

PERSPECTIVES IN GENETIC COUNSELING

NATIONAL SOCIETY OF GENETIC COUNSELORS, INC.

Volume 4, Number 4, December, 1982

THE BLUE CROSS AND BLUE SHIELD GENETIC SERVICES BENEFIT STUDY

Gail N. Kaplan

The Blue Cross and Blue Shield Association (BCBSA), the national representative for the local Blue Cross and Blue Shield Plans, has been studying the feasibility of expanding coverage for genetic services. The study, supported by the March of Dimes Birth Defects Foundation and the Bureau of Health Care Delivery and Assistance (formerly the Bureau of Community Health Services), is examining current insurance practices and is investigating methods of adapting payment mechanisms to provide support for appropriate genetic services. The project is timely, given the major cutbacks in federal funds for genetic services and the general reduction in funds for health care. The project is of great importance both to those seeking genetic counseling and to those providing counseling services.

The association has had prior experience in this type of endeavor. Family therapy in alcoholism, for example, had its roots in social service agencies and private facilities; it was not a service covered by insurers. Family therapy in alcoholism is now covered under the model benefit service offered to a number of Blue Cross and Blue Shield accounts.

Accomplishments to Date

The genetics project began in October, 1981. The staff investigated third party payment in genetics through a review of the literature, a survey of the Blue Cross and Blue Shield Plans, and discussions with professionals in the field. Additional technical assistance was provided by an advisory committee established by the association. The committee includes medical geneticists, a director of a genetic counselor graduate program, a genetic counselor, and representatives of Blue Cross and Blue Shield Plans. The committee met twice during the past year and discussed genetic disorders, services and providers, legal issues in the coverage of genetic services, and the survey results. Those discussions will lead to the development of a protocol for genetic service benefits.

Survey Results

The project staff conducted a survey of Blue Cross and Blue Shield Plans to determine the extent of existing coverage for genetic services. The survey also identified local factors that influence coverage. Wide coverage is available for diagnostic testing of an affected individual and for prenatal tests. Limitations exist in coverage for screening (excluding newborn screening), special dietary formulas for inborn errors, for medical history and family pedigree, and for genetic counseling. Genetic counseling was seldom recognized as a separate service element; when covered, the cost was usually incorporated into services provided by a physician. There is essentially no coverage for counseling by non-physicians. The survey indicated that there is likely to be

low market demand for a genetic service benefit package. (Market demand is determined by purchasers of employee benefits for the plans' accounts.) Plan representatives feel that if they offered their accounts a package of genetic services as a component of their coverage, the accounts would not want to purchase it.

Key Issues

Certain key questions must be answered before coverage for genetic counseling is expanded. Those issues include the scope of genetic counseling, the cost of the service, standards for providers, and marketability of a genetics benefit.

Genetic Counseling—The definition of genetic counseling includes constructing a family pedigree—a diagnostic procedure; explaining birth defects, medical procedures, and their risks; obtaining informed consent from patients; and assisting families in decision-making and in their adjustment to the information they have received. How broadly can this be interpreted? By analyzing the distinct steps involved in genetic counseling and viewing the genetic medical history and family pedigree as a procedure distinct from counseling, counseling can more easily be defined in insurance contract language.

Numerous health care professionals may qualify to perform genetic counseling services. Counseling (or portions of counseling) is within the scope of the licensure for physicians, nurses, social workers, and psychologists. Yet, not all of those professionals are qualified to perform the full range of services. Whom should the plans cover? The profession, often through governmental licensing, establishes who has the basic qualifications to provide the service. Considering that and other factors, the plan must develop a method of covering the services appropriately.

Cost of Services—Accounts are interested in benefits that reduce or contain costs. Will genetic services prove to be cost effective for Blue Cross Blue Shield plans? Supporting evidence is limited. It is difficult to make relevant estimates of the financial losses due to genetic illnesses and of the extent to which those costs might be reduced by expanding coverage of genetic services. From an insurance standpoint, an expenditure without a savings this year does not necessarily lead to a savings for the account who purchased coverage. For example, purchasing coverage for genetic counseling may lead to the prevention of the birth of a child with a genetic disorder several years later. At that time, the family subscriber may no longer be employed by the same employer, and the employer will not experience any savings from purchasing that benefit.

