This chapter introduces the concepts of child care, child development, and developmentally-oriented child care, and describes the range of program options, types of child care facilities, and their locations. Finally, it compares existing regulations with newly emerging trends.

A must reading for the uninitiated, and a refresher for those who are more familiar with children and their needs relative to the environment, this chapter describes the basic philosophies of child care and reviews relevant literature as an introduction to the remainder of the Design Guide.

201 Importance of Child Care
202 Introduction to Child Development and Care
203 Range of Child Care Programs
204 Types and Locations of Child Care Facilities
205 Existing Standards and Regulations
QUANTITATIVE NEED

In 1976, there were approximately 18,000,000 children under the age of 6 years in the United States, and another 28,000,000 between 6 and 13 years of age. Of the children under 6, over 35% were children whose mothers were in the labor force; almost 50% of those between 6 and 13 had mothers in the work force (Committee on Finance, United States Senate, 1977, Table 1).

Children with parents in the work force require care during the day, either part of the day, all day, or after school for the older children. Yet in 1977, almost 10% of these children were taking care of themselves, of whom over 20,000 were under the age of 6. Meanwhile, only 3.7% of children 3-6 years of age with mothers in the work force were cared for in child care centers, with another 14.4% in family child care homes (no data is available for children under 3 years of age). Thus less than 20% of preschool children with mothers in the work force were making use of some form of organized child care in 1977. Less than 4% of school age children with mothers in the work force were making use of organized care services after school (Committee on Finance, U.S. Senate, 1977, Table 25).

What about the other 80% of preschool children, and the 96% of elementary-school age children? And what is happening to the 10% taking care of themselves?

DEVELOPMENTAL IMPORTANCE

This is the quantitative need. But what of the qualitative need?

Many children benefit greatly from care given by a relative or by a babysitter coming into the home. But research has shown rather conclusively that the first five years of a child's life is the time of most active development, not only of intellectual growth, but also of the development of personality, social skills, and stable emotions. The critical importance of adequate and appropriate stimulation and emotional security during these early years has been demonstrated by Head Start Programs. The nation's consciousness has been raised. And a growing lobby continues to push for universal early childhood education and development programs.
Quality early childhood development programs go beyond what most families, relatives, or babysitters can provide. Even families where one parent does not work are choosing to have their preschool children attend a developmentally-oriented child care program for a few hours or a few days a week. The advantages of at least a few hours a week in an early childhood development center (ECDC) can be tremendous for all children.

With the recognition of the importance of early development during the preschool years, we can begin to recognize the responsibility a child care center has in the community. Its role is to offer an educationally sound program as well as to provide all of the caretaking services of a good babysitter. The educationally appropriate objectives for any early childhood development program are to expose children to the widest possible variety of experiences in order to arouse their curiosity, to challenge their physical and intellectual abilities, to encourage self-expression, to assist in the development of both individuality and ability to cooperate in groups, and to be creative and at the same time understanding of the roles of society. In effect, as stated by Evans, Shub, and Weinstein (1971):

The first "school" experience should be one which develops a sense of joy, wonder, and curiosity in the world around us. Children should feel confident that they can and should ask questions, try new ideas, and, most importantly, feel good about themselves. Indeed, one of the most important objectives of a good preschool program is to begin to develop a positive self-concept among all the children. When children feel good about what they can do, when they understand their role as son, daughter, friend, brother or sister, when they recognize the love and friendship of teachers and children, and when they have confidence in themselves, they will be far more receptive to the learning opportunities and experience than if they are feeling angry, hurt, alone, confused, shamed, or rejected. Thus when someone asks
what do preschool teachers teach, the answer is they teach mathematics and science, music and reading, dexterity and cooperation in the context of productive exploration and experience, and in an atmosphere of warm support for each child rather than through arbitrary schedules, group tasks, and synthetic assignments and evaluations. (pp. 120-121)

The composition of the military is changing and reflects the cross section of the country as a whole. As stated in a brochure from the Military Child Care Project, there are more single parents, women and families in which both parents work. As a result, the demands upon military child care services are changing. The military community includes over 1,000,000 children from infancy to adolescence who live with their families on military installations. In the single parent family, as well as the two-parent family, often it is financially necessary for those doing the parenting to also work. Child care by someone other than the parents becomes a necessity.

Military wives, 76% of whom are under 30 years old, must temporarily, repeatedly and singly make numerous parenting decisions without the support of their extended families and, frequently, in the temporary absence of the children's father. Child support services for this family also become a necessity.

Child care centers and programs on military installations can, and should, provide high quality services to support the special stresses of military life on children. Of necessity, the "nursery" has become as common to a military installation as its Exchange and Commissary. Some "nurseries" operate as private associations, most operate as non-appropriated fund instrumentalities. All have evolved from local needs rather than under a common set of guidelines and standards. As a result of this evolutionary beginning, each "nursery" has developed its own structure and program based upon its source of funding, the building it was given, and the qualifications of its staff. The predominant
kind of program which has evolved is a "babysitting" service. A 1976 U.S. Air Force study indicated that nearly 50 percent of the children enrolled in Air Force child care centers attend for 50 or more hours a week. This certainly is more than "babysitting" and requires serious attention to the developmental needs of the children in care. (Military Child Care Project)
WHAT IS DEVELOPMENT?

In common usage, development refers to changes in the child's abilities over time. A more precise—and more useful definition—is that development refers to increasing differentiation and integration of functions (Werner, 1949; cf. Hart and Moore, 1973). Furthermore, development refers to qualitative changes in the structural organization of behavior, not just to any changes like the quantitative accretion of specific knowledge (Piaget, 1963). That is, development refers to changes in any organism where parts, functions, or abilities become more refined, more numerous, more articulated, and more integrated with each other to allow the accomplishment of complex tasks. Thus development also includes increasing complexity, an increasing orientation to the "reality" of the situation, broader social horizons, and of course, greater intelligence and other specialized abilities.

The charts in this section are used by permission from Hart and Moore (1973), and Moore, Cohen, Oertel, and van Ryzin (1979).
Preschool children are developing in a number of fascinating ways. The most rapid developments between the ages of 6 weeks and 6 years are in the following areas (Huntington, Provence, and Parker, 1971; Cohen, 1974; Scavo, Liddell, Diffendal, and Lake, 1979; Scavo, Diffendal, Briscoe-Kleven, Lake, and Yarrow, 1979):

- development of individuality
- language development
- security, trust, and emotional development
- cognitive-intellectual development
- sensory acuity and perceptual development
- development of self-image, competence, and self-confidence
- social functioning including morals and cooperation
- large motor and fine motor development
- the development of personal style
These various developments may be conceptualized into three major areas of child development and overlaps between them:

- physical development
- cognitive-intellectual-perceptual development
- social-emotional development

All other particular areas of developments may be seen in this framework.
Play and plenty of opportunities for unstructured exploration are absolutely crucial to the development of the young child.

The term "play" has long been a linguistic wastebasket for behaviour which looks voluntary, but seems to have no obvious biological or social use. . . . Common-sense questions about any human behaviour do need answering. But they have to be "unpacked" before the behaviour can be studied in a way that precludes mere speculation. (Millar, 1968, p. 11)

Awareness of the importance of play in the life of the child has grown in recent years to the point where many new programs and environments are being created for children's play.

Research has shown incontestably that the playful behavior of children is critical for their development. The world's most respected child psychologist, Jean Piaget, has pointed out two complementary aspects of development which he termed "assimilation" and "accommodation" (Piaget, 1963; cf. Hart and Moore, 1973). These are technical terms for what teachers and parents refer to unstructured play and structured learning.

Much of the child's development occurs spontaneously from unstructured activities--play where the child is learning and growing from his or her own initiative, exploration, and discovery. Learning also occurs, of course, from structured and semi-structured situations as when parents are reading with their child, when child-care workers are showing a child a new set of colors or shapes, and in all school situations. Piaget's point, however, is that optimal early childhood development is arrived at by a complementary balance of unstructured play experiences interspersed with times of structured learning.

For the child, on the other hand, there is no sharp line between play and learning, between play and work, dreams and facts. The preschool child needs space to explore roles, rules, and social situations and opportunities to develop self-identity and confidence, and to fulfill creative and explorative needs.
THREE STAGES OF DEVELOPMENT

As development is not just quantitative accretion but rather structural changes in the organization of behavior, the child does not develop just by adding on more knowledge, but by passing through a series of stages or major periods of development. Stages evolve in the child in a fixed order of succession, that is, they follow an invariant sequence for all children, and each stage is characterized by behavior that is qualitatively different from that of the preceding stage. Each stage also integrates all behaviors possible at previous stages, consolidates them, and prepares for development toward the next stage (for more information on the nature of development, see Hart and Moore, 1973).

There are three major periods of development before adolescence that concern us with regard to preschool and after-school children. They are not strict divisions, but approximate categories for considering program offerings.

The Sensorimotor Period of Infancy

From birth of 1-1½ or 2 years is the period of infancy, the end point of which is normally defined for child-care purposes when the child is toilet trained, reasonably stable on his or her feet, and beginning to use language. This period is also known as the sensorimotor period of development, and is further characterized by the child changing from an organism capable only of reflex activity to an individual capable of coordinated actions and internalized thoughts. The child's intelligence is tied to actions and the beginnings of his or her ability to internalize these actions into symbolic thoughts marks the emergence of the next period.

The Preoperational Period of the Preschool Years

From approximately 2 to 5 or 6 years of age marks the preoperational, preschool period of development, during which the child is able to use language quite well, and is capable of internalized thoughts, i.e., representing the external world in terms of symbols and images and operating on these representations mentally; these internal thoughts, however, are far from systematic or coordinated, a charac-
teristic still to be developed at the next stage. For example, the child is able to manipulate spatial objects mentally without having to simultaneously manipulate them in his or her hands (and therefore is beyond the sensorimotor period), but is not able to accomplish what is known as reversibility, the ability to repeat a mental operation in the opposite order from the order in which it was first done (and therefore has not yet achieved the next developmental level). Most child-care programs divide the preoperational period into two sub-stages: toddlers (1-1½ or 2 to about 3) and older preschoolers (3 to 5 year olds).

The Concrete Operational Period of the Elementary School Years

From about 5 or 6 until 10 to 12 years of age, the child is passing through many intellectual, social, and emotional changes. Intellectually this period marks a decisive turning point. Forms of mental organization develop which allow logical thought in a systematic and coordinated way. The child's ability to perform what Piaget calls "concrete mental operations" is crucial.

Psychologically, an operation is, above all, some kind of action...rooted in the sensorimotor schemata....

Before becoming operational, they constitute the substance of sensorimotor intelligence, then of intuition (preoperational intelligence)... Intuitions become transferred into operations...which are both composable and reversible, when two actions of the same kind can be composed into a third action of the same kind, and when these various actions can be compensated or annulled. (Piaget, 1960, pp. 48-49)

As a result of this formation of reversible intellectual operations, the child no longer fuses or confuses his or her own viewpoint with that of others; he or she is able to differentiate and coordinate different points of view. This is a progression from the egocentrism of the infant and young toddler
to the perspectivism of the pre-teenager. In turn, this perspectivism allows the school-aged child to engage in complex social relationships, understand rules of games, understand complex morality, ethics, and so on.

The elementary school years are also a period of rapid emotional development. However, this is a period or relative rest in bodily and psychosocial development between the development of personality and a sense of personal stytle during the preschool years and the rapid physical, sexual, and emotional changes of adolescence.

Although these are the three overall stages or periods of development from infancy through 11 or 12 years of age, each specific area of development passes through its own particular stages. For example, referring to the above tree diagram, the child's development of awareness and knowledge of the physical environment passes through three primary stages from infancy to about the age of 9 (Moore, 1976).

The development of the child's sense of morality, of his or her understanding of the rules of games, and even perceptual development and the understanding of basic colors and shapes pass through very particular stages (see the accompanying chart for a summary of some of these developments).

Though it is necessary for qualified childcare workers to know about each of these areas of development and their stages and how to stimulate children from one stage to the next, it need not concern us further in this Design Guide. (Basics of child development are covered very thoroughly in other publications, including the recent series of staff development modules produced by the Military Child Care Project—see Scavo et al., 1979a, 1979b, forthcoming; see also Huntington et al, 1971; Cohen, 1974; Cohen, Parker, Host, and Richards, 1972.)
<table>
<thead>
<tr>
<th>AGE</th>
<th>MOTOR DEVELOPMENT</th>
<th>COGNITIVE DEVELOPMENT</th>
<th>SOCIAL-EMOTIONAL DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>birth</td>
<td>creeping reflex, walking reflex --grasping reflex</td>
<td>reflexes, some ready for experience</td>
<td>helpless, asocial-general tension</td>
</tr>
<tr>
<td></td>
<td>head sags--hands fist</td>
<td>first acquired adaptations</td>
<td></td>
</tr>
<tr>
<td>1 mo</td>
<td>control of eye muscles, head steady; --hands open</td>
<td>begins active exploration, perceptual--motor coordination of earlier reflexes, reproductive imitiation</td>
<td>visually fixates a face--smiles at a face--delight, distress</td>
</tr>
<tr>
<td>3 mo</td>
<td>control of head and arm movements; --grasps purposively, with hand and palm</td>
<td>new adaptation: through familiar schemes, learn to grasp an object to produce effects; the object becomes an extension of the hands</td>
<td>distinguishes between familiar persons and strangers, no longer smiles indiscriminatingly-specific emotional attachment to mother</td>
</tr>
<tr>
<td>1 yr</td>
<td>control of trunk and hands; sits alone, creeps--inferior forefinger grasp</td>
<td>observational learning, imitates actions of others, explores what an object permits him or her to do</td>
<td>enjoys simple nursery games, responsive to own name--anger, affection</td>
</tr>
<tr>
<td>13 mo</td>
<td>control of legs and feet, stands, walks with help--forefinger grasp</td>
<td>discovery of new means by active experimentation, discovers new &quot;means schemes&quot; to use in goal-directed action sequences</td>
<td>waves &quot;bye-bye&quot;, gives and takes object--fear of strangers, curiosity, exploration</td>
</tr>
<tr>
<td>2 yr</td>
<td>walks, throws a ball--builds 2-3 cube tower, makes lines on paper with crayon</td>
<td>trial and error exploration, invention of new means through mental combination</td>
<td>obeys limited commands, interested in his or her mirror image--dependent behavior, upset when separated from mother, negativism</td>
</tr>
<tr>
<td></td>
<td>runs, kicks a ball--builds a cube tower--imitates circular stroke</td>
<td>discovers new means through a covert process which amounts to internal experimentation, an inner exploration of ways and means instead of overt trial-and-error exploration, shows increased memory by imitating an act some time after having seen it</td>
<td>does opposite of what he or she is told, starts making friends--temper tantrums to 3 years, resentment to new baby</td>
</tr>
<tr>
<td></td>
<td>jumps off a step, rides a tricycle--builds a 9-10 cube tower, uses crayons</td>
<td>preoperational phase (2-4 years); child egocentric, unable to take viewpoint of other people, classifies by single salient features: if A is like B in one respect, must be like B in other respects, language &quot;explodes&quot; and through the way opens for symbolic mental activity, but the symbols used are rather undifferentiated totalities</td>
<td>talks, uses &quot;I, me, and you&quot;, dependent, parallel play, gives orders, inability to make decisions--fear of separation, violent emotions, differentiates facial expressions of anger, sorrow, and joy, sense of humor</td>
</tr>
<tr>
<td>4</td>
<td>stands on one foot, jumps up and down --draws a circle and crosses</td>
<td>intuitive phase (4-7 years); thinks in terms of classes, sees relationships, forms number concepts, but is &quot;intuitive&quot; because he or she is unaware of classification, gradually develops conservation in this manner (5 years), weight (6 years), and volume (7 years), uses adult speech sounds, masters basic grammar</td>
<td>likes to share, uses &quot;we&quot;, cooperative play with other children, intense curiosity, asks questions-affectionate towards parents, romantic attachment to parent of opposite sex, imaginary fear of dark, injury, etc.</td>
</tr>
<tr>
<td>5</td>
<td>jumps rope--assisted--adopts precision in use of tools, copies letters</td>
<td>prefers play with other children, becomes competitive--responsibility and guilt, feels pride in accomplishment</td>
<td>independence of parents--basic emotions all established</td>
</tr>
<tr>
<td>6</td>
<td>jumps rope alone--copies numbers</td>
<td>clubs, comic books, TV, friends become more important--emotions continue to develop in subtlety and communicative richness</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>constantly busy, acquires--practices and refines gross motor and fine motor skills</td>
<td>concrete operational phase (7-11 years); less egocentric, is able to go back to the starting point, for example to count from 10 to 1, behavior becomes differentiated in taking consideration of the totality and parts, realizes that there are logical necessities, organizes objects into hierarchies</td>
<td></td>
</tr>
</tbody>
</table>
PHILOSOPHY OF CHILD CARE

There are many who believe that staying home with their parents would be better for children than days in child care. Others, however, especially those concerned with the early development of children in areas of poverty, accepting a cultural deprivation hypothesis, or realizing the potential which a creatively organized early childhood development program can offer a child, welcome the opportunity to introduce preschool children to group educational settings. There is a built-in logic to this point of view which attributes later development to the quality of early experience.

Most parents provide a child with extraordinary opportunities for learning and development. Through their daily concern and care, they know how to respond to their child: they know when to step in to provide encouragement or protection; when to stay at a distance and allow their child to test capacities and to develop new skills; when to shield their child from something sad or worrisome, and when to give him or her the chance to deal with new anxieties. It's hard to grow up, but most parents know intuitively how to handle many crises of growing up.

Thus one of the major philosophies of child care is an extension to the family, modelling the child-care situation after the family, but recognizing certain limiting conditions, like the numbers of children involved (e.g., see Cohen, 1974).

An alternative philosophy stresses the group care is different in significant ways from the model of a good home (e.g., Prescott, Jones, and Kritchevsky, 1972).* This view holds that a child-care center should offer young children a protected environment scaled to their developmental level and designed to promote experience of mastery through play within a child-sized, manageable world, that is, that

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* It may be that Elizabeth Prescott has slightly altered her view since 1971-72, as she stated to the authors that in a 1978 interview that as a model for child-care facilities, designers should "keep in mind how a home works" (see Travel Report, 1978, p. 378).
a child-care center should not try to replicate the adult scale and expectations of a home, but rather try to balance the child's on-going home and community life which takes place in an adult-sized, complex urban environment full of larger problems, emotions, and demands.

These two philosophies, voiced by major figures in the child-care field, are not as contradictory as they at first might seem. As Prescott et al. point out, the longer the day for children in group child care, the more home as well as special school characteristics should be incorporated into the program—and presumably, into the physical environment. It is possible, furthermore, to structure a program and its physical setting so there are aspects which are very child-scaled and simplified from the complex outer environment and so there are other aspects which are adult-scaled, complex, and demanding. This is, in fact, one of our major design recommendations (see the pattern called PACED ALTERNATIVES in TM-5-803-11, forthcoming, and CHILD-SCALED ENVIRONMENTS below in this Design Guide).

FUNCTIONS

There are five major functions of child-care programs:

- Care: Both assisting families by caring for children when parents need to be elsewhere, working, shopping, or just having a few hours by themselves, and assisting children by meeting their basic needs of health, physical well being, and safety.

- Extension of the Family: A supplement to, not a substitute for, the family as the primary agent in the care and development of the child. Quality child care extends and supplements the parents' care in a way consistent with the values and goals of the child's family and culture. In fact, quality child care can strengthen the child's basic attachment to parents and sustain them as the prime force in his or her personal development (Cohen 1974).
• Aid to Development: Developmental services typically reflect knowledge and understanding of the fundamental needs, growth, and development of children, and provide experiences which promote the child's physical, social, and intellectual development. As we have seen, the years from 3 to 6 are an optimal period for mastering certain developments, and the period of infancy through about 3 years of age is an optimal period for helping to initiate early experiences and developments which will greatly influence the child's later overall development as an older child and eventually as an adult.

• Family Support: Quality child care can offer many supports to the family as a whole. These typically include not only time for one or both parents to have alone, or to work and bring in additional necessary income, but also includes other forms of family support like prenatal advice, child birth classes, parenting skills and advice, family counseling, well-baby clinics, toy lending libraries, food or clothes cooperatives, financial counseling, and so on.

• Intervention: Other child support services which can be provided through a child-care center, or immediately adjacent to it if it is embedded in a community services center, include diagnostic and intervention services. Child care can function as one component of a system of supports to the family, together with such components as social service programs, health programs, and programs to increase employment. The intervention function of child care is particularly important for three groups of children (Cohen, 1974): children who are vulnerable developmentally through special circumstances of birth, physical endowment, or difficult early life experiences; children who are handicapped mentally, physically, or emotionally; and those from families who live in poverty, not all of whom require child care, but many of whom lack the healthy and developmentally sound environment that quality child care can provide. A quality child-care program, supplemented with itinerant professionals, can identify
the children of a community needing extra help, can assess their needs, can make special services available to them, and can involve the parents and help to strengthen the family.

DANGERS OF CHILD CARE

There are, however, also possible dangers to child care. The most obvious dangers are that the child may be neglected, abused physically or emotionally, be in an unsafe building, or exposed to unhealthy or unsafe conditions. But as Cohen (1974) points out, there are other, more subtle dangers:

- some unusually sensitive children have difficulty separating from their parents
- some have trouble accommodating to group activities
- some with developmental difficulties may find it even harder to progress in the relatively hurried, tense atmosphere of many child-care centers
- exposure to more aggressive children may be stressful for many children
- breaks in continuity which occur when caregivers change
- children may withhold their emotions and become suspicious of adults, or they may learn to make only superficial attachments

Of course, all of these dangers can be turned around into advantages by sensitive staff in a quality program. For example, children may be encouraged to be more cooperative, to begin to understand their differences with other children, and to find ways other than fighting to express their feelings and come to resolutions of conflicts. Or children may begin to learn that some adults are constant, like a head teacher in a home base (see the pattern HOME BASES FOR 8-16 CHILDREN below), while others are friends who come and go.
THE RELATION OF
THE PHYSICAL
ENVIRONMENT TO
QUALITY
CHILD CARE

There is considerable research from the emerging interdisciplinary field of environment-behavior studies, and from the study of child-environment relations in particular, that space plays an important role in education and in early childhood education (e.g., David and Wright, 1974; Coates, 1974; Gump, 1975; Prescott, 1973; Prescott, Jones, and Kritchevsky, 1972; Prescott and David, 1976).

Recently, the first author of this Design Guide has put forth the beginnings of a Piagetian-based theory of the role of space in child development (Moore, forthcoming). Piaget (e.g., 1963 and other works) has shown us that the motivation for development and the motivation to interact with the environment exists in all children. He has also shown us that development is a process whereby the child changes the environment and in turn adapts to changes the environment places on him or her.

Children learn through a series of interactions with the social and physical environment—the staff, the curriculum, and space. The child is not a passive object being bombarded by stimuli. The child is an active agent in his or her own development—exploring, discovering, testing, trying things out, imitating, fantasizing, developing. In all of this, he or she is not only interacting with the social environment of people, staff, and other children, but also with the physical environment of the site, architecture, furniture, and materials available. Development occurs when a child observes the consequences of his or her personal actions upon materials and and events. But the quality of these interactions depends upon the possibilities for engagement which the environment provides.

Here is the implication of this theory for design and the rub for architects, landscape architects, interior designers, engineers, and all who make the physical environment of a child-care center—or any other children's environment: to maximize the possibilities for engagement in all its forms between the child and his or her total environment, physical and social.

Expanding on this position occupies the remainder of this Design Guide.
The range of program options available to child care directors, staff, and parents can be discussed in terms of types of programs, ages accommodated, variations in scheduling, roles of other people and age separation or mixing, and different program structures.

There are basically four types of child care programs:

- Custodial Child Care Programs—such programs emphasize the care of the child, basically amounting to babysitting either for individual children or groups. Only the immediate needs of the child are considered, overall well-being, health, safety, "something to eat, and some sort of activity to pass the time" (Cohen, 1974, p. 1).

- Developmentally-Oriented Child Care Programs—providing a range of developmental opportunities for social, intellectual, and physical development within a context of security, trust, and care. To insure that these opportunities are provided, quality developmentally-oriented programs employ trained caregivers, have appropriate materials, have well-conceptualized "curricula", program structures, goals, and activities, use the services of consultants in health, education, nutrition, exceptional education, and other fields, and recognize the role of their facilities and upgrade them whenever possible.

- Formal Preschools (also called Nursery Schools)—usually only for 4 and 5 year olds, formal preschools or nursery schools are academically-oriented educational programs usually only available part time. They stress intellectual, social, and emotional development, but as the child is only in a formal preschool half days, they usually assume that the parents will be able to provide for health, nutrition, and all other needs. Thus Cohen (1974) concludes that a formal preschool is not as broad as developmentally-oriented child care, but that developmental child care includes the essential elements of a nursery school, though in many cases in a less academic atmosphere.
Comprehensive Child Support Programs—providing many varied curricular activities, services, and opportunities to children and their families. The purpose is to support family life in the broadest sense, including quality child care, daily counseling, health and nutritional services, and other community services aimed at meeting the needs of the whole family, children paramount.

**AGES ACCOMMODATED**

Typically child care programs accept children either from 2-1/2 or 3 to school-entering age or from 6 weeks to school-entering age. Many programs also accept after-school latch-key kids, that is, children whose parents are not at home after elementary school, or who wish a semi-structured peer group situation between school and family.

Within this range, the following are the usual breakdowns of ages (based in large part on staffing ratio requirements):

- **Infants**
  - 6 weeks
  - 1-1/2 or 2

- **Toddlers**
  - 1-1/2 or 2
  - 3

- **Preschoolers**
  - 3
  - 5 or 6

- **After-Schoolers**
  - 5 or 6
  - 12

Military child care centers will accommodate all of these ages in proportion to their total in the installation population.

**SCHEDULING**

There are four basic scheduling patterns:

- **Full Day:** Some or all children attend for a full day, e.g., as many as 11 hours (the parent's 8 hour working day plus commuting time if the principal caretaker is working off base).

- **Part Day:** Some or all of the children attend for part of a day, typically a half day, morning only or afternoon only, but on a regular, scheduled basis.
• Drop In: Some or all of the children attend on a drop in, non-scheduled basis, perhaps only having to give 30 minutes notice, or perhaps actually being able to drop in without any prior arrangements or notice.

• Flexible Scheduling: Some or all of the children attend on a scheduled basis, but for different total number of hours as suits their needs, e.g., some children attending only Monday and Friday mornings, others only Tuesday and Thursday mornings, still others at particular times, but always on a prescheduled basis.

Most quality child care centers have a combination of these scheduling patterns. In fact, flexible scheduling includes both full-day and part-day scheduling possibilities for some children, while other children come for lesser periods of time. Thus most centers combine some form of pre-scheduled children with some drop in children.

It is expected that quality military child care centers will include both flexible scheduling (including some full- and some part-day children) with extensive drop-in possibilities.

The intricacies of scheduling pros and cons and their impact on child care and development, on staffing, and on expenses and financing, are too detailed and complicated to be discussed here. They are discussed in detail in the series of staff development modules being produced by the Military Child Care Project (see Scavo et al., 1979a; Scavo et al., 1979b; and forthcoming).

ROLE OF OTHER PEOPLE

Another dimension along which child care programs differ is the role of other people, most notably parents. Here the options range from simply having parents drop their children off and pick them up from a "waiting room" to operating a co-op center where parents and staff work collectively or organize the program and offer services to the children.
It is commonly felt that quality child care programs involved the parents to a large degree (e.g., Cohen, 1974; Prescott and David, 1976). In an official HEW Office of Child Development publication, Cohen says:

For many parents and probably for most programs, parent involvement in day care might better be seen as a right than an obligation. Whatever is expected of parents in the program must be sensibly weighed against the other demands on their time and energy. However, when a day care program is open to parent involvement in a free and easy manner and when parents are invited to participate as much as they are able, even overworked mothers and fathers are often eager to share in the work and responsibility of starting and operating a day care program. When they do, not only their own children but the entire program will benefit. (Cohen, 1974, p. 63)

And again:

Parent involvement is as much a component of quality day care as curriculum, staff, or facilities. And, like the other components, parent involvement should be integrated with the entire program. (Cohen, 1974, p. 63)

This Design Guide builds on this recognition and makes several design recommendations to encourage parents into the center and to facilitate their involvement in the program.

There are three types of separation or mixing to be considered as regards the children:

- Separation or mixing of drop-in children with more regular children, e.g. half- or full-day children
- Age separation or mixing of different ages
- Separation or mixing of formal preschool children with child-care children
In conducting brief case studies at selected military and civilian child care centers (see Travel Report, 1978), it was found that all seven military sites visited had programs for infant care, full-day child care, and drop-in care, and six of the seven had after-school drop-in care, though this was hardly used at several of the sites. The pattern was similar for civilian centers, though the smaller centers tended to concentrate on scheduled half-day or full-day care, not drop-in care.

Only one base, Ft. Meade Child Care Center had separate spaces and staff for full-day versus occasional drop-in care. But where opinions were expressed, the other directors consistently felt that the demands of part-day and drop-in children were vastly different from and took their staff away from working more attentively with full-day children. The best aspect of the program at Ft. Meade in the eyes of its director is the separation of casual users from full-day users. Conversely, at Ft. Hood, the problem of mixing full-day with drop-in care was mentioned vociferously. Thus the research of the authors indicates a very strong preference for separate programs, staffs, spaces, and entries for regular, scheduled care versus drop-in care. This finding is consistent with expressed civilian opinion (see the pattern called SEPARATE SPACES FOR DROP-IN CARE).

The question of separation or mixing of different age groups is a different issue, for there is strong evidence accumulating in the child development literature of the benefits of cross-age learning, i.e., older and younger children learning from each other. But at the same time, there is awareness that certain activities of older children can be dangerous, or at least distractive, to younger children (e.g., chasing games near an infant's crawling area). The common resolution is to provide somewhat separate spaces and program options for older versus younger children, but to also provide plenty of program opportunities and transitional spaces where different age groups can be together under appropriate supervision (see the pattern ZONING: THE INFANT-TODDLER-PRESCHOOLER CONNECTION).
There is common agreement, however, that after-school programs should have a separate space and character from the rest of the child care operations (see Travel Report, 1978, p. 376-377; see also the pattern called A SPECIAL PLACE FOR AFTER-SCHOOL DROP-INS).

There are differences of opinion regarding the relative advisability of incorporating formal preschool programs (where they exist) into the same building as less-formal, developmentally-oriented child care programs. The point has already been made that a developmentally-oriented child care program is not different in terms of potential for most areas of child development from a formal preschool program, only that the program philosophies and structures vary and the child care program also includes a broader range of child support services. In favor of integration are ease of movement of children from preschool to child care for the second half of the day, shared resources, and interaction of children in outdoor informal spaces. In favor of separation are the possible confusions from too many children at one site, and bureaucratization if too much structure is applied to a large omnibus program. Our recommendation, therefore, is the following (made in Travel Report, 1978, p. 379): where several different programs are offered for early childhood development such that the total number of children served is greater than 75, they can benefit from proximity in a village or campus arrangement. The campus might then include a formal preschool program and facility or wing, special resources for handicapped children if necessary, an after-school center, and one or more child care modules, perhaps one for regular full-day care and one for drop-in care, etc. It is important, however, that these modules in the campus or village plan have separate identities, separate staffs, and separate program directors (see CAMPUS PLAN FOR VERY LARGE CENTERS).

**PROGRAM STRUCTURES**

Basically there are two distinct approaches to early childhood education. All variations are modifications of the models (Evans, Shub, and Weinstein, 1974):

- Highly structured, teacher-directed
- Free choice, child-directed
The highly structured, teacher-directed program is characterized by specific objectives carried out under the direction of the teacher. In this model, adults set predetermined goals for children and plan specific lesson plans through which such goals may be achieved. Predominantly cognitive in nature, it emphasizes preparing children for school, and thus is little different from a formal preschool (Evans et al., 1974).

The free-choice, child-directed program is characterized by allowing the child to direct his or her own activities according to his or her own individual inclinations. Adults set the stage carefully in this model, then act as resources to the children rather than as initiators of programmed lesson plans. All activities, including play and so-called child care activities like diapering, eating, napping, are regarded as having developmental and learning potential.

Of military child centers studies (see Travel Report, 1978) all were predominantly of the child-initiated type, though several included periods each day of structured academic learning. No center followed a particular developmental theory: the names of Piaget, Montessori, Skinner, and the human potential movement were all mentioned. All of the centers could best be characterized as child-initiated, happily eclectic.

The patterns at 32 civilian centers visited was the same. All 32 were developmentally-oriented, and all were primarily child-initiated in program structure. None followed any single orthodoxy, though most were influenced more by Piaget, Montessori, and other theorists emphasizing the interaction of the child with the social and physical environment than they were by strict behaviorism or laissez-faire nativism. No center visited followed either a strict, academic program or a behavior-modification program, though all had elements of structured learning situations and some behavioral modification in their day. Most centers stressed child-initiated and spontaneous behavior with staff members being arrangers of interest centers, resource persons, facilitators, and guides for development.
Based on this research, our recommendation is the following (as stated in the Travel Report, 1978, p. 388): most child care programs should be eclectic in program and philosophy. They should combine a number of theories and approaches to early childhood development. They should emphasize child-initiated activities, and should include brief periods of more staff-structured learning or structured academic learning, the use of interest centers, high degrees of child-adult interaction, and engaging environments.

Having decided upon the overall type of program to be offered, program structure, scheduling alternatives, and age groups to be served, people involved in establishing a child care program and center will next wish to choose a range of more specific developmental goals to be stressed in the program, and activities to implement the goals. For more information on the range of program options, especially more subtle models of child care structuring between the child-initiated and staff-structured models, see Cohen (1974). For procedures for selecting developmental goals and activities, and in turn for selecting design patterns to support the goals and activities, see the chapter on Program Development.
There is common agreement that no one type of child care facility is suitable for all children and all family situations. Rather a comprehensive child support system can make available a range of types and locations of facilities and can coordinate them into a network of child support services for a community or installation.

The four major types of child care facilities on military bases are discussed below, including their main advantages and disadvantages:

- **Center-Based Child Care Facilities**, also simply termed Child Care Centers:
  - specially designed for child care needs
  - easier to recruit highly trained personnel to work in centers than in other types of facilities
  - centralized budget for staff and supplies
  - more economical to use specialists and consultants
  - centralized curriculum
  - high image in the community
  - since it does not usually resemble a home, transition may be more difficult for younger children
  - easy monitoring of the program
  - can be work-based
  - numbers of children and staff involved requires a high degree of organization, and the rules and procedures needed to ensure efficiency may make center-based care the least flexible and least responsive to family and children's needs

- **Neighborhood Child Care Centers:**
  - often used by children of families who are friends of each other
  - have easy access, and less time wasted commuting
  - walking to them is "intimate to the schema"
  - have relatively good supplies
  - easier to involve parents than in a large center-based facility, and thus can be a more active part of the community
Family Child Care Homes:
- setting is a private home, which is more natural for younger children
- neighborhood location
- possible to get trained workers
- particularly good for handicapped children who may need close contact with a caregiver
- flexible and informal
- important advantages for neighboring
- homes may not meet the state requirements for child care centers, or may require modifications
- keeps children of the same family together
- even after modifications, play space is likely to be more restricted than in a center
- monitoring of care and development is easier than for in-home care, but more difficult than for center care

In-Home Care:
- simplest and most flexible for parents as it simply is care given by a relative, family friend, or a hired "babysitter" in the child's own home
- all arrangements are centered on the needs of that one family, and the caregiver may also do housework or cook for the family
- difficult or impossible to provide in one home all the services that could be provided in a neighborhood center
- children have less opportunity for group interaction, variety of experiences, and play space, materials, and equipment may be very limited
- as trained caregivers are unlikely to work in this situation, the caregiver likely sees himself or herself more as a babysitter or household help than as a child care professional

A fifth option is actually a combination of the advantages of each of the above:

Network of Child Care Facilities: in a study commissioned and published by the U.S. Department of Health, Education, and Welfare, Donald Cohen (1974) recommends that communities and towns establish a comprehensive child-
care network combining one center-based facility, a few neighborhood child care centers, and several family child care homes. Such a comprehensive child care network can have centralized administration, purchasing, curriculum guidance, etc., with satellite neighborhood and family child care facilities using their own resources plus resources available from the center-based facility and the rest of the network. Such a plan has been found in a number of case studies reported in Cohen (1974) to achieve the organization and financial efficiency of large centers and the intimacy and community contact of small, neighborhood-based centers. In a well-planned network, emphasis is on central coordination of functions (purchasing, hiring, curriculum, consultation, diagnosis, health and safety standards, etc.) while most of the children are actually in medium size neighborhood centers or family day care homes. Thus the advantages of both large centralized facilities and small decentralized facilities are combined, while eliminating most of the disadvantages of both. Diversity and choice, consistent with quality care and concern, are thereby assured.
INTRODUCTION

Regulation in the child care field, as in many others, began as a response to serious abuses. In the late 19th and early 20th centuries, the number of public and private institutions gave little attention to the qualifications of their staff and were characterized by poor sanitation, poor nutrition, and so on. Early regulation was mainly concerned with the basic physical safety of the children in these homes and was directed toward the shortcomings of the health, welfare, and facilities (Cohen, 1974).

In the early 1960's, States of the Union began to regulate child care through licensing. However, like the old time laws, most of these regulations are oriented more toward base minimums of physical facilities and safety than toward setting standards for maximizing the developmental potential of the children. The military now also has a set of regulations for child care, Chapter 8 of AR 608-1, but again these focus heavily on minimum standards for health and safety, with less attention given to creating optimal conditions.

Advanced nutritionists have always said that the U.S. minimum daily requirements for various foods, vitamins, etc., are just that--minimum requirements; adhering to them will prevent sickness, but it may not lead to good health. The same is true for most child care regulations.

This Design Guide and the Staff Development Modules being prepared by the Military Child Care Project are exceptions to this pattern, in that both efforts are aimed clearly at maximizing the developmental potential of every child, both through creative, developmentally-oriented programs and staff, and through supporting and stimulating physical facilities.

TYPES OF STANDARDS

For military child care, there are three levels of standards which apply to child care programs and facilities:

- Military regulations--standards for child health and safety protection at any military facility offering temporary care for children, e.g., AR 608-1, Chapter 8 for the Army. These regulations--equivalent to state licensing requirements--represent the basic
floor of protection for all children in child care centers and family child care homes. State and local building codes for child care centers (sometimes under "educational occupancies") are other regulations which must be followed to allow occupancy of any new or renovated facility.

- Standards set by public funding agencies—these standards set a higher quality level as a condition for subsidy, and are often more focused on developmentally-oriented activities and professional qualifications of staff, e.g., the Federal Interagency Day Care Requirements (FIDCR). As stated in Prescott and David's (1976) recommendations for revision of the FIDCR, such standards assume basic regulations for health, building or fire safety, and thus are aimed at features which are important for child development. We would include the present Design Guide and accompanying Technical Manual on outdoor play environments (TM 5-803-11) in this second level of standards, in as much as they are focused on development and adherance to them is required for capital improvements to be done to military installation child care centers.

- Standards for voluntary accreditation—a third level of quality, a set of standards which are the ceiling, to be continually raised over time, e.g., accreditation by the Child Welfare League of America.

- Since the first printing of this monograph, there have been many additional regulations, standards, and guidelines promulgated for child care facilities. The base-line regulations are the building codes that apply for the jurisdiction in which the child care center is to be built (or renovated, expanded, etc.). If the child care centers is to be licensed, then the relevant state day care licensing regulations also apply. Voluntary accreditation is still available; it has been formalized in the U.S. through the National Association for the Education of Young Children's Academy for Early Childhood Programs. There are in addition, several design
guidelines which are recommendations put forward by agencies for the design of child care centers under their jurisdiction. Some are more compulsory than others (like the City of Vancouver Planning Department's Childcare Design Guidelines [1993] which must be met for any new or renovated child care centre requiring a zoning variance). Others include the Commonwealth of Massachusetts' *Architectural Prototype Document for Day Care Centers in State Facilities* (1987), the American Association for the Care of Children's Health *Child Health Care Facilities Design Guidelines* (1987), the GSA *Child Care Center Design Guide* (PBS-PQ140, 1993) which apply for all child care centers in federal and other buildings managed by the U.S. General Services Administration, the Child Welfare League of America's (1992) *Standards of Excellence for Child Care Services*, and the American Public Health Association/American Academy of Pediatrics (1992) *National Health and Safety Performance Standards* for out-of-home child care programs.