Department of Health and Human Services

OFFICE OF INSPECTOR GENERAL

THE CANCER INFORMATION SERVICE

Expanding Telephone Access

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EXECUTIVE SUMMARY

PURPOSE

To identify and evaluate the causes for the high busy signal rates, abandonment rates and wait times on the Cancer Information Service (CIS) toll-free telephone service and to determine how to reduce or eliminate them.

BACKGROUND

The Cancer Information Service's (CIS) mission is to be the "voice of the National Cancer Institute (NCI)" by providing the most current NCI information to cancer patients, their families and friends, health professionals and the public at large. The CIS disseminates cancer information directly to consumers through its toll-free telephone service (1-800-4CANCER) and indirectly through its outreach program.

Since 1976, CIS has provided cancer information to the public via its network of contractors, currently numbering 19. Callers are automatically routed to the contractor responsible for their geographic area. At each contractor, information specialists answer calls about the causes, prevention, diagnosis and treatment of cancer. They also refer callers to local community organizations. Contractors are also required to provide assistance to community organizations through an outreach program. Estimated contractor funding in 1997 was approximately $15.8 million.[1]

The CIS Branch, located in NCI's Office of Cancer Information, Communication and Education, is responsible for contractor and program oversight.

Access to the service can be measured in total calls taken, busy signal rates, abandonment rates (the percentage of callers waiting in queue who disconnect before reaching staff) and wait times (the average amount of time a caller is on hold before speaking with staff). In 1997, almost 1 out of every 3 of the attempted calls (or 240,860 calls out of 834,185) to CIS failed to reach an information specialist. Busy signal rates for the individual contractors ranged from 10 to 52 percent during the same period. Network-wide average busy signal rates for 1995 and 1996 were similarly high. According to a National Performance Review Study, the top ranked private sector telephone services expect busy signal rates of less than 2 percent.

Our methodology consisted of mail surveys, telephone and in-person interviews, focus groups and a review of CIS-related statistics and information.

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[1] Source: CIS Branch

FINDINGS

The CIS is a valuable public service enhanced by its dedicated staff and strong training and quality assurance programs

The CIS is a unique service that the public relies on for the most up-to-date, scientific information on cancer. Despite stress and frustration, staff remain dedicated to the mission and goals of CIS. A comprehensive training program and practical evaluation tool strengthen the service and serve as models for others to emulate.

The CIS does not take full advantage of current telephone technology to improve access and customer service

The CIS does not use its phone technology to route callers to the first available information specialist. Furthermore, it does not provide callers with important recorded messages that could preclude them from reaching a busy signal or waiting on hold.

Data gathering requirements adversely affect call efficiency

Although random sampling is a widely-accepted practice in both the private and public sectors, CIS requires contractors to document 100 percent of calls and collect demographic data on half of them. The software used to record the data is poorly designed and is accompanied by unnecessarily restrictive policies, such as requiring information specialists to document the same information in both code and narrative form. The CIS staff regard the software and related policies as critical factors that inhibit their efficiency.

Information specialists could be more efficient if their resources were more readily accessible and user-friendly

Staff identified several problems with their main resource, the Physician Data Query. They also reported that non-computerized resources, such as "Fact Sheets," are difficult to maintain and update and that their community service information is frequently inaccurate and incomplete.

The regional structure does not contribute to a consistent and efficient phone service

Demographic differences, the number of phone lines and the distribution of resources are some of the variables that have led to inconsistent contractor performance. Contractor performance is also affected by the level of support received from parent institutions as well as local management practices. While contractor staff continually and consistently volunteered that the current regional structure enhances the "personalized" service that callers receive, we found little supporting evidence.

The CIS's customer service standards do not address access to the toll-free service

The CIS Branch has not set minimum access standards for CIS contractors. For example, CIS contractors are not expected to keep their busy signal rates under a specific threshold. Similar health information organizations and other telephone service centers throughout the country have implemented minimum standards.

RECOMMENDATIONS

The Cancer Information Service, through its telephone service, provides the public with an invaluable resource for information about cancer prevention, causes and treatment. To expand access to the toll-free service, the Office of Cancer Information, Communication and Education should:

- Complete and implement plans to upgrade CIS telephone technology to enhance contractors' ability to respond to calls and provide information to all callers.
- Establish technical requirements and performance standards for contractors.
- Modernize and correct deficiencies in the Physician Data Query.
- Improve efficiency by reducing data gathering requirements and computerizing more reference materials, such as "Fact Sheets."
- Discontinue collecting and disseminating community service information; instead, partner with national organizations to provide this information.
- Re-evaluate the regional structure.
- Encourage contractors to further enhance CIS staff training.