Another question related to cost concerns whether providing coverage will increase the utilization of the service

and therefore increase the cost to those purchasing benefits. By obtaining the best available information about the need for services (through survey reports or experience of those in the field), the plan representatives can estimate the cost of expanding coverage.

Standards for Providers of Services—Licensure laws for genetic counselors do not exist, nor is knowledge about genetics considered in any other professional licensing. In addition, there are no standards for genetic laboratories or clinics. The profession has developed certification mechanisms for specialists in genetics; that is a positive move toward the establishment of high professional standards. How does that affect coverage? Because certification establishes standards above the minimum, it is not a criterion that insurers usually use to determine payment. However, certification may have an indirect effect, in that facilities that are reimbursed may choose to hire only board certified practitioners.

Marketability—Our survey revealed that plan representatives anticipate very little market demand from their accounts for a package of specific genetic benefits. In today's economic climate, companies are unwilling to expand coverage for services; indeed, many organizations are cutting back on the employee benefits they offer. However, the demand for payment will come from providers of services and the demand for coverage will come from subscribers. How can coverage be expanded? If expanded coverage can be incorporated into existing policies at little additional cost, plan representatives may be willing to provide the new benefits.

Scope of Future Work

Based on information gathered to date, we are designing a model benefit protocol to cover those services not widely covered at present. The protocol will suggest which services to cover and those providers or programs with whom plan representatives should contract. By late December 1982, we will send to all plan representatives a final report discussing our findings and providing untested recommendations on expansion of existing benefits for genetic services. The report will be available to the public at that time.

Some plan representatives may move to expand coverage based on the report. However, due to the current insurance climate, general economic conditions, and the lack of data on the effects of expanded coverage, many representatives may choose not to expand coverage at this time. Therefore, we have proposed a demonstration project to validate the initial recommendations, collect requisite data, and provide plan representatives with actual experience on the effects of expanded coverage. A number of representatives have expressed interest in testing the benefit.

DISCUSSION

Beverly R. Rollnick

Gail Kaplan's paper provides a comprehensive overview of the goals and accomplishments of the BCBSA Genetic Services Benefit Study. I will discuss aspects of her paper in my capacity as the genetic counselor on the advisory committee. The idea for the study originated at the "Asilomar II" meeting on genetic counseling, held in Williamsburg, Virginia in 1978. The study has been in progress since October, 1981, and is conducted by Arthur Leyland, Ted Raichel, David Strachan, and Gail Kaplan. As health insurance professionals they are committed to expanding coverage for health care. They are strong advocates of genetic services; therefore, they are pragmatic. Their central message is that genetic services must be recognized and accepted to be reimbursed. In that context, I will discuss standards, cost, and marketability as they relate to genetic counseling.

First, what are the roles of licensure and certification in reimbursement to providers of genetic counseling services? The pattern of the Blue Cross and Blue Shield Plans is to reimburse state licensed institutions and providers. Therefore, the plans do not place themselves in the role of determining who is or is not eligible to provide services. Licensure is likely to be their criterion (and possibly the criterion for other third party payers) in reimbursement for genetic counseling and other genetic services. Since genetic counselors are not licensed in any state as genetic counselors *per se*, the plans are most likely to reimburse for the services of a non-MD genetic counselor under the auspices of a licensed physician or a licensed institution (university hospital, other hospital, or free standing clinic). The feasibility of licensing genetic counselors is being explored by the Board of Directors of the National Society of Genetic Counselors. However, states are reluctant to incur the additional expenses involved in establishing licensure for new professionals, especially when their numbers are small. Therefore, existing reimbursement mechanisms are likely to reinforce the link between genetic counselors and their physician/institutional base.

Certification plays an indirect role. While it is unlikely that certification will be the criterion for Blue Cross and Blue Shield Plan reimbursement for genetic counseling services, employers such as institutions, physicians, and genetic counseling training programs may require that a genetic counselor be certified or board eligible. That is one important method of maintaining a high standard for genetic counselors as well as other medical geneticists.

Second, do genetic counseling services contain cost? There are few cost/benefit studies of genetic counseling. Studies of Tay-Sachs disease and Down syndrome have shown that counseling is cost beneficial. It is probable that similar studies of other genetic disorders, especially where prenatal diagnosis is possible, may also prove cost effective. In addition, prevention of complications of a genetic disorder (through genetic evaluation and counseling) may also prove to contain cost. For example, retinal detachment and blindness associated with the Stickler syndrome can be prevented by early genetic diagnosis and counseling. Genetic counselors appropriately think in terms of the human cost of genetic defects. We must also learn to think in terms of the financial cost, not only of prevention, but also of efficiency in delivery of genetic counseling services.

Third, will employers expand coverage to include genetic counseling services? Can genetic counseling services be incorporated into existing policies at little additional cost? Employers are likely to expand coverage only if clear need, demand, and cost containment can be documented in a balanced manner. Those are competing goals. For example, inflated demand may escalate short-term and long-range costs to employers. In contrast, documented need and efficient service delivery may lead to cost containment for the employer. While there are no easy answers, those factors must be considered when the BCBSA demonstration project is implemented. It is clear that genetic counseling services must be both recognized and accepted by the employer before they are reimbursed.

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**NEWBORN SCREENING FOR CYSTIC FIBROSIS:
AN EXAMPLE OF EVALUATING EFFECTIVENESS
OF SCREENING**

Edward M. Kloza and George J. Knight

In the absence of any reliable, reproducible method of detecting carriers of cystic fibrosis (CF),¹ efforts continue into the early detection of individuals affected with the disorder. The expectation is that early detection and treatment will result in a better prognosis and more effective reproductive decision-making for parents and unaffected sibs.

Under a grant from the Cystic Fibrosis Foundation, the University of Colorado has undertaken a statewide newborn screening program for CF. Keith Hammond, PhD, Director of Pediatric Microchemistry, Childrens Clinical Research Center Laboratories, has screened 30,000 infants since April, 1982 and hopes to screen 55,000 by the end of the first year of the pilot project. The specimens used are collected on filter paper as part of the routine neonatal screen for PKU and other related metabolic disorders. It was determined that obtaining signed consent for CF screening would not be feasible prior to sample collection, but educational efforts aimed at the medical community in Colorado gave physicians and hospitals the opportunity to decline testing for their patients. Parents of newborns are given written material describing all of the routine newborn screening; information about CF screening has now been included.

Blood specimens are tested for trypsinogen on the premise that CF is associated with elevated blood trypsinogen levels due to obstruction of pancreatic ducts. If a specimen contains levels of trypsinogen higher than the 99.5th centile on two tests, the infant's pediatrician is notified, signed consent obtained from the parents, and a new specimen drawn. If a persistent elevation is observed, a diagnostic sweat test is performed. If CF is confirmed, appropriate management and genetic counseling is offered.

Of the 30,000 infants screened thus far, two have been positively identified and a third is awaiting final confirmation. One of those two infants remains asymptomatic.

Given the racial mixture of the Colorado population, Hammond estimates that perhaps 1/3000 newborns should have CF. The observed frequency of about 1/10,000 might indicate that the incidence of CF in Colorado is not as high as the generally accepted figure. It might also indicate that the testing protocol is not sensitive enough.

Sensitivity—the percentage of individuals who have the disease and who test positive—is one of the variables used to evaluate the effectiveness of a screening test applied to a specific population. The other variables are specificity—the percentage of individuals who lack the disease who test negative—and prevalence—the proportion of individuals in the population being tested who have the disease. All of the essential operating characteristics of a test—true positive rate, false positive rate, true negative rate, and false negative rate—can be derived when the above parameters are determined.

In assessing published data that purport to evaluate the effectiveness of a given test, one must be aware that the prevalence of the disease in the population being studied may not represent that actually found in a test population. When designing a screening test for a disease with a very low incidence, it is common practice to analyze normal and affected individuals in proportions that are non-representative of the screened population.

To demonstrate the impact of population prevalence on the actual performance of a screening test, the following

hypothetical examples using serum immunoreactive trypsin (SIRT) as a model are presented: A laboratory has carried out evaluation of a SIRT test and has determined that 85% of newborns with documented CF are positive using a selected cut-off, yielding a sensitivity rate of 85%. If this level of sensitivity is obtained by using the 99.5th centile of the normal population as the cut-off, the specificity of this test would be 99.5%, i.e., 995 out of every 1000 unaffected individuals would test negative. Once those two parameters are determined, the actual screening performance of a test with those operating characteristics can be examined at two prevalence levels to show how prevalence influences test effectiveness.

Example 1. Table 1 shows the results expected if 10,000 individuals are screened using the sensitivity and specificity given above in a population where the incidence of CF is 1/2000. Given a sensitivity rate of 85%, four of the five affected newborns would be detected. However, 50 unaffected newborns will also have a positive SIRT. Consequently, there will be 54 SIRT positives in the 10,000 newborns screened, but only four of those—7.4%—will actually have CF. This figure, the number of true positives expressed as a percentage of the total number of positives, is referred to as the positive predictive value. It is a key indicator of program performance, because it expresses the relationship between true and false positives.

TABLE 1

		DISEASE STATE		
		positive	negative	
SIRT TEST RESULTS	positive	4 TP	50 FP	54
	negative	1 FN	9945 TN	9946
		5	9995	10,000

Positive Predictive Value = 7.4% (4/54)

TP: True Positive
FP: False Positive
FN: False Negative
TN: True Negative

SENSITIVITY: 85%
SPECIFICITY: 99.5%
POPULATION: Offspring of North American Caucasians
PREVALENCE: 1/2000

Example 2. If the population examined were pre-selected as being at increased risk of having CF, then the prevalence would be markedly higher. The offspring of unaffected sibs of CF individuals and individuals of unknown carrier status represent such a population. In this population, the probability of a newborn inheriting two CF genes is approximately $(2/3 \times 1/20 \times 1/4)$, or $1/120$. With this prevalence, 83 newborns of the 10,000 screened will have CF. Seventy-one of the 83 would be detected with the given sensitivity of 85% (Table 2). With the given specificity of 99.5%, 50 unaffected individuals would also have a positive SIRT test. The total number of individuals positive by SIRT would be 121 (71 + 50); since 71 of those individuals would have CF, the positive predictive value would be 58.7%.

The exercise above can be used to evaluate the actual performance of any screening test by using sensitivity and specificity data and applying those figures to the expected population prevalence. Designers of screening protocols must strike a balance between the number of affected individuals missed by the test and the number of unaffected individuals who will test positive. The effectiveness of any screening test—Tay-Sachs, CF, or maternal serum AFP—can be anticipated only when population prevalence is known.

1. Beall JB and Keramida SL: The role of a voluntary health agency in public and professional education in genetic diseases and genetic screening. *Persp Genet Coun* 4(8):1, 1982.

Edward M. Kloza is Director, AFP Prenatal Screening Project; George J. Knight is Director, Radioimmunoassay Laboratory, Foundation for Blood Research, P.O. Box 426, Scarborough, ME 04074.

RESOURCES: Developmental Disabilities Services
Beth A. Fine

The Developmental Disabilities Assistance and Bill of Rights Act (DD Act) and the Education for All Handicapped Children Act (PL 94-142) have provided much needed services for the more than four million individuals in the United States with developmental disabilities. The purpose of the DD Act is to "assist States to assure that persons with developmental disabilities receive the care, treatment, and other services necessary to enable them to achieve their maximum potential through a system which coordinates, monitors, plans, and evaluates those services and which insures the protection of the legal and human rights of persons with developmental disabilities." Each state that receives DD funding has (1) a planning council; (2) a protection and advocacy agency (P&A) that must be independent from service and treatment-providing agencies and must help the states meet the act's requirements; and (3) a university-affiliated facility. PL 94-142 provides for free and appropriate education and related services in the least restrictive environment for all developmentally disabled children ages three through twenty-one. An individualized education plan (IEP) must be developed for each child by professionals and parents.

Some states provide educational services from birth until age twenty-one. These acts, in combination with the trend to deinstitutionalize the physically and mentally handicapped, have created the need for expanded community and regional services for the developmentally disabled.

The genetic counselor, as an integral part of the DD services network, should be familiar with local support services for clients. The DD Council staff, usually located in the state health department, and P&A agency employees are valuable resources for genetic counselors. The DD Council may fund direct services or may administer support services such as respite care, consumer advocacy groups, and recreation programs for the developmentally disabled. The council also has funds that may be used to support educational programs such as genetic workshops. In some states, the DD Council can function as a clearinghouse for information on developmental disabilities in general. In addition, the council can provide information on support groups and on financial, and medical services.

Since the client population of the genetics clinic and developmental disabilities network is often identical, professionals in both areas can benefit greatly from increased interaction. My experience in Nebraska demonstrates the mutual benefits that can result. DD funds have been put to good use by sponsoring numerous genetics education

TABLE 2

DISEASE STATE

Positive Predictive Value = 58.7% (71/121)

		positive	negative	
SIRT TEST RESULTS	positive	71 TP	50 FP	121
	negative	12 FN	9867 TN	9879
		83	9917	10,000

TP: True Positive
 FP: False Positive
 FN: False Negative
 TN: True Negative

SENSITIVITY: 85%
 SPECIFICITY: 99.5%
 POPULATION: Offspring of unaffected sibs of CF individuals
 PREVALENCE: 1/120

These two examples demonstrate that a test with the same operating characteristics can perform very differently depending upon the prevalence of the disease in the population screened. Even a test that is highly specific can perform poorly when applied to a population with a low disease prevalence, because of the high false-positive rate. Although confirmatory diagnostic testing can reduce this rate, a fairly large number of unaffected individuals will be placed tentatively in a high-risk category and subjected to available confirmatory methods to discriminate between the true and false positivities.

programs for professionals and the lay public throughout the state. Satellite genetics clinic referrals have increased, while I have learned a great deal about family support services and educational programs available for handicapped children in the state. As a result of the genetics/DD liaison, I am better able to serve our clients.

The P&A agency can be helpful as people become more aware of the rights of the disabled. The Pathfinders Program, for example, was established and funded by the Nebraska DD Council. The program trains consumers of developmental disabilities services, interested citizens, and professionals to provide crisis advocacy for the developmentally disabled and their families. Attorneys from Nebraska Advocacy Services (Nebraska's P&A Agency) led several day-long training sessions that addressed state and federal law regarding education of the handicapped, employment discrimination, guardianship, sterilization, public building accessibility, the criminal justice system, institutionalization and access to information and confidentiality. Pathfinders training provided valuable information on resources available to my clients and enabled me to advise them on courses of action appropriate to their local communities.

The genetic counselor is often the only professional that parents of a disabled child see. Increasingly, their problems encompass more than concerns regarding diagnosis, prognosis, and recurrence risk. The following books can be helpful to professionals and parents in need of services for their developmentally disabled children:

Parents Speak Out: Growing With a Handicapped Child. Ann P. Turnbull and H. Rutherford Turnbull III. 1978, Charles E. Merrill Publishing Co., A Bell & Howell Company, 1300 Alum Creek Drive, Columbus, Ohio 43216, \$5.95.

How to Get Services by Being Assertive. Charlotte Des Jardins. 1980. Coordinating Council for Handicapped Children, 407 South Dearborn-Room 680, Chicago, Illinois 60605. (312) 939-3513. \$4.00 plus 50¢ postage.

How to Organize an Effective Parent/Advocacy Group and Move Bureaucracies. \$4.00 plus 50¢ postage. Same address and phone as above.

Directory of Service for Handicapped Children and Adults. \$10.00 plus \$1.50 postage. Same address and phone as above.

Although each state's developmental disabilities program is different (all states but Virginia have one), a liaison between genetic counselors and the developmental disabilities staff can only be productive. The developmental disabilities agency can provide resource information, a forum for disseminating genetics information through public education, and potential funds for genetics programs. Genetic counselors can benefit from being a link in the developmental disabilities service network.

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PRESIDENTIAL ADDRESS

Virginia L. Corson

(Ms. Corson delivered this address at the annual business meeting of the NSGC, in Detroit, Michigan, 1 October 1982.)

As I prepared for this meeting and tomorrow's Board of Directors meeting, a number of reflections passed through my mind. The N.S.G.C. has become a very complicated and ambitious organization in a handful of years. I hope that its concrete achievements such as educational meetings, national surveys, and *Perspectives*, are well known to you. In addition, the recognition genetic counselors have achieved from professional bodies such as the American Board of Medical Genetics, the American Society of Human Genetics, and the March of Dimes—Birth Defects foundation, has been enhanced through activities sponsored by the N.S.G.C. We have come a long way in a short period of time through the efforts of many people.

The projects and issues awaiting us this year have been outlined today. Planning is in progress for educational meetings, the genetic services survey, continuing education criteria, and the expansion of *Perspectives*. Each project relates in some way to what I see as a fundamental goal of genetic counselors on both a personal and society level: professional growth. On an individual basis, improvement of counseling skills, increased knowledge and confidence in unusual counseling situations, expansion of our roles into new areas, and clinical research are all avenues for growth. As personal growth occurs, increased recognition within a team setting should follow, through increased teaching, faculty appointments, and leadership roles. We stagnate both as professionals and as people if this growth is missing. Finally, involvement within the N.S.G.C. can lead to a greater understanding of the profession and invaluable interactions with colleagues.

The N.S.G.C. has truly become a national organization. I have made friends from each region over the past four years. When referring a patient to a hospital in Salt Lake or Miami or Houston, I can pick up our directory and give that patient a specific name and telephone number. The society has brought us together and catalyzed increased communication, camaraderie, and professional dialogue. This function has been as important as our opportunities for professional growth.

I look forward to the next year with excitement and respect for the challenge ahead. The shoes to be filled are big ones; Ann Smith did a magnificent job, and on behalf of the membership, I would like to thank Ann for her commitment and hard work.

I am grateful for this leadership opportunity and hope that each of you will consider increased involvement in the N.S.G.C. over the next year. Your regional representatives and committee chairs want to hear from you. Please contact me with any suggestions or inspirations you may have.

CALL FOR NOMINATIONS

Enclosed in this issue is a form for submitting nominations for the NSGC offices of president elect, treasurer, and representatives of Regions I, III, and V. Deadline for receipt of nominations is February 15, 1983.

All members are urged to submit names of potential candidates; this is your chance to participate in selecting the leaders of our society.

The members of the 1982-1983 Nominating Committee, and their respective regions, are: I, Patricia Ward; II, Lorraine Suslak; IV, Betty Youson; V, Ann Smith (chairperson); and VI, Monica Wohlferd.

MEMBERSHIP DIRECTORIES

Additional copies of the National Society of Genetic Counselors, Inc. directory of members are available for \$5.00 each. Checks made out to the NSGC, Inc. (U.S. funds only) should be sent to

Ann C.M. Smith
Genetic Services
The Children's Hospital
1056 East 19th Avenue
Denver, CO 80218

1983 EDUCATION CONFERENCE: CALL FOR ABSTRACTS

The third annual Professional Education Meeting of the National Society of Genetic Counselors will be held on June 17-18, 1983, at The Sherwood Inn in Seattle, Washington. The conference will precede the March of Dimes Birth Defects Foundation conference. The theme of the meeting is, "Strategies in Genetic Counseling: Clinical Investigation Studies." The purpose of the conference is to promote education, scholarship, and communication among genetic counselors. Abstracts may be submitted by NSGC members, student members, and non-members with member sponsors. The deadline for abstracts is March 1, 1983. It is permissible to present papers or data that have been presented or published elsewhere. Please send all abstracts to Gayle A. Mosher, c/o Center for Human Genetics, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105. Abstract forms will be enclosed with the registration mailing. Individuals who are not on the NSGC mailing list should contact: Barbara Bowles, Department of Pediatrics, Division of Genetics, University of Kentucky Medical Center, Lexington, KY 40536-00843 for information.

MEETINGS

A national symposium on Genetic Disorders and Birth Defects in Families and Society: Toward Interdisciplinary Understanding will be held at the Baltimore Hyatt-Regency on April 25 and 26, 1983. The purpose of this symposium is to heighten sensitivity to psychological and social implications of genetic disorders and birth defects as they affect individuals, families, and society. Registration is \$85. For additional information contact Program Coordinator, Office of Continuing Education, Turner 22, 720 Rutland Avenue, Baltimore, Maryland 21205, (301) 955-6046.

EDITOR'S REPORT

A questionnaire regarding *Perspectives in Genetic Counseling* was distributed to members attending the annual business meeting of the National Society of Genetic Counselors. We appreciate the positive comments, and we are trying to remedy the problems enumerated by respondents. The job hot-line should improve access to information about available positions. We are trying to eliminate the mailing problems by decreasing the time in transit and by providing a mechanism to change mailing addresses quickly and accurately.

Respondents provided a long list of topics they want to see in *Perspectives*. Most frequently suggested was the regular inclusion of case presentations that address both clinical aspects and counseling issues. To meet this demand, the editorial staff is now calling for papers that address specifically the counseling issues confronted in the clinical genetics setting.

We will also establish feature articles that discuss alternative views on selected topics. The topics we hope to address in Volume V (1983) include malpractice insurance for genetic counselors, ramifications of genetic screening legislation and programs and genetic registries, and the right to confidentiality versus the need for data banks. Manuscripts on those topics should be submitted in compliance with the guidelines below.

INSTRUCTIONS FOR CONTRIBUTORS

Types of Manuscripts Accepted

Authors may submit articles dealing with the varied professional roles of the genetic counselor, counseling case reports, original research reports, articles addressing topics relevant to the profession of genetic counseling, or letters to the editor that deal with professional issues or the society.

Instructions

All manuscripts must be typed and *double spaced*. Three copies of each manuscript should be submitted. The author's name, preferred title, address, and business telephone number must accompany all submissions.

Send all manuscripts to:

Deborah L. Eunpu, Editor
Perspectives in Genetic Counseling
The Children's Hospital of Philadelphia
34th and Civic Center Boulevard
Philadelphia, Pennsylvania 19104

Deadline for 1983 Issues

March Issue:	January 1, 1983
June Issue:	April 1, 1983
September Issue:	July 1, 1983
December Issue:	October 1, 1983

Specific Instructions for Counseling Case Reports

The purpose of counseling case reports is to present organized discussion of the counseling and case management problems confronted in the clinical genetics setting. The format for counseling case reports is as follows:

1. Present a brief statement of the diagnostic information and the reasons for seeking genetic services.
2. Describe the counseling problems or case management difficulties encountered.
3. Discuss how the problems were addressed, including the rationale for your course of action.
4. Present a broader discussion outlining other methods one might use to deal with similar problems.

Sections (3) and (4) should include citations of the counseling and/or genetics literature to substantiate your discussion and methods.

Editorial Staff, 1982-1983

Editor, Deborah Eunpu; Assistant Editor, Joseph D. McInerney; Resources, Beth A. Fine; Legislation and Funding, Edward M. Kloza; Book Reviews, Linda T. Nicholson

POSITIONS AVAILABLE

JOBS HOT-LINE: To minimize the lag time in alerting NSGC members to job openings, a hot-line has been established to keep track of positions available and genetic counselors seeking new posts. This service will supplement the advertisement of jobs in *Perspectives*. If you would like to post an opening or be kept informed of positions available, call Linda Nicholson in Wilmington, Delaware, at (302) 651-4117.

Genetic Associate: Rehabilitation Service of North Central Ohio, Inc. announces a full-time genetic associate position available immediately. Duties include coordinating genetics clinic, providing genetic counseling for a wide variety of genetic problems, initiating and developing new programs, and providing educational presentations to interested lay and professional groups. Additionally, the genetic associate serves as the liaison between the local medical community and university-based geneticists. Requirements for this position include a master's degree in human genetics or genetic counseling, or comparable training and clinical experience. Salary is commensurate with education and experience. Contact Joann S. Huprich, MA, Rehabilitation Service of North Central Ohio, Inc., 270 Sterkel Boulevard, Mansfield, Ohio 44907, (419) 756-1133.

Genetic Associate: The University of Utah Medical Center has one position available for a genetic counseling associate starting on or after January, 1983. Candidates must be certified by the American Board of Medical Genetics or be qualified for certification in the future. Send curriculum vitae to Dr. John Carey, Department of Pediatrics, University of Utah Medical Center, Salt Lake City, Utah 84132 or call (801) 581-8943. An equal opportunity/affirmative action employer.

Lecture Consultants: Utilize your counseling and teaching experience in a nationwide, regional continuing education program for genetic counselors, cytogenetic technologists, nurses, and social workers. For an application and further information contact Jeff Shulkin, MS, Director, Human Genetics Update Service, Inc., 635 8th Place, Hermosa Beach, California 90254, (213) 372-1668.

NATIONAL SOCIETY OF GENETIC COUNSELORS, Inc. BOARD OF DIRECTORS, 1982-1983

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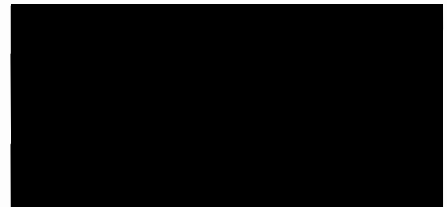
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Send all mailing address changes to:
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