, perspectives and agendas. Nor is it surprising given the ambiguity and diversity of definitions across the various disciplines and agencies (*i.e.*, special education, mental health, vocational rehabilitation, etc.) that are used to describe essentially the same population of children. The mental health field itself is unclear about who is precisely an "emotionally disturbed child" (Isaacs, 1984). There is no one "correct" definition. Each state or locale must decide for itself, but it must make a decision of some kind if realistic planning is to proceed.

The District of Columbia defined its target population by age and level of functioning, using a classification (Gilmore, *et al.*, 1984) found in NIMH-CASSP technical assistance materials (Isaacs, 1984). (*See* Appendix A.) In the early and mid-1980s, a number of states adopted or adapted the Gilmore classification, as D.C. did, because it lent itself to an interagency focus and did not depend on narrowly circumscribed diagnostic labels of low reliability. The definition adopted in more recent years by the Ventura County (California) Mental Health Services Demonstration Project may offer an improvement over the Gilmore classification, particularly for interagency planning and service delivery efforts. (Ventura Co., 1987.)

Determining How Many Will Be Served

There are two questions at issue: one is how many children (within the target service area and definitional parameters) are in need of services, and the second is how many of these children will be served.

As discussed earlier, the art of estimating how many children and adolescents need services, even in the aggregate, much less by type of service, is at a fairly primitive stage (Isaacs, 1984; Kessler, 1988). States and locales have used a number of different methods for arriving at an aggregate number in need of services. Many have used national prevalence data; others, a panel of experts and key informants. Some have done their own field surveys; others have applied social indicators that are accepted as correlating to a need for services, or they have looked at utilization rates. Some have used a combination of these techniques.

There are advantages and disadvantages to all of these methods. For example, direct methods, such as field surveys and use of key informants, may provide a more accurate picture than indirect methods, such as national prevalence data; on the other hand, direct method data may be *less* accurate because it is more subjective. Direct methods generally require *more* time and money to carry out than indirect methods.

Again, no "correct" method has emerged for determining need for services, but states and locales must choose some method, or combination of methods, if they are to proceed toward rational operational decisions. Planners might take heart, however, at Saxe's observation that:

> "precision does not matter ... because so few of those who need treatment actually receive treatment. In practical terms, it does not matter whether there are 5% who are seriously disturbed (by whatever definition you use) or whether that is 8%. We are so far from providing appropriate treatment ... that it will be 20 or 30 years (at the present rate) before such information is useful." (Saxe, 1988).

D.C. approached this question in the following manner. To the District's child and adolescent population of 143,000, it applied the 11.8% rate adopted by Gould, *et al.* after their detailed review of epidemiologic research in this area (Gould, *et al.*, 1981).[1] D.C. acknowledged that this rate probably understated need in the District, given the preponderance of social indicators in the city that correlated to a need for mental health services (*e.g.*, high poverty rates, high levels of family disruption, minority status of a large percentage of the population, etc.) (Bloom, Goldsmith, Lin, 1988). However, the gap was already so large between those needing and those receiving services that D.C. decided to use the 11.8% rate, which had the advantage of being generally (*i.e.*, nationally) accepted. Also, other states increasingly were using the 11.8% rate for similar planning purposes, which gave it added

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[1] A more recent review of epidemiological research indicates estimates of emotional disorders to be 14 to 20% (Brandenburg, Friedman and Silver, 1990).

credibility. The 11.8% rate indicated that nearly 17,000 children and adolescents in D.C. were in need of mental health services.

D.C. also used national prevalence data as a basis for determining how many children could be expected to have *serious* emotional problems and, thus, require services of greater intensity, longer duration and/or from multiple agencies. The national rate hovered around 3% (that is, 3% of the child/adolescent population could be expected to have serious emotional problems). This translated to over 4,000 children in D.C., which, again, was felt to understate need.

As the next step in its process, D.C. compared the number of children in need of services (17,000) to the number actually using services. Recognizing that utilization of existing services is affected by availability, cost, access, stigma, quality, administrative barriers and other factors, D.C. determined early on to be guided far more by need, rather than demand as reflected by utilization. However, it is important, as D.C. recognized, to examine utilization rates to document the gap between need and use and to make realistic operational decisions.[2]

To estimate current use, D.C. counted children and youth using the public mental health system; children receiving mental health services from other public agencies, including juvenile justice, child welfare, special education and substance abuse; and children served by the private sector who have no contact with public systems. Much of this data was imprecise, and there was some unknown amount of duplication. The estimates, however, suggested that approximately 7,100 children in total were receiving mental health services of some kind: 1,300 by the public mental health system; 2,000 by other public systems; and 3,800 by the private sector. D.C. did not attempt to determine how many of the children currently receiving services had serious emotional problems, which would have been very difficult to ascertain given the lack of common definitions and databases across the child-serving agencies.

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[2] Some state Certificate of Need processes are driven by utilization data, which is problematic. These processes assume that heavy utilization means a high need and low utilization, a low need. However, heavy utilization may be caused by a lack of other alternatives, and low utilization by a host of factors, such as stigma or location or quality, that discourage use even when there is need.

D.C. thus estimated that out of its child and adolescent population of 143,000, about 17,000 or 11.8% needed services, and about 7,100 or 4 to 5% were actually receiving services from the public mental health system, other public agencies and/or the private sector.

With respect to the second question of how many children will be served, the District re-framed the question to ask: "For how many children will the public mental health system assume lead (though not necessarily sole) responsibility?" This question assumed that although the public mental health system would have accountability for ensuring provision of services to the target population, because many of these children would be multi-agency involved, there would be some level of blended funding, shared case management responsibilities in some instances, and a central intake process that involved other agencies.

The District arbitrarily established as a 5-year planning target that the public mental health system would assume lead responsibility for serving 40% of the population in need of services, or about 6,800 children (40% of 17,000 children).[3] Given that the mental health system was serving only 1,300 children, this was an ambitious target. However, assuming no change in the number of children served by other public agencies and the private sector, it still left unserved over a quarter of the population in need of services.

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[3] D.C.'s "40% of those in need" target represented about 4½% of the total child and adolescent population. Behar, *et al.* (1987) suggest 2 to 2½% of the total population as a reasonable target.

South Carolina used its own formula for determining the number of children to be served by the public system:

DMH/Community Count +
(# of children served by Dept. of Mental Health community mental health centers)

DOE/EH —
(# of emotionally handicapped children served by the Dept. of Education)

Duplication Rate x
(arbitrarily determined to be 12%)

A factor for under-utilization = No. of children to be served
(arbitrarily determined to be 1.5)

In the case of South Carolina, this formula produced a number that represented a little over 2% of the total child population.

In reality, the target was criticized both as too conservative and as too ambitious, as probably all such targets are. Advocates tended to feel it was too conservative given the need; budget officials felt that it was too ambitious given the current level of effort. Ultimately, it was accepted by the City Council and Congress as part of the District's overall 5-year plan, and the budget decisions to support the plan reflected commitment to its implementation.

The number of 6,800 children thus became the size of the District's target population for the purpose of determining how much service capacity was needed (*i.e.*, if one has a target population of 6,800 children with serious emotional problems or at risk of developing serious emotional problems, how much of each type of service will be needed?).

Defining Values, the Continuum and Organization of Services

Before determining how much service capacity is required, a state or locale must specify what services are to be provided, how they are to be organized in a system of care and the values that underlie the system. The values and organizational assumptions that are adopted will become a critical guide to the process of "sizing" service components. For example, a principle that children should be served in the least restrictive, most appropriate setting will influence inpatient bed estimates on the conservative side; a value emphasizing early intervention will influence assessments of need for components like therapeutic nursery programs; and so on. Among others, Stroul and Friedman (1986) and Behar, *et al.* (1987) describe the values, services and systemic features that are desirable for children and adolescents with serious emotional disturbances. The District essentially adopted the range of services, systemic values and organizational features that grew out of the CASSP program and that are articulated in the recent literature. (*See* Appendix B.)

II. SIZING COMPONENTS OF CARE

This section describes, by type of service, the District's adaptation of the South Carolina methodology for determining how much of each service is needed and, therefore, the resources and dollars required.

To recap, before applying the South Carolina methodology, D.C. took the following steps:

(1) It organized a multi-agency planning process with a focus on the needs of children and adolescents with serious emotional disorders, or at risk of developing serious emotional disorders, and their families;

(2) It defined its target service area;

(3) It defined its target population;

(4) It determined how many children and adolescents needed services and how many it would attempt to serve out of this group; and,

(5) It defined the continuum of services to be provided, how these services were to be organized in a system of care and the values underlying the system.

As described earlier, the South Carolina method, using a Delphi process, arrived at estimates of the percentage of children in a target population who would need each type of service. For example, South Carolina's panel of experts estimated that 85% of its target population would need outpatient services, 5% would need in-home crisis services, 3% would need acute inpatient care, etc. These estimates reflected judgments made by experts in South Carolina derived from their knowledge of prevalence, utilization, social indicators and the like in that state. D.C. adjusted the percentages to reflect similar "best judgments" in D.C. The

District then used its estimates as to how many children would need each service component to "size" the component, that is, to determine how many staff and/or slots/beds were required. From these, D.C. was able to develop budget estimates for each component and, thus, for the system as a whole.

As noted earlier, D.C. made its adjustments to the South Carolina percentages based on a consideration of a number of issues, including: utilization trends; the socio-demographic characteristics of its population; the goals and values governing its system; the knowledge of its population embodied in its expert panel; and, its technical capacity to deliver the service in question. Strictly speaking, not all of these issues belong in a "pure" needs assessment. Technical capacity, for example, should not influence whether "x" or "y" number of children need a given service. The extent of the need for the service is a separate issue from whether or not the city is or might be able to deliver it. On the other hand, if issues such as technical capacity are ignored, ultimate decisions about which services to develop, expand or reduce may prove unrealistic. Throughout its process, D.C. was less concerned with the elegance of the needs assessment than with its utility to guide realistic decisions about resource needs and allocations.

The following describes, by each type of service, South Carolina's estimate, D.C.'s rationale for adjusting it, D.C.'s method for determining the number of staff (or slots/beds) required and its dollar projections as they related to the estimates of need.

Components of Care

Outpatient Services

D.C. defined outpatient services to include: consultation and education, outreach, screening and assessment, diagnostic evaluation, treatment services (individual, group, family and play therapy) and crisis intervention services.[4] South Carolina used a similar definition.

South Carolina estimated that 85% of its target population would need outpatient services. D.C. lowered the estimate to 75%, and then applied 75% to its target population of 6,800 children. Thus, D.C. determined that about 5,000 children and their families would need outpatient services (75% of 6,800 children). D.C. lowered South Carolina's rate based on: historically low utilization rates and high clinic drop-out rates in D.C.; a large minority population for whom it was unclear outpatient services were a treatment of choice; and, the recommendations of the District's Outpatient Services Task Force.

To serve 5,000 children and their families over the course of a year (assuming a one-year average length of stay), D.C. estimated that it needed about 125 staff. This was based on a clinical staff-client ratio of 1 staff to 40 clients. The staff-client ratio for adult outpatient services tends to run 1:100 (New York State 585 Regulations for the Operation of Outpatient Programs for the Mentally Ill, 1984; Mental Health Association of California, 1980). D.C. considered this too high for child services because of the involvement of families, the longer average length of stay for children and youth in outpatient settings and the need for child/youth staff to maintain active linkages with other child-serving agencies, like the schools.

Within the 1:40 ratio, Isaacs (1985) suggests the following staff distributions by discipline:

15%	Child Psychiatrists
20%	Child Psychologists
25%	Psychiatric Social Workers
10%	Psychiatric Nurses
10%	Recreational/Activity Therapists
20%	Child Care Workers

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[4] This process needs to include definitions for each service component to ensure clarity of purpose. D.C.'s definitions are included here, not as prescriptive or exemplary, but simply to illustrate D.C.'s process. States and local jurisdictions are encouraged to develop their own service definitions since definitions carry implications for who is to be served and how, as well as for reimbursement purposes. The process of defining services forces one to think through these various issues.

For planning and budgeting purposes, D.C. adopted a staffing pattern that reflected the following desirable staff distributions:

22%	Child Psychiatrists
27%	Child Psychologists
33%	Social Workers
6%	Psychiatric Nurses
6%	Activity Therapists
6%	Child Care Workers

and Access to Speech/Hearing
and Pediatric Services

The higher percentages of professional staff over Isaacs' distribution reflected the District's policy goal of increasing professional staff in outpatient settings and a political decision to use the higher salary levels of professional staff for budget projections.

With the inclusion of administrative and support staff, D.C.'s staffing patterns reflected a 1:23 staffing pattern and the following distribution by discipline:[5]

16%	Child Psychiatrists
20%	Child Psychologists
24%	Social Workers
4%	Psychiatric Nurses
4%	Activity Therapists
4%	Child Care Workers
28%	Administrative and Support Staff (including 43% secretarial; 14% admissions staff; 14% medical records staff; 14% data entry staff; and 14% management)

D.C. developed Year One and Year Five planning targets for the expansion of the outpatient services component (and for all other components), and developed budget estimates for Year One.

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[5] Note: While another state's or locale's staffing patterns may be useful as a general framework, a caveat to be noted is that they do not necessarily give a complete picture of the staff resources devoted to or needed in a given component. In D.C.'s case, for example, some centralized staff resources were available to the outpatient components, including quality assurance staff, program and budget analysts, training and legal staff, security and maintenance staff, etc., that are not reflected in this distribution.

D.C. targeted 1,680 children to receive outpatient services in Year One at a cost of $5 million (1987 dollars)—$2,976 per child per year. To develop its budget projections, the District factored in costs directly attributable to the program, including personnel and benefits, travel and training, transportation, utilities, rent, printing, contracts, supplies and equipment. D.C. also factored in indirect allocable costs; that is, a percentage of the cost of all centralized services (*i.e.*, services that supported all components in the mental health system and were not attached just to any one component), such as legal and maintenance, that were used by the outpatient component. These allocable costs represented about 26% of total program costs. (*See* Appendix C for cost breakdown framework.)

D.C.'s budget projections indicated an outpatient unit cost of $83 per hour; this assumed 1,680 children using 60,480 hours of service (an average of 36 hours for each child per year).[6] Using similar assumptions about the amount of services provided, Behar, *et al.* (1987) estimate an outpatient unit cost of $74 per hour based on their experience with Willie M. in North Carolina.

Comparisons of cost estimates, just as comparisons of staffing patterns, are useful to a point, but caveats are to be noted. Budget projections vary as to the kinds of costs that are included and assumptions that are made about utilization rates. As an example, while D.C. and North Carolina (Behar, *et al.*, 1987) make similar assumptions about utilization rates, it is not clear whether the allocable costs incorporated in each estimate were similar (and it is rather unlikely, given the differences in structure between the two systems). D.C. may have included more allocable costs in its projections, thus producing a higher unit cost than North Carolina. On the other hand, D.C.'s higher cost may be due to higher staff salaries in D.C. than in North Carolina or to the fact that D.C. used 1987 cost data and North Carolina used 1986 cost figures. The point is simply that one must exercise a degree of caution in using cost comparisons between seemingly similar components. Behar, *et al.*'s cost estimates are

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[6] The formula for determining unit cost is:

Total cost ÷ (No. of children x No. of hours [or days] of service provided to each child) = cost of component per hour [or day] per child (unit cost).

referred to throughout this section to give readers another point of reference and to illustrate how different assumptions about utilization will affect unit costs of programs.

Therapeutic Nursery Programs

D.C. defined this component as a therapeutic pre-school program for children, ages 2½ to 5, which combines: play therapy; individual and family therapy; education; individualized programming in the skill areas of cognition, self-help, motor, speech and socialization; and family support services, including parenting skills training.

South Carolina included this component in its overall category of psychoeducational programs, and estimated that 3% of its target population would need this service. D.C. increased this rate to 8%, or about 130 children.[7] D.C. increased South Carolina's estimate based on: its policy goal of emphasizing early intervention; social indicators, including high rates of child poverty, teen pregnancy, low birth weight and single parent households; heavy utilization of existing programs; and the recommendations of its expert panel.

Based on no program serving more than fifteen children, D.C. recommended nine programs to serve 130 children. Guided by the recommendations of its Psychoeducational Services Task Group and CASSP technical assistance materials (Isaacs and Goldman, 1985), D.C. adopted a 1:5 clinical staffing[8] pattern for this component and a distribution of staff as follows:

3%	Child Psychiatrists
3%	Child Psychologists
16%	Social Workers
31%	Special Education Teachers
31%	Teacher Aides
16%	Administrative and Support Staff

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[7] Because this component only serves children ages 2½ to 5, the 8% rate is applied only to that proportion of children, ages 2½ to 5, within the target population, and *not* to D.C.'s entire target population of 6,800 children and adolescents. In sizing components, planners need to be sure they are accounting for only the number of children within the age group appropriate to the service.

[8] With the addition of teacher aides, this ratio drops to 1:3.

D.C. targeted 50 children to receive therapeutic nursery services in Year One at a cost of $929,000, or $18,580 per child per year.

As it did with outpatient services, D.C. factored in direct and indirect allocable costs to determine the full cost of therapeutic nursery services. The cost per unit of service came to about $18 per hour, assuming each child received 1,000 hours of service per year. Behar, *et al.* (1987) estimate a unit cost of $13 an hour, based on each child's using 720 hours of service. The same assumption about utilization would change D.C.'s unit cost from $18 to $25 per hour.

Psychoeducational Programs (Including Day Treatment or Partial Hospitalization Models)

D.C. defined this component as an intensive ambulatory care program which provides for children and adolescents, ages 6 to 18, a carefully controlled therapeutic milieu, crisis intervention services, individual, group and family therapy, individualized education, employment training for older youth, and family support services. South Carolina used a similar definition.

South Carolina estimated that 3% of its target population would need this service. D.C. increased the percentage to 8%, or about 400 children and adolescents,[9] based on: a policy goal of expanding this component as an alternative to residential treatment; social indicators suggesting a need for this service, including high child poverty rates, large numbers of disrupted families, low median family income and high school drop-out rates; heavy utilization of existing psychoeducational programs; large numbers of children and youth inappropriately placed in restrictive settings; and, the recommendations of D.C.'s expert panel in this area.

Based on an average program size of 30 children per program, D.C. recommended 13 programs to serve about 400 children and youth. This number of programs encompassed a range of psychoeducational and day treatment or partial hospitalization modalities. Again

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[9] Estimate excludes children ages 0 to 5 (*see* Footnote 6).

guided by the recommendations of its Psychoeducational Services Task Force and CASSP technical assistance materials (Isaacs and Goldman, 1985), D.C. adopted clinical staffing ratios of between 1:5 for school-based psychoeducational models to 1:3 for partial hospitalization/day treatment programs. Staff distributions for four different psychoeducational and day treatment models were as follows:

- Adolescent Psychoeducational Program:
  - 3% Child Psychiatrists
  - 24% Other Professional Clinical Staff (Social Workers, Psychologists, Psychiatric Nurses)
  - 24% Special Education Teachers
  - 24% Paraprofessional Education and Mental Health Staff (*i.e.*, Education Aides and Child Care Workers)
  - 6% Recreation Staff
  - 6% Vocational Staff
  - 12% Administrative and Support Staff
- Latency Age Psychoeducational Program Utilizing only Professional Staff:
  - 7% Child Psychiatrists
  - 26% Other Professional Clinical Staff
  - 33% Special Education Teachers
  - 7% Art Therapists
  - 7% Recreation Therapists
  - 20% Administrative and Support Staff
- Latency Age Psychoeducational Program Utilizing Mix of Professional and Paraprofessional Staff:
  - 6% Child Psychiatrists
  - 20% Other Professional Clinical Staff
  - 24% Special Education Teachers
  - 24% Paraprofessional Education and Mental Health Staff
  - 6% Recreation Therapists
  - 6% Art Therapists
  - 18% Administrative and Support Staff
- Day Treatment Program (defined as an Intensive Partial Hospitalization Program):
  - 6% Child Psychiatrists
  - 3% Child Psychologists
  - 6% Psychiatric Nurses
  - 15% Other Professional Clinical Staff (Social Workers and Psychologists)
  - 18% Child Care Workers
  - 24% Special Education Teachers
  - 12% Teacher Aides
  - 6% Recreation Staff
  - 10% Administrative Staff

The District targeted about 220 children and adolescents to receive psychoeducational services in Year One at a cost of over $6.2 million—an average of about $28,400 per child per year.[10] Costs ranged from approximately $34 an hour for day treatment (Behar, *et al.* (1987) estimate $38 an hour for day treatment) to $15 an hour for psychoeducational (less intensive) services (Behar, *et al.* (1987) estimate $13 an hour).

Therapeutic Foster Care

The District defined this component as community foster care homes with specially trained and supported foster parents, in which children are individually placed. Foster parents are paid at a higher rate than traditional foster parents and receive intensive training and support. Mental health professionals provide back-up support, case management and treatment services.

South Carolina estimated that 5% of its target population would need this component. While D.C. agreed that at least this percentage of its population would need this component, it adopted a much lower rate—2%, or 135 children. D.C. reasoned that it had very little experience with therapeutic foster care, through either the mental health or child welfare systems; foster care, in general, was difficult to develop in urban areas, like D.C., with a highly mobile population; and D.C. did not have, at the time, a strong private provider network with experience in this area.

To determine how many therapeutic foster homes are needed to serve a given number of children (in D.C.'s case, 135 children), one must know the average length of stay (ALOS) and the number of children in each home. To make these decisions, there must be clarity about the intended purpose of the home—*i.e.*, is it to be used as a long-term setting for a child? As a transitional placement? As a respite provider? As a crisis placement?, etc. A home serving as a crisis placement (as an alternative to the hospital) probably can handle no more than one child at a time, and will have a relatively short ALOS. A home providing respite

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[10] Note. This average encompasses a range of different psychoeducational and day treatment models. In actuality, the cost is over twice as high for day treatment programs, which average about $50,000 per year per child, than for less intensive psychoeducational programs which average $22,700.

for a family of a child with serious emotional problems may be able to handle more than one child at a time and, again, will have a brief ALOS.

D.C. arbitrarily determined that it would attempt to develop over five years 20 to 25 homes serving different purposes. In Year One, it targeted services to 8 children, to be served in relatively long-term therapeutic foster care (ALOS of one year), with no more than two children in each (and, preferably, only one).

At the time of the D.C. plan (1985), there was very little information available on staffing patterns and costs for therapeutic foster care. Because D.C. intended to contract for this service, it did not specify a staffing pattern in its plan or do a full direct and indirect cost estimate. The cost estimate D.C. developed for this component was largely dependent on traditional foster home assumptions. As a result, D.C.'s estimate—$92,500 to serve 8 children (or $11,562 per child per year)—seems to have been considerably understated. Interestingly, South Carolina, two years earlier, had used an even lower cost estimate of $10,150 per child.

D.C.'s unit cost of $32 a day for this component was quite a bit lower than Behar, *et al.*'s estimate in 1987, based on the Willie M. experience in North Carolina, of $75 per day. Stroul (1989) reports a range of costs for this component between $34 and $64 per day.

In-Home Crisis Intervention Services

D.C. modelled this component after the Homebuilders Program in Washington State. D.C. defined this as short-term (4 to 6 weeks), intensive, in-home services to children and families in crisis, available on a 24-hour basis, with the goal of preventing hospitalization or other placement of the child outside the home.

South Carolina estimated that 5% of its target population would need this service. The District lowered this percentage to 3%—or 155 children and families—because of its lack of experience with this component and because other options for crisis intervention, such as crisis beds and a diagnostic transition shelter, were included in D.C.'s continuum that were not in the South Carolina continuum.

D.C. estimated that each Homebuilders team (generally, a two-therapist team with one supervisor) could handle 25 families a year. D.C. targeted 40 families for this service in Year One (thus necessitating two teams), at a cost of about $300,000, or about $7,500 per family. Assuming each family received 336 hours of service, the unit cost came to $22 an hour. This would appear to be quite a bit lower than Behar *et al.*'s (1987) estimate of $74 per hour, but slightly higher than the range reported by Stroul (1988).

Therapeutic Group Homes (Moderate or Low Management)

D.C. defined this component as structured community group living for children and adolescents with a fairly low degree of emotional or behavioral problems. Children in this setting would attend regular or special education classes outside the home. Although some children would be in residence seven days a week, an effort would be made to have all children spend weekends and holidays with their natural families, prospective or actual foster families, adoptive families or relatives. Generally, this component would serve youth who no longer need a more intensive placement, but who need a transition period before returning to the family, foster family or independent living, and youth with moderate emotional disorders who need a temporary out-of-home placement.

South Carolina estimated that 6% of its target population would need this component. While recognizing that a similar need existed in D.C., the District nonetheless lowered this estimate to 2%, or 100 children, as a planning target. D.C. felt the lower percentage was more realistic given the difficulty in developing group homes in high-cost urban areas, like D.C., with intense neighborhood resistance, and the mental health system's total lack of experience with group homes of any type for children. Using a 6- to 8-month average length of stay, a 90% occupancy rate and a 10-bed capacity in each home, D.C. estimated that it needed 6 or 7 homes to serve 100 children.[11] D.C. anticipated that the staffing pattern for this type of home would be based on the teaching family concept, rather than a shift staffing pattern, that utilized specially trained live-in teaching parents, part-time relief counselors, a full-time social worker and a consulting psychologist and psychiatrist.

D.C. did not specifically staff or cost out this component, however, since it determined to put its initial energies and resources into the development of "high management" therapeutic group homes (*see below*). Behar, *et al.* (1987) estimate the cost of low management therapeutic group homes at $137 per day per child.

Therapeutic Group Homes (High Management)

D.C. defined this component as providing highly structured, therapeutic group living for children and adolescents with serious emotional disturbances, 7 days a week, 24 hours a day. Children in this type of home may attend school or day treatment outside the home or receive education in the home. These homes are not locked, but do have 24-hour staff (and are highly staffed, using a shift staffing pattern) and security precautions.

South Carolina estimated that 3% of its target population would need this component. Using the same reasoning as it did with low management therapeutic group homes, D.C. lowered this percentage to 2%, or about 100 children and youth.

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[11] This formula works as follows:

No. of Children (100 children)	x	Average Length of Stay (ALOS) (180 days)	=
Total No. of Client Days (18,000 Client Days)	÷	365 Days/Year	=
Average Daily Census (49 ADC)	÷	Desired Occupancy Rate (.90)	=
No. of Slots/Beds (54 Slots)	÷	# of Slots/Beds in Each Home (10 Slots in Each)	=
No. of Homes (6)			

Using an average length of stay of 9 months to one year, a 90% occupancy rate and a 6- to 8-bed capacity, D.C. estimated that it needed 14 or 15 homes to serve 100 youngsters (100 children x 270 days (9 mos.) = 27,000 client days ÷ 365 days = 80 ADC ÷ 0.90 = 89 slots ÷ 6 = 15 homes).

Based on material developed by Isaacs (1985), D.C. anticipated a need for a 1:2 staffing ratio with the following types and distribution of staff for each home:

> A director, preferably an MSW or child psychologist; a consulting psychiatrist (1/4 time); a half-time child psychologist (if director is not one); a consulting pediatrician; a full-time special education teacher; a full- or half-time social worker (depending on the director's background); five child care workers; and part-time housekeeping staff.

For Year One, D.C. targeted development of three homes, serving a total of no more than 24 children and youth. D.C. intended to contract for this service, and did not do full cost estimates. Using the few comparisons available at the time from other parts of the country and traditional group home cost data, D.C. estimated the cost per child per year of this component at about $42,000, or $115 per day.

In general, where D.C. did not base its cost estimates on actual projections of direct and indirect costs, but relied on comparisons from other regions and cost data from more traditional components, it tended to underestimate costs. Based on the Willie M. experience, Behar, *et al.* (1987) estimate costs for this component at nearly twice the D.C. rate ($233 a day). On the other hand, D.C.'s estimate in 1985 of $42,000 was twice that of South Carolina's estimate of $20,333 per child per year in 1983! A great deal more work needs to be done in the area of determining the actual cost of care of each component, particularly of the components that fall between outpatient and inpatient on the continuum.

Supervised Independent Living

D.C. defined this component as providing a home or apartment setting for older adolescents (16 and over), with supervision from a highly trained alternative parent and access to a range of support services.

South Carolina estimated that 5% of its target population would need this component. D.C. adopted a 2% rate, or about 27 youth, although it acknowledged that this rate understated need. It used 2% because of the mental health system's lack of experience with this component for adolescents, and its difficulty in developing similar components for adults.

Assuming a one-year average length of stay, a 100% occupancy rate and a maximum of three youth (plus a supervisor) in each apartment or home, D.C. estimated a need for 9 supervised independent living programs (27 youth ÷ 3 youth in each program—*i.e.*, home or apartment = 9 programs). D.C. targeted development of 2 or 3 programs in Year One, serving no more than 6 youth total. It estimated the cost of the apartment program (excluding outside support services) at $17,833 per youth per year, or $48.86 per day. Behar, *et al.* (1987) estimate the full cost of this component at $112 per day.

Residential Treatment Facilities

D.C. defined this component as one of the most restrictive placements in the continuum of care. It provides a highly structured, secure therapeutic setting for children and adolescents with serious emotional or behavioral disorders. A full array of services, including individual, group and family counseling, education and vocational training, recreation, instruction in daily living, room and board and emergency services are provided, generally in a self-contained environment.

South Carolina estimated that 3% of its target population would need this component. D.C. adopted a more conservative estimate of 2%, or about 100 children and youth, consistent with its policy emphasis on developing less restrictive components and a growing national trend towards less restrictive treatment settings. Also, 2% seemed more consistent with utilization data indicating that, while D.C. at the time placed about 200 children a year in residential treatment (largely out-of-state), close to half seemed to be inappropriately placed because of lack of alternatives in the community.

D.C. arbitrarily determined that it would target development of three residential treatment facilities by Year Five (one in Year One), serving about 70 children and youth (no more than 24 children in each). It anticipated an average length of stay of 18 months to two years.

D.C. based its staffing conceptualization on standards developed by the Massachusetts Department of Mental Health (1982) and CASSP technical assistance materials (Isaacs and Goldman, 1985). The staff to client ratio ranged from 1:3 during the day and early evening hours to 1:5 between 11:00 PM and 7:00 AM. Staffing distribution by type was as follows (for one 24-bed program serving adolescents):

4%	Child Psychiatrists
10%	Psychiatric Nursing Staff
3%	Child Psychologists
8%	Social Workers
12%	Special Education Teachers
9%	Teacher Aides
33%	Child Care Workers
4%	Recreation Specialists
3%	Vocational Counselors
12%	Administrative and Support Staff

Factoring in direct and indirect allocable costs, D.C. estimated the cost of one program at about $2.2 million, or $91,000 per youth per year, or $250 per day. Behar, *et al.* (1987) estimate the cost of residential treatment utilizing the re-education concept at $233 per day.

Acute Inpatient Services

D.C. defined this component as providing intensive 24-hour psychiatric care, including crisis stabilization and diagnostic assessment, in a hospital setting. This component provides a full array of psychiatric services to children, adolescents and their families, and ensures the availability of accredited educational services, recreational and medical services.

South Carolina estimated that 3% of its target population would need this component. The District raised this estimate to 4%, or about 200 children and youth. D.C. based its estimate on utilization trends showing that slightly less than 200 children and youth a year utilized the existing public inpatient component. While these numbers may have been overstated because of the lack of alternatives to inpatient care, they may also have been understated because of the stigma attached to the existing component, which may have discouraged use. D.C. felt that its socio-demographic characteristics—high poverty rates, levels of family dysfunction, minority status of a large percentage of the population—and increasing substance abuse problems argued for the higher rate. The 4% rate also was more consistent with the recommendations of the Inpatient Services Task Group. This group had approached the issue of "sizing" the inpatient component by estimating the number of <u>beds</u> needed, rather than the number of children needing inpatient care. The task group used the Graduate Medical Education National Advisory Committee (GMENAC) methodology to estimate inpatient bed needs, and arrived at an assessment similar to that reached using the South Carolina approach (*see* Appendix D for the task group's report on the GMENAC method).

Using a 45-day average length of stay and an 80% occupancy rate, the task group recommended an increase of 8 beds in the public system—from the existing 32 to 40 beds. The larger planning committee, using the South Carolina approach, estimated that about 200 children, at a 45-day ALOS and 80% occupancy rate, would need access to 30 to 32 beds in the public system (200 children x ALOS of 45 days = 9,000 patient days ÷ 365 = 24.6 ADC ÷ 0.80 desired occupancy rate = 30.8 beds). D.C.'s needs assessment in this area was utilized by the State Health Planning Agency as a guideline in its Certificate of Need (CON) process.

D.C. used technical assistance materials from the National Institute of Mental Health (Isaacs, 1983) and the Commonwealth of Massachusetts (Massachusetts Department of Public Health, 1980) to develop staffing projections for the inpatient unit. Clinical staff-client ratios were targeted at 1:1 to 1:1.5. Staff distribution was as follows:

8%	Child Psychiatrists
6%	Child Psychologists
6%	Social Workers
24%	Psychiatric Nurses
20%	Psychiatric Nursing Assistants
11%	Mental Health Technicians (Aides)
9%	Educational Staff
6%	Adjunctive Therapy Staff (*i.e.*, art, music, drama, occupational)
3%	Recreation Therapy Staff
6%	Administrative (non-clerical) and Support Staff

and Access to Pediatric and Pediatric Neurology Services, Speech Pathology and Audiology.

Factoring in direct and indirect allocable costs, D.C. estimated the cost of a 32-bed inpatient unit (16 beds for latency age and 16 beds for adolescents), serving about 200 children a year, at $3.7 million. The unit cost of care was estimated at $411 a day per child. Behar, *et al.* (1987) estimate the unit cost at $415.50 per day.

Case Management Services

D.C. defined case management as ensuring the availability of an accountable individual to serve as an advocate, helper, service broker and liaison on behalf of a child and his/her family for the purposes of linking and accessing needed services, coordinating service components and all phases of treatment, and ensuring that the elements of treatment, residential and supportive services are planned and provided.

D.C. defined three levels of case management, depending on the needs of a child and family—

(1) For a child involved in only one service component (*i.e.*, outpatient), the child's primary therapist or member of the multi-disciplinary team assigned to the child would be responsible for the case management function;

(2) For a child who has a primary case manager from another system (*i.e.*, Social Services), the child would have a case liaison from the mental health system, usually his/her primary therapist or a member of the multi-disciplinary team assigned to the child;

(3) For children involved in more than one mental health component, or who are multi-agency involved and do not have a primary case manager from another system, case management functions would be performed by a full-time case manager in the mental health system, who would have a small (1:20) caseload.

D.C. developed criteria for this third, or most intensive, level of case management, which are detailed in Appendix E. Specifically, children would receive this level of case management who met the following criteria:

> A child or adolescent entering or involved in the child/youth mental health system is eligible for a full-time case manager from the Case Management Unit if he or she meets one or more of the following criteria:

- Needs multiple services (more than two) that require coordination within the mental health system and/or between the mental health system and other agencies/systems (*e.g.*, Family Services, Youth Services, schools, Mental Retardation/Developmental Disabilities Administration, Alcohol and Drug Abuse Services Administration, court)
- Has history (last two years) or present diagnosis of suicidal behavior and/or violent, acting out behavior
- Is preparing to enter the adult mental health system from the child/youth mental health system
- Is receiving treatment services in or has been recently discharged from a psychiatric hospital or residential treatment facility
- Is being placed in out-of-home care
- Has insufficient family and community supports to help recognize needs and coordinate required services

D.C. estimated that out of its target population of 6,800 children, 5%, or about 350 children, would need this level of case management. (South Carolina did not estimate a specific need for case management services.)

Based on a staff-child ratio of no more than 1:20 and, preferably, 1:15, D.C. determined that it needed about 20 case managers. For Year One, D.C. targeted intensive case management services to 180-240 children, calling for 12 case managers. The cost of this service was estimated at $850,000. Based on each child and his family receiving an average of 6 hours of service a month for a year, the unit cost was estimated at $49 per hour for 240 children. Behar, *et al.* (1987) estimate the unit cost at $50.50 per hour, although it would appear that their estimate is based on each child receiving an average of 4 hours of service a month for a year. Changing D.C.'s assumption from 6 to 4 hours a month would change D.C.'s unit cost from $49 an hour to $74 an hour.

In its plan, D.C. placed this intensive case management unit within a "central intake" component, which would control access to and monitor the placement of children in intensive day, residential and inpatient settings. This component was intended to ensure that children would be appropriately placed in the least restrictive setting, would not remain in placement longer than was clinically necessary and would have access to services as their needs changed. D.C. estimated that out of its target population of 6,800 children, about 1,300 children would come to the attention of this component, about one-third of whom would need a full-time intensive case manager.

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The projected operating cost of D.C.'s system in Year One, to serve about 2,500 children, adolescents and their families, was about $20 million, or about $8,000 per child per year.[12] Behar, *et al.* (1987) estimate the average cost per slot per year at about $7,000. To serve D.C.'s entire target population of 6,800 children (40% of those in need) would cost close to $50 million. D.C.'s Year One plan represented services to about 1.7% of the total child population and to 15% of the population in need of services.

These costs do not take into account offsetting revenue that could be generated by Medicaid, Champus and other third-party payors, Title IV-E or other revenue. One of the advantages to sizing and costing out individual components across the continuum is that it facilitates development of specific strategies both to maximize revenue generation and to explore "blended" funding arrangements with other agencies. For example, D.C.'s definition of intensive case management, specifying the eligible population, became the basis for exploring coverage of this service under Medicaid with the State Medicaid Office. As another example, D.C.'s ability to quantify the amount and cost of therapeutic nursery services led to productive

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[12] Note that this covers operating costs only, not capital costs.

discussions with the school system about sharing the cost of this component, with the school system paying for teachers and housing the programs in elementary schools and the mental health system paying for clinical staff.

III. D.C.'S APPROACH: SHORTHAND VERSION

This section describes the steps in D.C.'s approach in outline form:

I. **Establish a Planning Process**

- Multi-Agency
- Involve Key Stakeholders
- Manage Process

II. **Define the Service Area(s)**

- Make the Service Area(s) Manageable
- Plan a "Full Continuum" for Each Service Area

III. **Define the Target Population**

IV. **Determine how many children and adolescents will be served (*i.e.*, establish the size of the target population)**

- Determine how many children, within the service area and target definition, need services
- Estimate how many children, within the service area and target definition, currently are receiving services
- Determine how many children needing services <u>will</u> receive services (or, Answer: For how many children will the public mental health agency assume <u>lead</u>—not necessarily sole—responsibility?), thus establishing the size of the target population

V. **Decide and describe the values, organizational framework, systemic features and continuum of services that will characterize the new system of care**

VI. Size and Cost Out Individual Components of Care

A. Outpatient Services

- Define the component

- Estimate the number of children in the target population who will need this component (might use one's own panel of experts; other state's estimates; a survey (more time-consuming); combination of these, etc.)

S.C. Estimate	D.C. Estimate
85%	75%

- Determine number of staff (or slots) required to serve number of children needing service, based on conceptualization of program and desirable staffing ratio (or slot-to-child ratio)

  D.C. Staffing Ratio: 1 staff : 40 children

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of program, factoring in direct and indirect allocable costs

  D.C. Cost: $5 million to serve 1,680 children and families ($2,976 per child per year)

- Determine unit cost (*i.e.*, hourly rate or daily rate) per child

  Formula: Total Cost ÷ (No. of Children x No. of Hours [or Days] of Service Provided to Each Child) = Unit Cost: Cost of Component per Hour of Service or per Day.

  D.C. Unit Cost: $5 million ÷ (1,680 children x 36 hrs. of service provided to each = 60,480 total hrs. of service) = $83 per hour

- Develop funding strategies, *e.g.*,
  - Maximize revenue generation (offset costs) from Medicaid and other third-party payors;
  - Divert larger percentage of alcohol, drug abuse and mental health block grant funds;
  - Implement sliding fee scale

- Determine training and manpower needs

B. **Therapeutic Nursery Services**

- Define the component
- Estimate the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
3%	8%

- Determine the number of staff or slots required to serve the number of children needing service

  D.C. Staffing Ratio: 1:3

- Establish program development targets for Year One, Year Two, etc.
- Determine Year One Cost of component

  D.C. Cost: $929,000 to serve 50 children ($18,580 per child)

- Determine unit cost

  D.C. Unit Cost: $929,000 ÷ (50 children x 1,000 hrs. of service each [or 4 hrs. a day x 250 days a year] = 50,000 hrs. of service) = $18.58 per hour (or $74.32 per day)

- Develop funding strategies, *e.g.*,
  - Maximize revenue from Medicaid and other third-party payors;
  - Explore use of EPSDT dollars;
  - Explore "blending" P.L. 94-142 or P.L. 99-457 and mental health dollars
- Determine training and manpower needs

C. Psychoeducational Programs

- Define the component
- Estimate the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
3%	8%

- Determine the number of staff or slots required to serve the number of children needing service

D.C. Staffing Ratio:
1:5 for psychoeducational model;
1:3 for day treatment/partial hospitalization model

- Establish program development targets for Year One, Year Two, etc
- Determine Year One cost of component

D.C. Cost: $6.2 million to serve 220 children and adolescents ($28,400 per child per year)

- Determine unit cost

D.C. Unit Cost for Psychoeducational Model: $4 million ÷ (175 children x 1,500 hrs. of service each [or 6 hrs. a day x 250 days a year] = 262,500 hrs. of service) = $15 per hr. per child (or $91.42 per day)

D.C. Unit Cost for Day Treatment: $2.2 million ÷ (45 children x 1,500 hrs. of service [or 6 hrs. a day x 250 days a year] = 67,500 hours of service) = $33 per hr. per child (or $196 per day)

- Develop funding strategies, *e.g.*,
  - Maximize Medicaid and other third-party revenue;
  - Blend P.L. 94-142 and mental health dollars;
  - Explore use of vocational rehabilitation dollars to fund portion of service for adolescents
- Determine training and manpower needs

D. Therapeutic Foster Care

- Define the component

- Determine the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
5%	2%

- Determine the number of slots required for the number of children needing this service. Must first determine purpose of home to ascertain average length of stay (ALOS) (*i.e.*, short-term respite or emergency; medium length of stay transitional placement; longer term placement)

  Formula for determining number of slots needed: No. of children x ALOS = No. of client days ÷ 365 days in year = average daily census ÷ desired occupancy rate = No. of slots (÷ No. of slots in each home = No. of homes needed)

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Cost: $92,500 to serve 8 children
  ($11,562 per child per year)

- Determine unit cost

  D.C. Unit Cost: $92,500 ÷ (8 children x 365 days each = 2,920 days of service total) = $32 per day

- Develop funding strategies, *e.g.*,
  - Explore blend of Title IV-E (child welfare) and mental health dollars;
  - Explore Medicaid coverage under home and community based waiver

- Determine training and manpower needs

E. In-Home Crisis Intervention Services

- Define the component

- Estimate the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
5%	3%

- Determine the number of staff or slots required to serve the number of children needing this service.

  D.C. Estimate: One 2-therapist team to serve 20 to 25 families per year

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Cost: $300,000 to serve 40 families ($7,500 per family)

- Determine unit cost

  D.C. Unit Cost: $300,000 ÷ (40 families x 336 hrs. of service each = 13,440 hrs. of service total) = $22.38 per hour

- Develop funding strategies, *e.g.*,
  - Explore Medicaid coverage under home and community based waiver;
  - Blend mental health and Title IV-E (child welfare) dollars

- Determine training and manpower needs

F. Therapeutic Group Homes (High Management)

- Define the component

- Estimate the number of children and youth in the target population who will need this component

S.C. Estimate	D.C. Estimate
3%	2%

- Determine the number of slots required to serve the number of children needing this component

  D.C. Estimate: 100 children x ALOS of 270 days = 27,000 client days ÷ 365 days in year = 80 average daily census ÷ desired occupancy rate of 0.90 = 89 slots (÷ 6 slots in each home = 15 homes)

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Estimate: $753,000 to serve 18 children and youth
  ($41,833 per child per year)

- Determine unit cost

  D.C. Unit Cost: $753,000 ÷ (18 children x 365 days of service each = 6,570 client days total) = $114.61 per day

- Develop funding strategies, *e.g.*,
  - Medicaid coverage under home and community based services option;
  - Blend Title IV-E and mental health dollars
  - Maximize entitlements under Title 16 (SSI)

- Determine training and manpower needs

G. Supervised Independent Living

- Define the component

- Estimate the number of youth in the target population who will need this component

<u>S.C. Estimate</u>	<u>D.C. Estimate</u>
5%	2%

- Determine the number of slots required to serve the number of youth needing this component

  <u>D.C. Estimate</u>: 27 youth x ALOS of 365 days = 9,855 client days ÷ 365 days in year = 27 average daily census ÷ 1 (100% of desired occupancy rate) = 27 slots (÷ 3 slots in each home = 9 homes)

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  <u>D.C. Estimate</u>: $107,000 for 6 youth
  ($17,833 per youth per year)

- Determine unit cost

  <u>D.C. Unit Cost</u>: $107,000 ÷ (6 youth x 365 days of service each = 2,190 days total) = $48.86 per day

- Develop funding strategies

  - Maximize entitlements under Title 16 (SSI)

- Determine training and manpower needs

H. Residential Treatment Facilities

- Define the component

- Estimate the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
3%	2%

- Determine the number of slots required to serve number of children needing service

  D.C. Estimate: 100 children x ALOS of 365 days = 36,500 client days ÷ 365 days in year = 100 average daily census ÷ 0.85 = 117.6 slots (÷ 24 slots in program = 4.9 (5) facilities)

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Estimate: $2.2 million for 24 children and youth
  ($91,600 per child per year)

- Determine unit cost

  D.C. Unit Cost: $2.2 million ÷ (24 youth x 365 days of service each = 8,760 days of service total) = $251 per day per youth

- Develop funding strategies, *e.g.*,

  - Explore Medicaid coverage;

  - Blend Title IV-E and mental health dollars

- Determine training and manpower needs

I. Acute Inpatient Services

- Define the component

- Estimate the number of children in the target population who will need this component

S.C. Estimate	D.C. Estimate
3%	4%

- Determine the number of beds required to serve number of children needing this service

  D.C. Estimate: 200 children x ALOS of 45 days = 9,000 client days ÷ 365 days in year = 24.6 average daily census ÷ 0.80 desired occupancy = 30.8 (31) beds

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Estimate: $3.7 million to serve 200 children

- Determine unit cost

  D.C. Estimate: $3.7 million ÷ (200 youth x 45 days of service each = 9,000 client days total) = $411 per day per child

- Develop funding strategies, *e.g.*,
  - Maximize revenue from Medicaid, Champus and other third-party payors

- Determine training and manpower needs

J. Case Management Services

- Define the component

- Estimate the number of children in the target population who will need this service

S.C. Estimate	D.C. Estimate
N/A	*5%*

- Determine the number of staff (or slots) required to serve number of children needing this service

  D.C. Staff:Child/Family Ratio: 1:20 maximum (preferably 1:15)

- Establish program development targets for Year One, Year Two, etc.

- Determine Year One cost of component

  D.C. Estimate: $850,000 to serve 240 children and families ($3,541 per child)

- Determine unit cost

  D.C. Unit Cost: $850,000 ÷ (240 children x 72 hours of service each [6 hrs. a month for one year] = 17,280 hours of service total) = $49 per hour

- Develop funding strategies, *e.g.*,
  - Explore Medicaid coverage under case management option;
  - Divert percentage of alcohol, drug abuse and mental health block grant funds;
  - Blend Title IV-E and mental health dollars

- Determine training and manpower needs

VII. **Determine Total Size and Cost of System of Care**

- "Add up" size and cost of individual components of care
- Factor in non program-related costs, direct and allocable (*i.e.*, central administration)

  Size/Cost of D.C.'s System: Approximately $20 million to serve about 2,500[13] children, adolescents and their families
  (Approximately $8,000 per child per year)

- Offset projected cost estimates with projected revenue estimates from Medicaid, Champus, other third-party payors, fees, Title IV-E reimbursements, etc.

VIII. **Develop specific strategies with other agencies to develop and fund discrete program components, *e.g.*,**

- Education System (P.L. 94-142 and P.L. 99-457 dollars)
- Child Welfare (Title IV-E)
- Social Services (Title XX block grant dollars)
- Vocational Rehabilitation (Voc. Rehab. monies)

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[13] This represents services to 15% of the population in need, and 1.7% of the total child population.

CONCLUSION

One of the advantages to the approach described in this monograph is that it can "expand" to include other additional components—substance abuse programs, for example—and sub-populations within the larger child and adolescent group. D.C., for instance, used the approach to assess needs and service capacity with respect to hearing impaired children with emotional disturbances.

D.C. also found that its structured approach created a useful framework for discussions with the State Health Planning Agency over Certificate of Need requests, particularly in discouraging haphazard development of acute inpatient psychiatric beds for children. The framework helped to put into perspective issues around utilization—*i.e.*, that more utilization does not necessarily mean greater demand, but may instead be due to lack of alternatives; and that, conversely, low utilization may not signal low need, but may be created by problems of access, image, quality, availability, relevancy, etc.

Behar, *et al.* (1987) note the difficulty states and locales have in gauging the costs of system development on a large scale. Others discuss the importance of "incrementalism" to system change (Weick, 1984). D.C.'s approach enabled it both to project the size and cost of its system on a large scale and, at the same time, to view the system in increments more manageable for implementation.

The approach lends itself to developing *specificity* in planning, which is necessary to move from a vision of system change to targeted operational strategies that account for incurrence of expenses, generation of revenue, manpower needs and multi-agency capabilities.

Some states/locales may find this approach useful because they are at the beginning of their planning processes and in search of some framework to use. Others, who may be further along in planning and implementation, may find it helpful for comparative purposes. It can be used to illustrate the shortcomings in a current system, the gaps between actual and desired service capacity, and the level of effort (dollars, staff, interagency collaboration, etc.) needed to produce change. Again, D.C.'s approach is not a prescription. It offers a frame of reference, a way of thinking about—and approaching—system planning and development that may be of use to advocates, administrators, planners and others at state and local levels.

APPENDICES

APPENDIX A

D.C.'S DEFINITION OF TARGET POPULATION

A. Defining Who Will Be Served

With regard to the question of age limit. as its basic policy, the child/youth mental health system will serve children and adolescents, age 0 to 18. The exceptions to this policy are as follows:

a) Youth under 21 years of age who are subject to a consent decree or dispositional order pursuant to D.C. Code, Sec. 16-2301, *et seq.* (D.C.'s Juvenile Code);
b) Youth under 22 years of age who have an individualized education program pursuant to the Education of the Handicapped Act (20 U.S.C. §1400, *et seq.*); and,
c) Youth under 22 years of age who, in the opinion of the child/youth mental health system, can benefit from programs available within the child/youth mental health system.

Gilmore, *et al.* propose the following five categories of mentally ill children and adolescents with functional deficits as a substitute for conventional classification systems:

- Children and Adolescents with Psychosis.
  Psychotic children and adolescents who exhibit seriously impaired contact with reality and severely impaired social, academic, and self-care functioning. Thinking is frequently confused, behavior may be grossly inappropriate and bizarre, and emotional reactions are frequently inappropriate to the situation.

- Children and Adolescents with Multiple Handicaps.
  Children and adolescents with mental illness in addition to another disorder, such as mental retardation, severe neurological disorders or sensory impairment (*e.g.*, deafness), are considered multiple handicapped. The interaction of other disorders with mental illness can result in severe functional deficits in social, academic, and daily living skills which can persist over a lifetime.

- Children and Adolescents with Conduct Disorders.
  Mentally ill children and adolescents who are classified as conduct disordered, manifest long-term behavior problems that may include impulsiveness, aggressiveness, anti-social acts, refusal to accept limits, suicidal gestures, and substance abuse. Their functional deficits may include impaired academic and social functioning.

- Children and Adolescents with Anxiety/Affective Disorders.

  Children and adolescents suffering serious discomfort from anxiety, depression, irrational fears and concerns are considered children with anxiety/affective disorders. Symptoms may be exhibited as serious eating and sleeping disturbance, extreme sadness or depression of suicidal proportions, maladaptive dependence on parents, or persistent refusal to attend school. Their functional deficits include impaired social, academic, and emotional functioning.

- Children and Adolescents at Risk of Functional Disability.

> This group of individuals demonstrates traits or are associated with demographic factors that are thought to predispose a population to psychiatric disability. Factors which are associated with risk of mental illness include, but are not limited to: a) failure in infancy and early development to secure basic nurturance necessary to achieve security, identity, and self-worth; b) environmental stresses that precipitate social breakdown; c) families who have experienced mental illness; d) children and adolescents who have been subject to child abuse, neglect, or sexual abuse; and e) children and adolescents suffering chronic physical illnesses to such an extreme that mental illness may be precipitated.

The advantage to the Gilmore classification is that it both encompasses DSM-III and goes beyond the generally accepted limitations of the DSM-III system. Also, as Gilmore notes, "[Another] advantage of the proposed system of classification is that other systems of care (education, social services, juvenile justice) can understand the descriptions." (Gilmore, Chang and Coron, 1984).

APPENDIX B

D.C.'S CONTINUUM OF SERVICES AND VALUES
OVERVIEW OF SYSTEM DESIGN: KEY ELEMENTS

- There will be a full continuum of mental health services for children and adolescents. The spectrum of resources in the new system will include:

    Prevention/Early Intervention
    Outpatient Services
        (including Consultation and Education, Outreach and Early Intervention, Screening and Assessment, Diagnostic Evaluation, Family Therapy, Individual and Group Therapy, Office-Based and In-Home Services)
    Therapeutic Nursery Programs
    Psychoeducational Programs
    Therapeutic Foster Homes
    Therapeutic Group Homes
    Supervised Independent Living
    Respite Beds
    Emergency Services
    Homebuilders (In-Home Crisis Diversion Services)
    Diagnostic Transition Shelter
    Crisis Beds (Non-hospital-based)
    Residential Treatment Facilities
    Acute Inpatient Services
    Transportation Services
    Vocational Rehabilitation Services
    After-School and Week-End Programs
    Case Management Services (including Follow-Up)
    Advocacy Services

- The new system will emphasize prevention, early intervention and outreach to children/youth in primary care and other settings.

- The new system will be guided by the basic principle that children/youth shall be served in the most appropriate, least restrictive setting.

- The new child/youth system will serve children and their families.

- All children/youth who can benefit from services available in the new system will have access to services, regardless of race, color, creed, sex, nationality, involvement with other systems, legal or custody status.

- The new system will have an effective system of case management to ensure continuity of care.

- All children/youth will receive individualized treatment plans which will be monitored through regular, ongoing case conferences.

- The new system will have an effective gatekeeping mechanism with respect to intensive (most restrictive and expensive) service components.

- The new system will emphasize interagency coordination with other child-serving agencies.
- Our goal is to create a single tier system of services, and thus we will emphasize joint ventures with the private sector.
- The new system will bring all child/youth mental health services under one administrator.
- In the new mental health system, there will be an identifiable children's budget.
- The new child/youth mental health system will develop and monitor standards of care.
- The new system will incorporate ongoing staff development and training.

APPENDIX C

FRAMEWORK FOR COST BREAKDOWN

UTILIZATION ASSUMPTIONS			INDIRECT ALLOCABLE COSTS (EXAMPLES OF) (Centralized Supports)												Cont.
Component	Clients	Total Client Days or Hours	Security	Grounds	Wrehse.	Gen. Admin.	Clncl Admin.	Training Office	Legal Service	Policy & Planning	Financl. Mngmt.	Billing Office	Facility Mntnce.	Procurement	ADP
e.g., Outpatient Services	1,680	60,480 (1,680 clnts x 36 hrs. of service each per year)													

FRAMEWORK FOR COST BREAKDOWN (continued)

DIRECT COSTS (EXAMPLES OF) (Program Specific)											DIRECT COSTS + INDIRECT COSTS = TOTAL COSTS	UNIT COST
Prsnnl.	Benefits	Over-Time	Travel & Training	Transptn.	Utilities	Rents	Printing	Contracts	Supplies	Equip.		
											e.g., Outpatient Services 3,710,442 + 1,310,003 = $5,020,445	e.g., Outpatient Services $83/hr./client (Total cost divided by Total hrs. of Service Provided)

APPENDIX D

REPORT OF THE INPATIENT SERVICES SUB-COMMITTEE OF THE MHSRO CHILD MENTAL HEALTH WORKING GROUP

The tasks of the Inpatient Services Sub-Committee include:

1. determination of the number of acute inpatient beds needed for children and adolescents in the District;
2. determination of the number of inpatient beds that currently exist and data about utilization;
3. suggestions about the preferred location of child and adolescent psychiatric beds; and
4. determination of the need for long-term inpatient capacity for children and adolescents.

The Sub-Committee views inpatient services as one of the more intensive levels of care for youth and one that should be utilized only under emergency/crisis situations or in situations where all other efforts to stabilize the child/adolescent have failed. The inpatient unit should provide a full array of psychiatric services to children and their families, as well as accredited educational services/programs, recreational activities and medical services.

Methodology to Determine the Inpatient Bed Capacity for Youth

The need for separate, identifiable psychiatric inpatient units for children and adolescents is being recognized more each day. In 1971, the American Psychiatric Association noted that planning psychiatric facilities and services for children is considerably more complex an undertaking than planning similar facilities and services for adults. In 1978, the President's Commission on Mental Health came to the same conclusion and stated that "children need separate services than those for adults. Children and adolescents require quality services over longer periods of time than adults.... Services should be provided in settings (units) especially designed for children and not in adult hospitals or residential programs (p. 17)." The Inpatient Services Sub-Committee echoes these sentiments and recommends that separate, discrete psychiatric units be developed for children and adolescents.

Since inpatient care is an important component in the continuum of care, the Sub-Committee reviewed a number of alternatives for estimating bed needs, using a methodological note developed by Isaacs entitled, *Acute Inpatient Psychiatric Services for Children and Adolescents* (1983). In this document, Isaacs outlines several approaches to bed need methodologies that are current being used nationally.

These approaches include:

a. demand/utilization methodologies, *i.e.*, projections of future demand are based on an analysis of current utilization. In this report, Isaacs cautioned against using these methods since inpatient psychiatric services for children and adolescents are under-developed in many locales and there is little national data available on the utilization of services by these age groups. Hence, projections of bed need based on current utilization would tend to under-estimate the need for inpatient psychiatric beds.

b. extrapolation models, *i.e.*, methodologies based on the utilization experience of a given model service area deemed to have an appropriate mix of services. Although efforts could have been made to extrapolate the need for beds based on the Saint Elizabeths' units for youth, there was reluctance to use this approach because there is not currently a full continuum of services for children in the District so that one can be sure that psychiatric inpatient services are being appropriately utilized.

c. expert opinion models, *i.e.*, methodologies based on standards developed by relevant professional groups. The GMENAC methodology developed in a Delphi process by a group of prominent child psychiatrists falls into this category.

After some discussion, it was agreed that the Sub-Committee would use the GMENAC methodology for determining the need for acute psychiatric beds for children and adolescents in the District. This methodology was chosen because:

- it represents the only methodology based on the opinions of a national panel of child psychiatrists and was developed quite recently (May, 1981);
- it relies on estimates of prevalence (need) rather than on current or historic utilization of services;
- since the child psychiatric panel estimated the need for other services including ambulatory, special programs and other 24-hour institutional care, the estimates for inpatient beds tend to be on the conservative side; and
- more and more states and private sector providers are adopting this model to determine inpatient bed need in their respective communities and facilities.

Application of the GMENAC Methodology for Youth

There are at least two assumptions that have to be made before applying the GMENAC methodology. One is the assumption concerning the average length of stay (ALOS), and the other assumption concerns the desired occupancy level for the units. Nationally, ALOS for acute inpatient stays for children and adolescents is considerably longer than that for adults. The national ALOS for adults is approximately 175 days. Although no national ALOS is available for children and adolescents, Isaacs found that reported ALOS for acute care for youth ranged from 30 to 120 days. She recommended that the lower limit for children be 60 days and the lower limit for adolescents be 30 days. Her findings are not different from the experiences of the child and adolescent units at Saint Elizabeths. Descriptive statistical data from SEH's Division of Child and Adolescent Services shows that for both voluntary and court-ordered patients, 75 percent were released within three and a half months. Admissions to the children's unit tended to remain in the hospital longer; their median length of stay was 63 days. Admissions to the Adolescent Unit had a different length of stay; 75 percent had an ALOS of less than 40 days. In order to have a median ALOS for youth inpatient services, the Sub-Committee proposed 45 days as the appropriate ALOS. Calculations are developed using 80 and 85 percent as occupancy level standards. The results of the GMENAC methodology are presented below:

GMENAC/Delphi process estimate of need for acute psychiatric beds per 100,000 youths ages 0 to 17	463/100,000

	A (Using 80% Occupancy)	B Using 85% Occupancy)
D.C. Population (0-17)	143,491	143,491
GMENAC ratio applied to D.C. population	664	664
ALOS	x 45	x 45
Patient Days	29,880	29,880
Days in Year	: 365	: 365
Beds	82	82
Occupancy Level	: .80	: .85
Total Beds Needed	103	97

As shown above, the GMENAC methodology shows a need for 97 to 103 inpatient psychiatric beds for children and adolescents. Since GMENAC is based on the total child/youth population, this estimated bed need includes *both* public and private bed capacity.

Current Child/Youth Inpatient Capacity

The Sub-Committee attempted to determine the number of psychiatric beds currently in the system that are serving children and adolescents. Although a more systematic and thorough study of the characteristics of existing acute care resources is needed, preliminary informal inquiries by members of the Sub-Committee reveal the following information:

- Children's Hospital currently operates a 15-bed psychiatric unit for children between the ages of 5 and 13 years old. The ALOS is 30 to 40 days and children are admitted from Maryland and Virginia, as well as D.C. This would yield an average of 137 to 182 admissions to the unit per year. (Youth 14 years and older are referred from Children's to the adult psychiatric unit at George Washington University Hospital.) Children's is also planning to open a four- to eight-bed psychosomatic unit for those suffering from anorexia nervosa and other eating disorders.

- George Washington University Hospital, as mentioned above, accepts adolescents on its 32-bed adult psychiatric unit.

- D.C. General Hospital also admits a number of youth with psychiatric disorders to its medical units. Often such youth have other medical problems or are substance abusers. These youth are held until they can be transferred to Saint Elizabeths or some other hospital with a discrete psychiatric unit.

- Howard University Hospital has a 36-bed pediatric unit that admits an estimated 12 to 15 psychiatric cases per month. This would compute to 144 to 192 estimated admissions annually. This suggests that 3.2 to 4.3 beds of the unit are used for psychiatric admissions (based on ALOS of 45 days). Actually, since ALOS is unknown and is probably shorter, it would probably be safe to estimate that 2.5 to 3 beds of the unit are filled by psychiatric admissions.

- Psychiatric Institute of America (P.I.A.) operates a 16-bed child psychiatric unit and a 32-bed adolescent psychiatric unit. In addition, the facility operates a 2-bed substance abuse unit for youth over 12 years old. The I.C.U. also admits youth, but in this unit they are mixed with adults. Information is not available on ALOS or number of annual admissions. P.I.A. currently does not accept Medicaid.

- Saint Elizabeths Hospital operates a 16-bed psychiatric unit for children age 5-13 and a 16-bed psychiatric unit for adolescents (14-17). In FY 1984, there were 168 admissions to these units. Sixty-four of the 168 admissions, or 38 percent, were court-referred.

Preliminary analysis of current resources show that there are 63 child and adolescent discrete acute psychiatric beds in the private sector—31 of these beds serve children (5 to 13) and 32 serve adolescents. In the public sector, there are 32 discrete psychiatric beds—16 for children and 16 for adolescents. Ideally, this would mean that there are a total of 95 discrete acute psychiatric beds for youth in the District. Applying the GMENAC bed estimates, there would be a need for an additional 2 to 8 beds.

However, there are certain factors about the current supply that must be taken into account. First, many of the beds included may not be accessible to *all* children in the population. For example, the 48 beds at Psychiatric Institute—50 percent of the current supply—are not available to those who are poor, uninsured or insured under Medicaid. How many of these beds, if any, should be included in counts of available or current supply? Another factor is that both Psychiatric Institute and Children's Hospital admit youth from surrounding states (Virginia and Maryland) as well as other areas. Therefore, it is important to know how many of the existing beds actually are available to District youth. It is also important to understand how many adolescents are currently being served on adult units or on medical/surgical units without appropriate psychiatric staffing. There is a need to know more about ALOS so that a more realistic assessment of current supply can be complete. These, and other factors, will be explored further, and findings will be used to modify the count of current bed supply. However, there was a strong belief among Sub-Committee members that there is a need for a small increase in inpatient capacity in the public sector for children and youth.

Long-Term Inpatient Capacity

At the present time, the SubCommittee does not see the necessity of developing a long-term hospital-based unit for children and adolescents and feels that youth in need of long-term care can best be served in residential treatment programs and other intensive, but non hospital-based, settings.

Summary

1. Based on the GMENAC methodology, there is a need for 97 to 103 beds for children and adolescents in the District of Columbia (total public and private capacity), which would suggest the need for a slight increase in bed capacity in the public sector (2 to 8 beds increase).

2. At present, there are 95 discrete psychiatric beds for youth in the system—63 in the private sector and 32 in the public sector. There are 48 beds for adolescents and 47 beds for children. However, all beds are not equally accessible and many in the private sector do not serve only District residents.

3. Children and adolescents with psychiatric difficulties should be admitted to discrete acute psychiatric units for youth. Children and young adolescents should not be admitted to adult units, nor is it appropriate for youth to be placed on other medical units without appropriate psychiatric staffing.

4. There should continue to be distinctions made between units for children, age 5 to 13, and adolescent units.

5. Youth in need of long-term hospitalization should be placed in intensive residential treatment and other intensive, but non hospital-based, settings.

APPENDIX E

INTENSIVE CASE MANAGEMENT CRITERIA
CASE MANAGEMENT UNIT

I. PURPOSE

The purpose of the Case Management Unit is to ensure the availability of an accountable individual to serve as an advocate, helper, service broker and liaison on behalf of the child/adolescent and his/her family for the purpose of linking and accessing needed services, coordinating service components and all phases of treatment, and ensuring that the elements of treatment, residential and supportive services are planned for and provided.

The Case Management Unit is located organizationally in the Central Intake Bureau. It is responsible for providing case management services to children/youth and their families throughout the city-wide child/youth service area. In FY 1988, the Case Management Unit will have a caseload not to exceed 240 children/ adolescents, and will be staffed with a supervisor, twelve case managers and a secretary.

II. STAFF QUALIFICATIONS

The Supervisor will have a Master's degree in social work or the behavioral sciences, a minimum of two years of experience working with seriously emotionally disturbed children/adolescents and a minimum of one year of experience in a supervisory capacity, strong administrative skills and a thorough knowledge of District child-serving agencies and systems. The Supervisor will be responsible for the overall administration of the Case Management Unit and will provide clinical and administrative supervision of case managers and evaluation of the performance of case managers.

Case Managers will have, optimally, a Master's degree or, minimally, a bachelor's degree with three years of experience in social work, the behavioral sciences, or special education, with specialized training in child development, crisis intervention and family dynamics, experience in working with seriously emotionally disturbed children/adolescents, and familiarity with District child-serving agencies and systems. It is understood that the requirements of extensive liaison work, travel, and family contacts will require hours outside the normal working day and outside of a regular office setting.

III. FUNCTIONS OF THE CASE MANAGER

In accordance with standard definitions, the case manager's role will include the following activities: Assessment (ongoing identification of the child and family's strengths, problems, and needs); Planning (development of an individualized case management plan); Linking (referring and helping the child/family to access required services); Monitoring (reviewing the child/family's progress and the appropriateness of service modalities); Advocacy (interceding on behalf of the child/family to obtain needed services). (JCAH, 1979, p. 19.)

The case manager's responsibilities will include:

- Assist in the assessment of the need for case management services
- Assist in the development, and revisions as necessary, of the individual treatment plan

- Assist in formulating and arranging appropriate services, including treatment, residential, educational, medical, legal, vocational, and social services
- Assist in identifying and arranging, as necessary, comprehensive evaluations, including psychological, educational, health, social, legal, and family status
- Monitor the provision of services to and the progress of children/youth in the caseload on all relevant dimensions; *e.g.*, treatment, educational, medical, social services
- Advocate for services for children/youth in the caseload
- Develop and maintain smooth working relationships with significant care providers
- Convene quarterly planning-linking meetings with all significant care providers and the child and family where appropriate
- Ensure that children/youth receive all essential services, insofar as these exist in the District, through his/her own efforts or through the efforts of significant care providers
- Ensure that linkages to other essential parts of the child's ecological system are maintained; *e.g.*, parent(s) or guardian(s), family or surrogate family members, school, employers and other significant people
- Establish a supportive human relationship with the child/youth and his/her family and provide continuity of person through individual meetings
- Provide crisis intervention, in-home or at any other setting, on normal work days to children/youth in the caseload, unless crisis intervention services are being provided by the child's primary therapist or through another arrangement (*e.g.*, contracted in-home service)
- Provide follow-up services, not to exceed six months, consisting of at least a monthly phone contact with the child/family, after the child/family has been terminated from the mental health system or removed from active case management status
- Provide feedback on a regular basis to the Supervisor regarding the need for services that do not exist and barriers to effective service delivery
- Maintain a case management record for each active client in the caseload; maintain a daily record of all case management activities; provide a monthly summary to the Supervisor of all case management activities; and provide a quarterly report to the Supervisor on services that do not exist and barriers to effective service delivery, with recommendations for corrective action.

**The Case Manager will offer support and consultation to the child/youth's existing providers, but will not assume their legitimate responsibilities.

IV. PROCEDURES

Referral to Caseload

Caseload referrals will be received only through the Central Intake Bureau. Caseload priorities will be determined, based on accepted criteria, by the Central Intake (multidisciplinary) team, which will include the Supervisor of the Case Management Unit or his/her designee.

Size of Caseload

Caseload size shall not exceed 20.

V. CRITERIA GOVERNING ELIGIBILITY FOR CASE MANAGEMENT SERVICES

A child or adolescent entering or involved in the child/youth mental health system is eligible for a full-time case manager from the Case Management Unit if he or she meets one or more of the following criteria:

- Needs multiple services (more than two) that require coordination within the mental health system and/or between the mental health system and other agencies/systems (*e.g.*, Family Services, Youth Services, schools, Mental Retardation/Developmental Disabilities Administration, Alcohol and Drug Abuse Services Administration, court)
- Has history (last two years) or present diagnosis of suicidal behavior and/or violent, acting out behavior
- Is preparing to enter the adult mental health system from the child/youth mental health system
- Is receiving treatment services in or has been recently discharged from a psychiatric hospital or residential treatment facility
- Is being placed in out-of-home care
- Has insufficient family and community supports to help recognize needs and coordinate required services

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