AGENCY COMMENTS AND OIG RESPONSE

We received written comments on the draft report from NCI (see appendix B). We are encouraged that NCI already has taken action on some of our recommendations. However, we remain concerned about inefficiencies in vital areas of the program and would like to clarify and reassert the following recommendations.

We continue to believe that (1) to improve efficiency, NCI should quickly adopt a statistically valid sampling methodology for all CIS data recording and collection efforts, (2) the CIS Branch and its contractors should cease duplicating private sector efforts by collecting, maintaining and disseminating information on community resources and (3) NCI should

reconsider the regional structure of the phone service. The relationships between the phone service, the outreach program and research activities do not justify the current inefficient regional structure.

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The NCI is the federal government's principal agency dedicated to understanding the nature of cancer. The NCI is a scientific institution with the majority of its resources (more than $2 billion in 1997) being spent on research into the causes, treatment and prevention of cancer.

In 1971, President Nixon signed the National Cancer Act, authorizing additional funds for cancer research, prevention and education through the initialization of the National Cancer Program. In 1974, an amendment to the Act made the CIS possible by mandating that the NCI Director:

> ...provide a contract for a program to disseminate and interpret, on a current basis, for practioners and other health professionals, scientists, and the general public scientific and other information respecting the cause, prevention, diagnosis, and treatment of cancer.

In the following 2 years, NCI's Office of Cancer Communications and Division of Cancer Prevention and Control jointly conceived a national toll-free telephone information service. The NCI offered contracts to its "Comprehensive Cancer Centers" (i.e., universities, hospitals and research centers) (1) to maintain regional information services, using information on both research and treatment provided by NCI and (2) to develop and maintain regional databases on clinics and organizations serving cancer patients. In 1988, the Office of Cancer Communications assumed full oversight of the contracts through the CIS Branch. The CIS Branch and the International Cancer Information Center (the publisher of the Physician Data Query) are now under a new division called the Office of Cancer Information, Communication and Education.

In late 1976, the CIS telephone service became operational. By that time, NCI had contracted with 17 Comprehensive Cancer Centers that responded to calls within separate, specific geographic regions using individual toll-free telephone numbers. Available telephone technology in 1976 did not allow call routing to different regions via a single, national toll-free number. The new CIS contractors did not service the entire nation. Calls from areas not

covered by CIS contractors were answered by an alternate centrally-located contractor. In 1983, CIS implemented a single, national toll-free number (1-800-4CANCER). Calls are routed automatically from the single number to the CIS contractors, based on the callers' locations.

The current number of contracts is 19. Each contract responds to calls within a specific geographic region. The sizes of the regions vary from covering a portion of a single state to up to six full states. Together, the 19 contracts provide service for the entire nation and Puerto Rico in English, Spanish and teletypewriter (TTY) for the hearing impaired. In addition to the 19 contracts, CIS contracts for a Publications Ordering Service in Maryland. The publication service fulfills NCI publication requests for the entire nation and also is reached via 1-800-4CANCER.

In addition to a small Federal staff in the CIS Branch, the CIS is staffed by a network of information specialists, telephone service managers, project directors, outreach managers and coordinators and support staff who are employees of the 19 CIS contractors. Information specialists are the voice of NCI; they answer incoming calls and provide information requested by callers. They use NCI publications and NCI's on-line database of cancer treatment, prevention and clinical trial information called the Physician Data Query (PDQ) as first-line resources to respond to callers. Information specialists also use community service databases, individually developed and maintained by the 19 contractors, to respond to callers' requests for community information. Information specialists document each call on-line using the Electronic Call Record Form. The form is used to record the reason for and response to the call, the resources used during the call and the caller's demographic information.

The CIS Branch regularly evaluates the phone service by performing anonymous test calls to all contractors. The tool used for this evaluation is the CIS Telephone Evaluation and Reporting System (CISTERS). In short, CISTERS evaluates:

- the correctness of the information provided;
- adherence to policies and procedures;
- the completeness of the call;
- the appropriate use of resources;
- customer service (making sure the caller understood and received the information he or she desired);
- the information specialists' demeanor, communication skills and credibility and
- overall customer service.

On the basis of CISTERS test call results, CIS identifies areas that require improvement. The CIS Branch regularly provides contractors with reports of CISTERS test calls.

Telephone call statistics are maintained on a daily basis by the contractors and a monthly basis by the CIS Branch. Daily statistics are aggregated into monthly reports. The Basic Call Management System, AT&T's Federal Telecommunications Service (FTS2000) Management System and the Electronic Call Record Form are CIS's instruments for measuring telephone statistics. Each contractor collects daily telephone statistics using the Basic Call Management

System, a computer system linked to the information specialists' phone extensions. The AT&T provides separate data from the FTS2000 Management System. Both the Basic Call Management System and FTS2000 record the number of calls taken, busy signal rates, abandonment rates and the time connected. The Electronic Call Record Form records talk time for each call, a count of calls answered during a given period of time and information about the content of the calls.

The number of calls reported by the Basic Call Management System, FTS2000 and the Electronic Call Record Form do not match. As a result, accurate figures on the actual number of calls CIS is processing do not exist. The CIS Branch recently contracted with an engineering firm to explain the data discrepancies and recommend changes. The firm also is analyzing telephone staffing and regional management configurations.

In addition to answering the toll-free line, CIS contractors are required to operate an outreach program and conduct limited research. Each contractor's outreach coordinator serves as a liaison between CIS and other organizations interested in disseminating NCI information and promoting NCI messages. Outreach efforts also address specific cancer issues, such as breast and cervical cancer and clinical trials recruitment, with a particular focus on underserved populations and those individuals who have difficulty accessing health information.

Total funding for the 19 CIS contractors in 1997 was $15,745,983,[2] a decrease of 9.4% from the 1996 funding level due to an NCI mandate. In previous years, funding was:

1993	1994	1995	1996
$7,640,094	$17,272,420	$18,047,134	$16,786,158

Phone Service Access

Since its inception, CIS has answered an increasing number of calls each year, from a low of approximately 47,000 in 1976 to a high of almost 600,000 in 1997.[3] The phone service operates from 9:00 AM to 4:30 PM, local time, Monday through Friday. Access to the service can be measured in total calls taken, busy signal rates, abandonment rates (the percentage of callers waiting in queue who disconnect before reaching staff) and wait times (the average amount of time a caller is on hold before speaking with staff).

In 1997, almost one out of every three calls to 1-800-4CANCER during operating hours failed to reach an information specialist. Almost 29 percent of the 834,185 attempted calls (i.e., 240,860 calls) made to 1-800-4CANCER resulted in a busy signal.[4] Additionally, there are

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2 Source: CIS Branch

3 Source: AT&T.

4 Using CIS's present AT&T technology, it cannot be determined how representative the busy signal rate is of the actual number of people who are attempting to reach the service and failing.

wide ranges in the access statistics for the 19 individual contractors. For example, in 1997 the average busy signal rate per contractor varied from 7 percent to 53 percent. If the Spanish telephone lines are included, the margin widens from 4 percent to 67 percent. The CIS Branch reports similarly high busy rates for 1995 and 1996.

Contract funding for 1997[5] indicates contractor spending per completed call varied from $29 to $74 for 18 of the 19 contractors. The average cost per call for the 19th contractor was approximately $150. According to CIS, this unusually high cost per call can be attributed to the contractor's reliance on outreach and the low volume of calls it receives. The average cost per call (total contract spending divided by total number of completed calls) for the entire CIS network was $41. The variance among contractors may be explained, in part, by contractor spending on their outreach programs and the fact that contractors are required to employ management staff in equal numbers, regardless of the number of lines they operate.

CIS Contractor Variances (1997)

Lines	Contractors	Average busy signal rates	Average cost per call	Average number of completed calls per line
3	1	15%	$150[6]	480
4	7	7 - 30%	$29 - 74	2921 - 4977
5	5	22 - 32%	$23 - 41	3933 - 6301
6	6	9 - 50%	$29 - 55	3799 - 4744

Telephone Service Benchmarks

On September 11, 1993, President Clinton signed Executive Order 12862 on "Setting Customer Service Standards" in government. The directive required all executive agencies that provide direct public services to set benchmarks for customer service performance.

In February 1995, Vice President Al Gore's National Performance Review included a Federal Consortium Benchmark Study Report. The report focused on best practices in telephone service and found that the top ranked private sector organizations used the following measures to predict customer satisfaction:

- average speed of answer: less than 15 seconds
- abandoned call rate: less than 2 percent
- busy signal rate: less than 1 percent
- service level (total calls minus busy signals and abandoned calls): 98 percent
- first call resolution (one agent/no transfers): 85 percent resolution

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5 This is based on the most recent budget figures received from the CIS Branch. During the course of the inspection, we received several different sets of contract funding figures.

6 This region was closed for 3 months in 1997. Its budget was adjusted; therefore, the average cost per call reflects 9 months of phone service.

Other attributes of the top ranked private sector call centers include:

- a recognition that state-of-the-art telephone and computer hardware and software technologies are top business imperatives,
- peak demand times are managed by offering callers the choice of live or automated service while scheduling staff to meet call demand and
- substantial site consolidation.

METHODOLOGY

In addition to a mail survey to all information specialists, we conducted on-site focus groups with information specialists at six contractor sites. Eighty-four percent (163 out of 195) of the information specialists responded to our mail survey. We selected the six contractor sites based on their call statistics, the populations they serve and their proximity to other national cancer organizations. Using informal discussion guides, we also interviewed (in-person or by telephone) the project directors, telephone service managers and outreach staff at all 19 contractors as well as telephone service supervisors at most of the contractors.

We chose a purposive sample of national cancer organizations to reflect the various types of organizations that could benefit from or make use of CIS information. The sources used for the sample included CancerCare's *A Helping Hand--The Resource Guide for People With Cancer,* organizations identified by the CIS Branch and the Internet. Inclusion was based on: 1) the information or topic the organization addresses, 2) their constituency and 3) the nature of services the organization provides. Prior to conducting interviews, we verified that each organization served a national constituency. We conducted interviews with principal staff, which included directors and managers, from 56 organizations regarding their scope of services, their information resources and their experiences with CIS and the PDQ.

We visited 10 privately- and publicly-funded health information and cancer organizations. Staffs were interviewed regarding their experiences with CIS. We observed the operations of health information services similar to CIS and reviewed their information systems, call statistics and relevant policies and procedures.

We reviewed and analyzed policy and training manuals, reports, call statistics, contracts and plans that CIS has developed over the last several years to improve the telephone service. We also interviewed staff from the outreach program, CIS Branch, CISTERS, the International Cancer Information Center and the contractor that is responsible for the Publications Ordering Service, portions of the PDQ and programming the Electronic Call Record Form.

The findings in this report reflect the experiences, opinions and observations of contractor, Branch, cancer and health organizations and OIG staff. A companion report entitled "The Cancer Information Service--A Resource for National Cancer Organizations" (OEI-09-97-00361) contains additional information regarding how national cancer organizations use and value the Cancer Information Service and its resources. We conducted our review in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.

FINDINGS

THE CIS IS A VALUABLE PUBLIC SERVICE ENHANCED BY ITS DEDICATED STAFF AND STRONG TRAINING AND QUALITY ASSURANCE PROGRAMS

The CIS provides a unique and valuable public service

The CIS is a unique health information service. It is the only cancer information service that addresses all cancers and uses only NCI developed, reviewed and/or approved literature and data. Callers are the general public, cancer patients, their friends and families and health professionals. Callers receive information from CIS that helps them to understand cancer and make better informed decisions about treatment or prevention. Through CIS, the public learns first-hand what advances have been made as a result of this nation's investment in cancer research. The public relies on CIS for the most comprehensive and reliable clinical trials listing available through a single toll-free phone service. Congress specifically requires NCI to inform the public of its findings, and CIS is one of NCI's principal modes of communication.

Other cancer organizations confirm that CIS is the most comprehensive and credible source for cancer information. One organization praised CIS saying, "You get more information from CIS than anyone else, and the information is scientific. Nationally, they are the most credible." The sentiment was echoed by many other organizations. For additional information on other cancer organizations' perceptions of CIS, see the companion report entitled "The Cancer Information Service--A Resource for National Cancer Organizations" (OEI-09-97-00361).

Despite stress and frustration, staff remain dedicated to the mission and goals of CIS

The staff of CIS, information specialists in particular, confront the reality of cancer on a daily basis. Cancer patients and their friends and family, often desperate for answers, turn to CIS. To respond, CIS staff must master volumes of complicated information. They must be sensitive to emotionally charged callers and to callers' relationships with their physicians. They must also follow many confusing and arbitrary policies and procedures. For example, they:

- must obtain their supervisor's permission before sending certain types of publicly-available information (e.g., information for health professionals from Cancernet);
- cannot send information to a third party even when the caller states she is inquiring on someone else's behalf;
- must follow an information hierarchy, even if the information is not relevant;
- must ask if the caller has spoken with her physician about support groups before providing support group referrals and
- can quote, but cannot send, certain NCI and other publicly-available materials (e.g., Medline information).

The CIS's goal is to provide callers with accurate, up-to-date information on very complex diseases that afflict 40 percent of the nation's population. Staff are pressured on two distinct fronts: (1) they must give callers all of the information relevant to their condition (and not rush the caller in the process) and (2) they must be able to answer and respond to all the callers who are trying to get through. Information specialists are genuinely concerned about the busy signal rate. In at least two contractor offices, information specialists have resorted to covering up the queue indicators on their phones because they get "stressed out" when they see them while on a call. Access problems are a source of stress in their lives, and their self-evaluations of job performance are clearly affected by the service's inability to deal with public demand.

At most CIS contractors, information specialists are afforded little opportunity for career advancement. Salary ranges, which are determined by each contractor's parent institution, typically fall below $30,000 per year. Still, information specialists remain dedicated to CIS; more than 65 percent of them have been with the service longer than 3 years, and more than 23 percent have been with the service longer than 5 years.

Many information specialists volunteered that their ability to help people provides them with personal and job satisfaction. At one CIS contractor, a retired physician decided to work for CIS because his son had been misinformed about cancer treatment options by his doctors. He felt that he could make a difference in the lives of cancer patients while working at CIS. At another contractor, information specialists were volunteering their own time for additional training that the contract was not funding.

The CIS invests in an ambitious and comprehensive training program

Information specialist training is comprehensive and includes a continuing education component. All information specialists are required to complete an initial 8-week training and certification process. Currently, applicants must have college degrees or must be registered nurses to qualify as information specialists. In the absence of these qualifications, they must have served a minimum of 2 years as a CIS information specialist at another time. Initial training covers CIS policies and procedures, a general overview of cancer topics such as treatment, detection and staging and expanded training on breast, prostate and lung cancer. In order to maintain certification, information specialists are required to complete a minimum of 12 hours of continuing education per quarter, must answer the phones a minimum of 12 hours per week and must maintain quality per CISTERS standards. Contractors choose a variety of methods for information specialists to complete continuing education, such as participation in hospital grand rounds, attendance at lectures or assigned readings. Finally, CIS contractors are required to conduct special training programs at the discretion of the CIS Branch.

Eighty-six percent of information specialists ranked CIS training as either excellent or very good. While information specialists highly regard their cancer training, they believe that management training, software training, training on technical information and Internet training would be useful.

Cancer organizations are impressed with CIS training. Two cancer organizations indicated that they would like to participate in CIS training when asked how they would like to work more closely with CIS. A third commented that CIS training is a "real highlight" of a "generally wonderful" service.

The CISTERS program is an excellent evaluation tool, although it is misunderstood by some contractor staff

The CIS Telephone Evaluation and Reporting System (CISTERS) program evaluates contractor performance consistently and without bias, with an eye toward developing staffs' ability to handle calls. With the participation of contractors, the staff at CISTERS develops test call "scenarios" that accurately represent real calls. They call all contractors and document the outcome of the calls on a custom computer software application. More than half of the contractors believe that CISTERS improves call efficiency. Several mentioned that it helps organize calls, although its suggestions may increase call length. According to staff, "Test calls are valuable; they hit on important issues" and "CISTERS improved call efficiency tremendously. Call guidelines are helpful; they bring information specialists back to key issues." In a customer satisfaction survey that was conducted by the CIS Branch, most contractors said CISTERS was helpful and reported different and creative ways they use CISTERS reports to improve service.

Staff from the CIS Branch suspect that some contractors totally disregard CISTERS recommendations, while others employ varying degrees of action. Some contractor staff are concerned about not following CISTERS criteria and view the reports as punitive rather than instructive. Comments from those staff members indicate that not everyone understands the purpose of CISTERS. We visited several other health information telephone lines. None of them has an evaluation tool that compares in usefulness.

The program is not without its limitations, but the deficiencies we detected were minor relative to its merits. For example, CISTERS does not develop scenarios that involve highly emotional callers, a scenario that information specialists appear to be struggling with. One information specialist asserted, "They (CIS Branch) don't want us to think of ourselves or call ourselves 'counselors.' But we are, we really are." We observed another information specialist who appeared awkward on a highly emotional call, reading scripted customer service questions at its conclusion. The program actually performs relatively few test calls, less than 10 per contractor per quarter. Some contractors have complained that such a small sample cannot be used to gauge their performance accurately. Samples will be increased in 1998, however, according to CISTERS staff.

THE CIS DOES NOT TAKE FULL ADVANTAGE OF ITS CURRENT TELEPHONE TECHNOLOGY TO IMPROVE ACCESS AND CUSTOMER SERVICE

Callers are not routed to the first available information specialist

The CIS's single toll-free phone number automatically routes calls based on the caller's geographic location. The contractor's ability to promptly answer the call is not taken into consideration. Based on CIS call statistics and our on-site visits, we discovered marked variances in demand and access among the different contractors. We observed at least one contractor with phone lines open for most of the day, while other offices had persistent queues of waiting callers. The CIS's policy of routing callers to geographic contractors is not the most efficient way to ensure the highest level of access and customer service. Although current CIS telephone technology allows callers to be transferred or routed among contractors, this technology is used only occasionally to offset temporary, unplanned closings.

The CIS lacks important recorded messages

The CIS does not provide callers with the option of obtaining recorded information that could preclude them from reaching a busy signal or waiting on hold. For example, recorded information is not offered about CANCERNET (a website for NCI Fact Sheets, the PDQ and other cancer information), CANCERFAX (an automated fax service to obtain NCI printed materials), the PDQ Search Service for Health Professionals, frequently addressed cancer topics and other sources of cancer information, even though such information may help callers when the phone lines are full.

Standard information, such as medical disclaimers (explaining that information specialists are not physicians) and source citations (generally NCI materials), is repeated by information specialists to every caller instead of through an introductory recorded message. Information specialists mentioned that the requirement to repeat the disclaimers and citations is excessive, that the wording is stiff and scripted and that disclaimers often interrupt the flow of the call and damage their credibility. In addition, when CIS is inundated with calls about a particular topic arising from intense media coverage, CIS does not take full advantage of telephone technology by giving callers the option to listen to explanatory messages.

DATA GATHERING REQUIREMENTS ADVERSELY AFFECT CALL EFFICIENCY

The Electronic Call Record Form software is problematic

The Electronic Call Record Form is marred by technical problems and restrictive policies on its use. At best, the form is only a slight improvement over paper forms. At worst, it significantly impedes information specialists from quickly and efficiently taking calls. Managers, supervisors and information specialists agree that the Electronic Call Record Form software is a source of inefficiency and a weakness in the telephone service. Information specialists, in particular, believe that the software is in dire need of improvement. Examples of software problems identified by information specialists include:

- the inability to move to a new Electronic Call Record Form without completing the current form on the screen. This means that information specialists must complete the form even if there is a queue;

- the need to manually insert codes. For example, if a caller refuses to answer the demographic questions, the software does not automatically input refusal codes to all questions. Instead, information specialists must input a refusal code for each question;

- the need to type a narrative for the call as well as enter codes for the same information provided in the narrative and

- computer crashes and freezes caused by the software under certain circumstances.

One telephone service supervisor, who also answers calls, capsulized the frustrations of many respondents,

> The form is just storage. It doesn't really take advantage of computer abilities. If there's a problem with it, everyone needs to log-out and start-up. This totally disrupts calls. NCI doesn't understand. If you leave a field blank, an error comes up, and it is difficult to correct. Central support responded to this by saying, "fill in all blanks."

The Electronic Call Record Form software causes the computers to go down two to three times per week, according to a manager at another contractor.

100 percent data gathering is excessive

To capture detailed information about the nature of the calls, the demographics of callers and trends in each region, CIS requires that information specialists complete an Electronic Call Record Form for each call. Because of this, information specialists cannot move quickly from call to call. According to information specialists, completing demographic questions adds several minutes to every call. Documenting everything else, from the reason for the call to the response to the inquiry, adds even more time. Nevertheless, CIS has mandated that information specialists document 100 percent of calls and gather demographic data on half of them, despite the negative impact on phone service and current access problems.

Randomly sampling populations for multi-variate analysis (including the type CIS does with its call data) is a widely accepted practice in government and the private sector. Service providers, including those providing health information, regularly use random samples to monitor their customer service, quality improvement and quality control. A government health information service similar to CIS is sampling 1 in 30 callers for *all* data gathering. This includes the reasons for the call, responses by staff and customer satisfaction.

INFORMATION SPECIALISTS COULD BE MORE EFFICIENT IF THEIR RESOURCES WERE MORE READILY ACCESSIBLE AND USER-FRIENDLY

The Physician Data Query inhibits call efficiency

The Physician Data Query (PDQ) is technologically archaic and time consuming. While contractors believe that PDQ information is typically "excellent," nearly all of them identified problems with the program. Although most of the problems relate to the PDQ's user-friendliness, staff reported myriad other problems such as incomplete, incorrect and out-dated information. One staff member described the amount of problems as "ungodly," and another stated that "the PDQ needs to be completely overhauled, because it isn't easy to use when on a call."

Because CIS uses a DOS-based computer version of the PDQ, information specialists cannot conduct keyword searches or easily move within or between documents. As a result, they cannot quickly scroll through information, and they may not be able to locate information on specific topics such as "hot flashes" or "nausea." While there is a clinical trial search tool, staff mentioned that the tool is not consistent and does not always return appropriate trials. To avoid navigational and search problems throughout the PDQ, several regions take time to download it into WordPerfect files or Folio View, and at least one region uses a hard-copy PDQ rather than the computerized version.

While CIS contractors report most PDQ problems to NCI, staff from several contractors believe that NCI is not responsive. According to NCI, the programming requirements of the PDQ do not allow problems to be addressed easily.

Community service databases are inaccessible, incomplete and inaccurate

More than half of all information specialists reported that their community service databases are inaccessible, mostly because they are not computerized. Information specialists in several regions must thumb through a Rolodex or binder to identify community service referrals during calls. They claim that calls would be shorter if the community services were indexed on their computers. While some regions have computerized their community service databases, not all regions have the technology, time or expertise to do this. Further, computerization does not mean that the databases are accurate or up-to-date.

The lack of a clear policy and direction for gathering and maintaining community service information has resulted in inaccurate and incomplete databases at some contractors. While a majority of contractors reported that community service referrals are important, there was inconsistency in the staffs' understanding of (1) NCI policy and direction with regard to community referrals, (2) what standards should be imposed for inclusion of community organizations and (3) when and how to update their databases. For example, some contractors have opted to use databases provided by other organizations. One contractor is mainly using "Fact Sheets" on how to find and choose a community organization, while other contractors are providing referrals to national organizations only. Information specialists complained that their community service databases are the least complete and accurate resource they use.

Managers corroborated with comments like, "Referral services are very problematic, especially for the staff. We only have a few resources," and "Having current resources is a source of great trouble. We need to be up-to-date." For additional information on community service referrals, see the companion report entitled, "The Cancer Information Service--A Resource for National Cancer Organizations" (OEI-09-97-00361).

Contractors cannot easily maintain and update NCI "Fact Sheets"

Staff at CIS contractors complain that the process of updating "Fact Sheets" is wasteful. "Fact Sheets" are one of the primary resources information specialists use during calls, because they cover a range of frequently addressed topics in a concise and easy-to-understand manner. Because most regions maintain "Fact Sheets" in binders at each desk, the current system for updating them (which includes downloading, photocopying, distributing and making sure the old ones are discarded) is inefficient. Updating is complicated by the fact that one "Fact Sheet" may be revised several times within a short time period. According to staff, computerization would ease the updating process and allow easier organization and access. One contractor is using a scanner to computerize the sheets; however, most contractors do not have this capability.

THE REGIONAL STRUCTURE DOES NOT CONTRIBUTE TO A CONSISTENT AND EFFICIENT PHONE SERVICE

Demographic differences among the regions may affect demand on CIS

There are measurable differences in the contractors' regional populations, and it does not appear that CIS resources are equitably allocated to address the most basic of these differences. For example, total resident population and percentage of population over age 65 (most cancers occur in those over age 65) probably influence contractor demand. Regions consist of populations that range from approximately:

- 1.2 million to 22.4 million[7] in total residents,
- 10.5 percent to 16.7 percent in residents over age 65,
- 395,000 to 3.7 million in population per available CIS phone line in the region and
- 51,000 to 508,000 in residents over age 65 per available CIS phone line in the region.

In addition to the variances in demographics among the regions, there are variances in demographics among contractors who have the same number of phone lines. For example, a contractor with only 4 phone lines is serving a region with 3.9 million residents, while another contractor with 6 phone lines is serving only 1.4 million residents:

[7] Source: 1997 projections--US Census Bureau and the CIA World Factbook (for Puerto Rico only)

Number of Telephone Lines Compared to Regional Demographics

Lines	Contractors	Regional population per line	Resident population over age 65 per line
3	1	395,000	51,000
4	7	2.6 - 3.9 million	312,000 - 482,000
5	5	1.4 - 3.7 million	152,000 - 505,000
6	6	1.4 - 3.7 million	185,000 - 508,000

It is not clear that the regional structure positively contributes to customer service

Despite CIS's assertion that the regional structure enhances customer service, we were unable to identify any factual basis to support the claim. Furthermore, we interviewed staff from health information services providing telephone services similar to CIS and found that disseminating technical health information and dealing with callers in crisis from a central location can be done efficiently and achieve a high level of customer satisfaction. One cancer organization stated that they have not had any objections to their centralized service (that was recently consolidated from many regional locations), because "if you give [callers] what they want, they don't care where you are."

We found no evidence that callers are better served by information specialists located within a geographic region that the caller is likely to identify with. In fact, the opposite is true. It is unlikely, given CIS's current regional structure, that 1) a large majority of callers identify with the location of their CIS contractor office and 2) CIS contractor staff are necessarily more aware of all of the areas they serve simply because of their location (see the appendix for the current CIS regional structure).

The CIS also claims that the regional configuration is important for the outreach program. While it is true that outreach targets communities within the region, the relationship between outreach and the phone service is superficial at best. Although the telephone service and the outreach coordinators are housed in the same contractor offices, most contractors did not identify a strong relationship or interdependence between the two programs. In most regions, the information specialists do not participate in outreach and the only relationship between the two programs is that outreach promotes the telephone service, the telephone service fields calls for outreach and information specialists sometimes provide the outreach coordinator with technical information. In fact, several project directors indicated that they are struggling to find a relationship between the two programs because they have different "missions," "reach different groups" and "are two separate pieces that do not always function together."

Contractors receive different levels of support from their parent institutions

Most project directors believe that they have good relationships with their parent institutions, but some benefit more from these relationships than others. For example, some contractors receive money towards salaries, free space or renovated space. They also receive equipment

(including computers), furniture, technical support, administrative support, promotion and a general sense that the parent institution believes in the CIS mission and goals. Some contractors have enough office space to provide information specialists with their own work area away from the phone room. Among contractors that receive considerable support from their parent institutions, project directors told us that "the center fills gaps that the contract doesn't cover" and "[Our parent institution] understands that we are part of NCI, but they still provide us with whatever we need."

Unlike these more fortunate contractors, other contractors receive only benefits that are available to all employees of the institution such as discounts on tuition and access to training and speakers. They are often housed in less desirable space which is not on, or even adjacent to, the main campus. Their computer equipment is outdated and technical support is "catch as catch can." Information specialists must share desks and have no private study space. They do not even have dividers between their workstations. Similarly, the more fortunate contractors have the capacity to computerize information to make it more accessible, while these do not.

Personnel classifications vary by contractor, as well. Some classifications do not seem appropriate for information specialists.[8] For example, information specialists at one contractor had been classified as "phone operators" while at another they had been classified as "coordinators." In contrast, the parent institution of another contractor worked closely with the project director to create a "medical information specialist" classification to acknowledge the special skills that the job entails.

Contractor policies, procedures and management practices affect telephone access and employee morale

Although the CISTERS program and other quality assurance measures insure that CIS contractors provide consistent information, there is little consistency in the way contractors manage their workload. These include the ways they conduct clinical trial searches, assemble mailings and retrieve information. Though most contractors have assigned staff who are scheduled to conduct clinical trial searches, other contractors allow information specialists to complete clinical trial searches at any time. Similarly, at some contractors, mailings are handled by administrative or assigned staff or during scheduled off-phone time, while at others information specialists assemble their mailings between each call, even if there is a queue of waiting callers. Further, some contractors have insured that assembling mailings is as efficient as possible by having commonly used items pre-copied and commonly sent packages prepared, but others photocopy information and assemble packages for each mailing. Some contractors have said that information specialists, being highly trained professionals, should not spend their time filling and stamping envelopes. The CIS Branch has plans to institute an electronic publication ordering service, but this can only be done after contractor computer hardware is upgraded. Furthermore, only some contractors have the capacity, support and interest to computerize as much information as possible, thus making the information easier to access and organize.

[8] Note: the OIG did not collect personnel classifications from all 19 contractors.

Variations in how managers interact and allocate work frustrate some staff and may affect access to the phone service. During focus groups, information specialists expressed frustration that managers are not involved enough in the daily operations of the telephone room. They felt that this made it difficult when managers instituted change, because managers were not always aware of how changes would affect telephone room operations. While a majority of telephone service managers answer the phone lines, information specialists at a few contractors expressed frustration that their managers do not take calls. At one contractor, staff complained that they are not receiving the breaks they are entitled to because of the demands of the telephone line; however, their manager does not take calls to help alleviate this problem. Staff also complained that their manager interrupts them during calls to give them written "reminders" and make sure they give callers complete information. Information specialists find this practice frustrating and demoralizing. Additionally, several project directors expressed concern about the inadequate management and supervisory skills in their offices.

There also are variances in the opportunities for professional growth that contractors offer information specialists. Several telephone service managers expressed frustration about their ability to provide information specialists with opportunities for professional growth. However, some contractors have tried to address this by expanding the role of the information specialist to include rotating supervisory responsibilities or other assignments, such as database development and maintenance.

THE CIS CUSTOMER SERVICE STANDARDS DO NOT ADDRESS ACCESS TO THE TOLL-FREE SERVICE

Benchmarks or standards aimed at reducing access barriers have not been developed

Contractors are not required to keep their busy signal rates, wait times and abandonment rates under any specific threshold. