Augmentative Communication News

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INSIDE THIS ISSUE . . .

UPFRONT

The traditional sections of *Augmentative Communication News* are replaced in this issue by articles that relate to the time required to deliver various types of AAC services and ways AAC programs in different settings allocate caseloads. A famous industrialist once said, "Time is money." In today's service delivery climate, knowing more about the time it takes to deliver AAC services and the number of cases we can reasonably be expected to handle is essential. A growing demand exists worldwide for augmentative and alternative communication (AAC) services and related assistive technologies (AT). Concurrently, those who pay for AAC devices and services (*e.g.*, government agencies, insurance companies, consumers) are growing increasingly concerned about the "costs of care." In the United States, for example, where health care seems ever more market driven, some AAC and AT programs have "disappeared." The climate has also changed in England, Canada, and Sweden.

It seems we have several problems to solve. One is the perception that AAC is an "auxilliary service." In an article published *(continued on page 2)*

What do SLPs do? ASHA 1995 survey

In its most recent Omnibus Survey of certified speech-language pathologists (SLPs) employed full time, the American Speech-Language-Hearing Association (ASHA) reported the caseload characteristics of SLPs serving the needs of persons with different types of communication problems, including those who are nonspeaking.[2] The results were a welcome surprise. A majority of SLPs now serve nonspeaking people. The survey is described below:

> Questionnaires were sent to certified SLPs in the U.S. asking for size of caseload, types of disabilities served, individual vs. group therapy, and so on. Respondents included 467 therapists in schools, 130 in hospitals, 124 in residential health care facilities, 84 in nonresidential health care facilities and 28 in college clinics. **Schools** were defined as special day, special residential, pre-elementary, elementary, secondary, or combined school settings. **Hospitals** included general medical, psychiatric, rehabilitation, pediatric and others. **Residential health care facilities** were nursing homes, hospice, mental retardation/developmental disabilities/learning disabilities, psychiatric, physical, diagnostic/treatment residential center/facility. **Nonresidential health care facilities** were defined as home health agency, client's home, HMO, private physician's office, speech-language pathologist's or audiologist's office, private practice, speech and hearing center/clinic, outpatient rehabilitation center, ambulatory care center, Eye/Ear institute. **College/university** sites referred to community, undergraduate and

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UPFRONT (continued from page 1)

by the American Speech-Language Hearing Association (ASHA), Lynn Sweeney said:

It is not uncommon for others to view our goals as ancillary rather than primary; to support our programs with soft, rather than hard money; and to consider our budgets excessive rather than progressive.[1]

Communication underlies and defines the human experience. Being able to communicate is a medical and educational necessity and a "necessary service." Unfortunately, many AAC practitioners have not moved beyond testimonials to document the functional outcomes of the people they serve and the related benefits accruing from AAC services and devices. This makes it more difficult to convince funding agencies to pay for AAC services and devices.

In this issue speech-language pathologists, particularly those working in the area of AAC, are highlighted. For example, the first article provides information about the caseloads of speech-language pathologists who are members of the American Speech-Language-Hearing Association. The second article addresses how SLPs in schools and health-care settings perceive their competency to deliver AAC services. Thanks to those listed on page 8 for their thoughtful contributions to this issue.

We know that AAC devices and services can effectively enhance communication and increase an individual's active participation in family, education, employment and community. In today's political and economic environment, where cost savings and accountability seem to rule, we need to approach the costs of AAC services directly, responsibly, and in ways that reflect both a realistic understanding of client needs and the realities and constraints of employment sites. Time and money are related. Knowledge can lead us to more efficient and cost effective ways to deliver AAC services.

Sarah Blackstone, Ph.D., Author

What do SLPs do? *(from page 1)*

graduate, undergraduate only and graduate only programs.

Many of those surveyed reported they regularly serve clients who are nonspeaking (69% of SLPs in nonresidential care facilities, 63% in residential health care facilities, 60% in hospitals and 59% in schools.) Respondents indicated that nonspeaking clients represented between 12% and 19% of the individuals on their caseloads. They ranked nonspeaking clients seventh out of the seventeen groups they said they regularly serve. Ranked higher were: Childhood language disorders (37%), articulation/phonological disorders (33%), swallowing (32%), aphasia (28%), apraxia of speech (28%), and dysarthria (16%). Ranked lower were attention deficit hyperactivity (12%), traumatic brain injury (11%), hearing (8%), autism (8%), voice (7%), fluency (6%), and so on.

Note: Many graduate programs continue to emphasize fluency and voice despite the relatively low prevalence of these disorders in the "real world" of SLP service delivery. Interestingly, relatively few SLPs (38%) who work in college/university settings said they provide services to nonspeaking persons. If university clinics do not provide opportunities for student trainees to learn to serve the people they are most likely to encounter on the job, then students are not being adequately prepared.

Time on the job

According to the ASHA survey, speech-language pathologists spend an average of 5.5 hours a day in direct contact with clients and 2.2 hours each day carrying out administrative duties. [Note: School SLPs reported spending slightly more time proportional to other groups in direct patient contact (5.7 hours) and less time than other groups on administrative tasks (1.9 hours).]

More specifically, a typical SLP spends an average of 62% of work time doing direct client care, 10% on program administration and management, 6% on screening/prevention, 6% on consultation, 5% on supervision and coordination, 5% on teaching, and the remaining time on research and other activities. Of course, this varies across settings.

Caseload

The average (mean) *monthly* caseload size of the SLPs responding to the survey varied significantly according to their worksite. For example, SLPs in schools said they serve 52 different clients in a representative month, while SLPs in residential care facilities serve only 18 patients per month. Typical monthly caseloads for other settings were: 34 for nonresidential care facilities, 32 for hospitals, and 19 for colleges/universities. These data indicate that SLPs in schools have significantly higher caseloads than SLPs in other settings.

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The number of *individual* evaluation or treatment sessions reported per month varied from 45 (for SLPs employed in schools and university settings) to between 88 and 99 for SLPs working in residential health care facilities, nonresidential health care facilities and hospitals. On the other hand, SLPs working in schools reported doing more *group* therapy than other SLPs (*i.e.*, 62 group therapy sessions per month compared to nine group sessions or less in other employment sites). Thus, the total number of SLP therapy sessions per month is similar across all settings except universities.

Summary

Unfortunately, the study does not provide information about the focus of therapy with different populations or the location of therapy sessions (*e.g.*, therapist's room, classroom, recreational area, home, community). The results do suggest, however, that children in schools receive comparatively less intensive intervention than people with communication problems in all other settings.

Most importantly, the 1995 Omnibus Survey results clearly demonstrate that AAC is now a mainstream clinical service for speech-language pathologists. This represents a significant increase in the amount of attention the profession is giving to people with severe communication impairments. That is very good news. However, the survey also leaves unanswered questions about the nature of the services being provided, the qualifications of those currently serving "nonspeaking clients," and whether today's SLPs are being prepared for the realities of the work force. The next article suggests we have reasons to be concerned.

Two Nebraska surveys: Schools & health-care settings

Researchers in Nebraska conducted two surveys to find out more about AAC service delivery in that state. The goal of the surveys was to learn the degree to which speech-language pathologists (SLPs) needed continuing education in AAC. Dr. Julia King[3] focused on SLPs who work in health-care settings. Dr. Ken Simpson[4] queried SLPs who provide services in schools.

These researchers caution that their results may not represent AAC activities outside Nebraska. It is noteworthy, however, that their results support the ASHA Omnibus survey results, *i.e.*, a majority of SLPs in schools and health-care settings have clients with AAC needs on their caseload.

AAC Caseloads

According to the results of both surveys, SLPs were most likely to have one AAC client on their caseload. The average number of AAC clients for school SLPs was 5.8 students, with a range from 1 to 78. The range of AAC clients reported on the caseloads of SLPs in health-care settings was from 1 to 25 (active) or 1 to 50 clients (monitoring).

Perceptions of competency

Researchers asked how SLPs perceived their current level of competence in AAC. Included were questions about assessment, treatment, consultation with caregivers and professionals, and funding. Most SLPs rated their competency as somewhere in between *very competent* and *incompetent*. Most felt a need for continuing education.

Health-care Survey. On a six point scale (0=not competent, 5=highly competent), most SLPs ranked their level of AAC competency as a 2 or 3. Many said they had taken advantage of continuing education opportunities in AAC within the past year. Seventy percent (70%) had attended an AAC inservice, conference, or workshop, 60% read the AAC literature, 37% had consulted with college staff, 32% had spoken with staff in rehabilitation settings, and 16% had been in touch with AAC company representatives. Nearly one quarter (25%) of those surveyed indicated they felt a "very high need" for continuing education in AAC.

In response to questions about how accessible they consider staff development resources in AAC, the health-care SLPS rated private practitioners, the AAC literature, and AAC company representatives as most accessible. When asked about the quality of staff development activities, they rated consultations with private practionners, reading the literature, and taking university courses higher than inservices, conferences, and workshops. In fact, most said they did not prefer more traditional methods (*i.e.*, inservices) when learning about AAC.

School Survey. SLPs who serve children with AAC needs in schools said that they spent approximately one hour per week per student. This included direct AAC services and consulting with teachers. Minimal time was spent consulting with parents. [Note: One hour/week is considerably less than what other SLPs report is necessary. See the next three articles.] These school SLPs felt uncomfortable about their level of competence in AAC service delivery. Many had taken advantage of continuing education opportunities including: reading the AAC literature (85%), in-service training (66%), consultations with local *(cont. on page 4)*

Two Nebraska surveys *(from page 3)*

staff (58%), AAC company reps (32%), medical/rehab center personnel (30%), university staff (18%), state education department staff (9%), and university courses (7%). School SLPs said they needed more continuing education in some areas. Not surprisingly, they felt more competent if they were currently delivering AAC services. Many felt better able to meet the needs of students with cognitive problems than those with sensory or severe, multiple impairments.

Summary

With so many SLPs currently providing AAC services to individuals with severe communication impairments, it is troublesome that many do not feel comfortable about their level of competence.

The next three articles give examples of how SLPs in three settings studied and allocated time for AAC services. It is interesting to note that all report that AAC services require more time than the Nebraska studies suggest is provided. Perhaps a relationship exists between feelings of competence and the amount of time that one can allocate to the delivery of AAC services.

AAC services: Time and caseload

Large adult institution

In 1986, the Fernald Developmental Center (then the Fernald State School) was a residential state institution in Massachusetts serving adults with mental retardation. Today, most Fernald residents reside in the community. This article is not about Fernald residents and their community integration process (although that would be very interesting indeed), but rather about the process that the speech-language pathology staff undertook to allocate caseloads fairly. Ellen Kravitz, well-known for her clinical insight and work in AAC, was the full-time Coordinator of the Augmentative Communication Program at that time, and has shared the steps staff took to do a time study and allocate caseloads. The approach described is useful in determining staffing needs for a large number of clients. It can also be adapted for other settings (as shown in the following article).

First steps: Defining needs

Speech-language pathologists (SLPs) at Fernald provided services to adult residents of the institution. These individuals had a variety of communication impairments, ranging from articulation and stuttering difficulties to problems that precluded intelligible speech. About 60% of the residents had AAC needs. Some had limited language comprehension and symbolic skills. Many did not speak and used basic signs and graphic symbols to express their needs. Some used hundreds of manual signs and/or elaborate communication displays to converse with others. The facility employed a service delivery model that relied on SLPs and other staff members to help achieve communication goals.

Doing a time study

Administrators wanted to determine the number of FTE (full time equivalent) speech-language pathologists needed to meet the communication needs of all Fernald residents. A first step was to collect data on the amount of time staff spent on various types of client-related activities. Table I on page five summarizes the results, but with numbers that have been updated to reflect 1996 service delivery models and clinical practices. The Table delineates the types of services provided to groups of residents with specific communication needs and the amount of time that a SLP would need to provide services to each group.

The rows in Table I represent the two major types of services: (1) Direct intervention includes clients with specific communication goals and is subdivided into six categories, Types A-F. (2) Consultation only includes clients who are not "changing" or who require only occasional monitoring. It is subdivided into Types G-L.

The columns also are subdivided to represent the number of hours per year spent on major intervention activities: The first five columns are: (1) SLP time (reports, phone contacts); (2) time spent selecting vocabulary, monitoring vocabulary needs, and training; (3) time for constructing communication overlays/books/aids, programming electronic aids, *etc.*; and (4) time spent in direct treatment/training. Column five represents the total number of SLP hours per year that a Fernald resident in a particular category would require.

Results of the time study

In considering the results of the time study, staff learned many things. For example,

- Over the course of a year, it took Fernald SLPs approximately 15 hours per client to write reports, attend meetings, *etc.*, no matter what type of clinical services they provided.
- It took SLPs about the same amount of time to deliver articulation, fluency, voice, and/or language intervention services to Fernald clients.
- All direct intervention AAC service categories required more time than other types of direct SLP intervention.
- Some AAC client groups required more time than others. For example, clients who had communication displays with greater than 50 symbols (Type A) re-

Table I. Example of a time study used to determine client needs and allocate caseloads
Based on 1536 hrs/year of client related activity (In collaboration with Ellen Kravitz, 1996)

TYPES OF SERVICES	SLP time	Vocabulary selection, training	Device Construction	Direct treatment	TOTAL time	Clinician/ Client Ratio	Percent of 1 FTE's caseload	Caseload Allocation
Direct Intervention (specific goals)	Hours per year	Hours per year	Hours per year	Hours per year	Hours per year	1 FTE/1536 over Total time	1 over the ratio or Total time divided by 1536	10 clients per category
A. Communication display >50 symbols*	15 hrs	32 hrs	40 hrs	78 hrs	165 hrs	1:9.3	.1074 FTE (11%)	1.1 FTE
B. Comm. display >50* plus literacy	15 hrs	32 hrs	40 hrs	169 hrs	256 hrs	1:6	.1667 FTE (17%)	1.7 FTE
C. Signs >50	15 hrs	78 hrs	0	26 hrs	119 hrs	1:12.9	.0775 FTE (8%)	.78 FTE
D. Artic., fluency, voice, family counselling, diagnostic teaching	15 hrs	15 hrs	0	26 hrs	56 hrs	1:27.4	.0365 FTE (4%)	.36 FTE
E. Comm. display <50 symbols*	15 hrs	19 hrs	18 hrs	26 hrs	78 hrs	1:19.7	.0508 FTE (5%)	.51 FTE
F. Manual signs <50 signs	15 hrs	19 hrs	0	26 hrs	60 hrs	1:25.6	.0391 FTE (4%)	.39 FTE
Consultation only (clients that are not changing or require only occasional monitoring)								
G. Feeding	0 hrs	28 hrs	0	6 hrs	34 hrs	1:45.2	.0221 FTE (2%)	.22 FTE
H. Communication display >50 symbols* - stable	0 hrs	24 hrs	40 hrs	0	64 hrs	1:24.0	.0417 FTE (4%)	.42 FTE
I. Manual signs (over 100 receptive)	0 hrs	78 hrs	0	0	78 hrs	1:19.7	.0508 FTE (5%)	.51 FTE
J. Comm. display <50 symbols*	0 hrs	13 hrs	18 hrs	0	31 hrs	1:49.5	.0202 FTE (2%)	.20 FTE
K. Manual signs >10, under 100	0 hrs	15 hrs	0	0	15 hrs	1:102.4	.0098 FTE (1%)	.10 FTE
L. Other (*e.g.*, not at symbolic level; speakers who are not improving)	0 hrs	13 hrs (1 x month)	0	0	13 hrs	1:118.2	.0085 FTE (.9%)	.09 FTE

quired a total of 165 hours per year of services, *i.e.*, 15 hours of SLP time + 32 hours for vocabulary selection, training, and monitoring + 40 hours for construction of a display + 78 hours for direct treatment. On the other hand, Type B clients, who also needed a literacy program, required 91 additional hours of direct treatment, for a total of 256 hours/year.

* It took about 40 hours/year to construct communication displays with >50 symbols (usually 200-1000 symbols) and 18 hours/year to develop displays with <50 symbols (usually 2-30 symbols). [Note: These data reflect a 40% savings in time due to the use of Boardmaker 3.0 (Mayer-Johnson Co). Clinicians used to spend an average of 65-70 hours/year on miniboards and large vocabulary displays.]

Allocating caseloads

Once administrators and staff had information about the types of services needed and the amount of time required to deliver these services, they could calculate how many FTEs they would need and how to allocate caseloads fairly.

1. The first step was to determine that a full time SLP worked at Fernald 37.5 hours per week, 52 weeks a year. Thus, each FTE staff in the SLP Department at Fernald worked **1950 hours/year.** [Note: Administrators chose not to calculate the vacation time staff actually took.]

2. Next, they calculated the number of hours each FTE spent doing client-related activities by first estimating non-client related activities, (*i.e.*, not tied to a specific client (meetings, staff inservices, supervision, program development.) At Fernald, this was a bit less than 8 hours/week, or approximately **414 hours per year of non-client related activities.**

   Then, they subtracted the number of non-client related activities from the total number of hours each FTE worked per year. The result was **1536 hours/year of client related activities.** [1950 hours/year minus 414 hours/year] This number was used as the basis for allocating caseloads.

3. The next step was to determine the proportion (ratio) of a clinician's caseload that each client category represented (Types A-L). [See column labelled **Clinician:Client Ratio** in Table I.] To calculate the ratio, staff divided the hours of client-related activities (1536 hours per year) by the total number of hours in each intervention category. For example, a Type A client had a ratio of 1:9.3 [1536 divided by 165 hours/year]. A Type E client has a ratio of 1:19.7 [1536 divided by 78 hours] and so on. This means that one clinician or FTE could have 9.3 Type A clients, or 19.7 Type E clients or 118 Type L clients on their caseload (if the entire caseload consisted of that type of client). It also means that each Type A client takes up 1/9.3 of an FTE's caseload, and so on.

4. To estimate the number of FTEs required to meet the specific needs of all clients at Fernald and to allocate caseloads fairly, the ratio can be divided by 1 FTE. Another way to the same answer is to divide the total hours for intervention time per client into 1536 hours/year of client related activity. The answer can be converted to the percent of a SLP's caseload that each client represents. See column labeled **Percent of 1 FTE caseload.** For example, this means that each client who uses a communication display with more than 50 symbols (Type A) represents .1071 FTE or 11% of one FTE's caseload. Type E clients represent .0508 (5%)

(continued on page 6)

Time study *(cont. from page 5)*

and Type H clients represent .0417 (4%).

5. These percentages allow an administrator to plan ahead. For example, if there were 10 clients in each of the 12 intervention categories, or a total of 120 clients, then, to determine the number of FTEs required to provide services, one would multiply each decimal by 10 and then add them. The last column in Table I on page 5 provides an example: [10 x .1074 FTE + 10 x .1667 FTE and so on]. The total FTEs needed to cover 120 Fernald clients would be 6.96 FTE. An administrator now knows that he/she will need 7 FTE SLPs to serve their year-long communication needs.

Table II. SLP caseloads

	Type of client	# of clients on caseload	Caseload portion
SLP X	Type A	2 (x .1074)	.21
	Type D	10 (x .0365)	.37
	Type F	10 (x .0391)	.31
	Type J	1 (x .0202)	.02
	Type K	10 (x .0098)	.09
	Total	33 clients	1 FTE
SLP Y	Type B	3 (x .1667)	.50
	Type C	3 (x .0775)	.23
	Type G	12 (x .0221)	.27
	Total	18 clients	1 FTE

6. This information can also be used to allocate caseloads more fairly across service providers. Table II presents two examples: SLP X is assigned 33 clients, but SLP Y has only 16 clients. This is because 6 of SLP Y's clients have intense needs for SLP services.

In the next article, staff used a similar approach to study the time needed to deliver AAC services and allocate caseloads fairly.

AAC services: Time and caseload
Children in schools

Clinicians from the Massachusett's Easter Seals Society tracked the time it took to deliver AAC services in integrated school settings. All clinicians were experienced in AAC and used Boardmaker 3.0, which often "cut in half the time it took to make symbol displays." They used a modification of the Fernald approach to obtain statistics useful for determining the makeup of a single clinician's caseload rather than the needs of an overall school system. In Table III, Kathie Cassidy and Ellen Kravitz calculated the time required each week, and over the school year, to deliver services related to face-to-face communication. Not included are data on literacy skill development, which they said adds 1-2 more hours/week. The three primary AAC services these SLPs provided to students were:

- **Type 1. Development of either a non-electronic or an electronic aid.** This was for students who either: (a) were just getting started, or (b) needed a sophisticated electronic device and already had a fully developed non-electronic communication aid. These students often began with symbol displays and simple voice output communication aids to increase their participation in the classroom. This permited ongoing assessment of the student and evaluation of the impact of AAC techniques on interaction and participation.

When direct and indirect (*e.g.*, training staff, *etc.*) hours were added together, the time required totalled approximately 2 hours per week for ambulatory individuals and 3 hours per week for non-ambulatory students, who were more likely to require custom laptrays, sponges between pages to facilitate turning, color-encoding systems, and so on.

- **Type 2. Development of both a non-electronic and an electronic aid.** It was rarely necessary to provide a student with symbol displays and a sophisticated electronic aid simultaneously. When it was, staff required 3.5 hours/week for ambulatory students and 4.5 hours/week for non-ambulatory students.
- **Type 3. Maintenance of AAC system.** Clinicians reported that after the first 1 1/2 to 2 years of work with a particular system, AAC services take less time—1 1/2 hours/week for ambulatory individuals, and 2 hours/week for non-ambulatory students. They also said that most non-electronic aids have to be re-made at least every two years. This takes approximately 20 hours, as compared to 43 hours for an initial system, depending on the type of system and whether Boardmaker 3.0 is used.

Table III. Children in schools
(In collaboration with Cassidy & Kravitz, 1996)

TYPES OF SERVICES	Approximate Time		Portion of FTE		Caseload allocation
	hrs/week	hrs/year	Clinician/ Client ratio	Percent of total	
Type 1. Development of EITHER/OR a non-electronic (often with simple VOCA) or sophisticated electronic aid/device					
Ambulatory	2 hrs	72 hrs	1:14.3	.0702 (8%)	.70
Non-ambulatory	3 hrs	108 hrs	1:9.5	.1053 (11%)	1.1
Type 2. Development of BOTH non-electronic and electronic aid/device simultaneously					
Ambulatory	3.5 hrs	126 hrs	1:8.1	.1228 (13%)	1.2
Non-ambulatory	4.5 hrs	162 hrs	1:6.3	.1579 (15%)	1.6
Type 3. Maintenance of AAC system					
Ambulatory	1.5 hrs	54 hrs	1:19	.05262 (5%)	.53
Non-ambulatory	2 hrs	72 hrs	1:14.3	.0702 (7%)	.70

Writing an IEP

AAC services in schools require time for tool development, partner training, device programming, curriculum adaptations and

other activities that require time. Clinicians often need to explain to families that the 2 or 3 hours/week devoted to their child might be spent in any of a number of ways:

- 1:1 in the classroom (modeling use of an aid/device).
- 1:1 pull-out (on rare occasions);
- selecting vocabulary; training/ monitoring staff interaction.
- constructing/programming a device.
- Sometimes, a clinician might take 1 hour from each child to create a block of hours to work solely on device construction.

What does it mean?

If a public school clinician works 5.7 hours/day on client related activities and spends 1.9 hours/day on administrative tasks (see ASHA survey), then clinicians have 28.5 hours/week times 36 weeks, or 1026 hours/year to spend on client related activities. According to this example, 1 FTE SLP could have 6 non-ambulatory, Type 2 clients on his/her caseload. This means that if two Type 2 students were added to a clinician's caseload, she/he would need 9 hours/week to serve them. For a clinician with a caseload of 50, this could mean that she/he might have to let go of up to 16 other students. This information not only can help a program administrator to plan, but can enable a clinician to discuss caseload implications in a constructive manner.

The next article is an example of how time was allocated to fit the needs and realities of a children's rehab center that employs a consultant model rather than a direct service model of AAC service delivery.

AAC services: Time and caseload
Children's rehab center

Bloorview MacMillan Centre (formerly the Hugh MacMillan Centre) is a rehabilitation facility located in Toronto that serves the province of Ontario. Staff at the Augmentative Communication Service (ACS), well-known for their innovative leadership in AAC, provide consultative services to community teams serving children and youth ages 0 to 19 years. In 1990, ACS developed a new service delivery model guided by these principles:

- ACS staff are advocates for clients and the field.
- ACS uses a client and family-centered approach.
- ACS uses a community-based service-delivery model. The goal is to transfer knowledge out to the community and to support client independence.
- ACS places an emphasis on participation through functional communication leading to quality of life options.
- ACS uses a transdisciplinary team approach and has support staff that make communication displays (designed by ACS clinicians), provide technical support for equipment and workshops, *etc.*
- ACS sees education and research as integral to client service.
- ACS sees evaluation of client outcomes as integral to client service.
- ACS is committed to demystifying the expert image through collaborative consultation.

Nora Rothchild and Lynnette Norris, among the leaders at ACS, share the following information about ACS services and provide us with case examples describing how they deliver AAC services and how much time it takes.

ACS service delivery

Since 1990, the ACS staff have met each January to review individual requests for services as outlined on applications submitted by community teams. New referrals and requests from previous ACS clients are considered in an effort to match client and community needs and resources to existing ACS staff resources. This also begins a process of allocating ACS caseloads for the year, as described:

1. Each FTE clinician at ACS starts with 1950 hours/year and subtracts the time a clinician typically spends on non-client related activities. At ACS they subtract 800 to 1000 hours for vacation, administration duty, professional development, research, education to clients, families, community teams, graduate students and professionals. This leaves an FTE clinician at ACS with approximately 900-1,100 hours/year for services to specific clients and their teams.

2. Table IV summarizes the domains of AAC services that ACS provides: (1) Face-to-face communication, (2) Written communication, and (3) Advocacy. Face-to-face communication is further divided into three areas: (a) voice output communication aids, (b) light tech displays, and (c) early communication services. In most cases, client teams focus on only one domain per year. This means that they either select and implement a VOCA, or develop a functional writing ACS system, but they are unlikely to do both in the same year.

   ACS clients often need assessment and selection of equipment; implementation and training; and/or support or minor adaptations to their AAC system within each domain.

3. According to ACS, the three major factors influencing the types of services clients need and amount of time allocated to these services are: their complexity of physical disabilities, literacy skill level, and age. Additional factors that directly affect time allocation are the nature of the community team, familiarity and complexity of technology and complexity, multi-service needs of the client. Service categories are broken down accordingly: Those who are: (a) literate and can use direct access, (b) literate and require alternative access, (c) preliterate and can use direct access, and (d) preliterate and require alternative access.

(continued on page 8)

Table IV. Augmentative Communication Services (ACS)
(in collaboration with Nora Rothchild and Lynnette Norris, 1996)

SERVICE DOMAINS	BRIEF DESCRIPTION
FACE-TO-FACE COMMUNICATION	
Literate: Direct access Alternate access	**VOCA:** The selection and development of a VOCA, development of vocabulary, arrangement of symbols, and training in operational and communicative use across contexts and partners.
Preliterate: Direct access Alternate access	
Literate: Direct access Alternate access	**Light tech:** The construction and development of vocabulary and symbol displays for light tech communication boards, books, and miniboards. Early graphics for older cognitively impaired clients. Training in functional use across contexts.
Preliterate: Direct access Alternate access	
Preliterate: Young (straightforward/complex) Older (straightforward/complex	**Early communication:** Selection of goals/modes; support of early communication skills. Development of strategies for a young child or older person who is functioning at an early stage of communication.
WRITTEN COMMUNICATION	
Literate: Direct access Alternate access	The selection and development of a computer system to meet written communication needs (*e.g.*, e-mail, assignments).
ADVOCACY	
Literate or Preliterate	Development and support in implementng a plan to beome a self-advocate.

Children's rehab *(cont. from page 7)*

The following case examples illustrate a range of interventions and approximate times allocated to such cases at ACS:

- **Joe** is 19 years old and lives in a group home with inconsistent and changing support. Staff requested assessment and programming to help him communicate his needs. Joe functioned at an early communication level. He is preliterate and motorically intact. An ACS clinician observed his interactions in the group home and noted that Joe had limited opportunities to communicate in his environment. ACS staff asked his care-givers to attend a series of 10 customized, two hour workshops focusing on opportunities, goals and strategies to enhance communication. An ACS clinician conducted several visits to support group home staff's implementation of workshop ideas.

This type of client would be allocated approximately 50 (plus or minus) hours annually. Services would include observations, assessment, follow-up visits and administration. (Workshop time is included only if his clinician is involved.)

- **Jennifer** is a bright, 5 year old, preliterate girl who is beginning to attend her community school. The community team is very receptive and motivated to implement a communication program. ACS staff visited home and school to observe and assess Jennifer's abilities, and the communication resources and skills of the community team. A case conference with family and team identified the need to focus on face-to-face communication skills. The community team was invited to a workshop focusing on making and using communication displays. ACS staff trained the team to use *Boardmaker* and helped them plan a custom display for her. They did several follow-up visits to support implementation.

This type of client would be allocated approximately 30 hours for initial visits, case conferences, planning for the display and administration. Workshop time would be counted if her clinician undertook the training.

- Tom is a 16 year old high school student trying to remain academically competitive. Although he had been seen previously at ACS and had a face-to-face display and "ancient" technology for writing, he required a full reassessment and an integrated communication system. Tom is literate, uses a power wheelchair and requires alternative access because he has no functional use of his hands. His complex needs require multiple services, and ACS assigned 4 professionals (SLP, OT, technologist, rehab engineer) to assist his community team. For face-to-face communication Tom needed: a VOCA for telephoning friends, participating in group class discussions, accessing preprogrammed vocabulary and creating novel messages. For writing, he needed a computer and software compatible with school technology.

This type of client was allocated 200 hours (more or less) for the combined ACS team based on the complexity of physical access and technology.

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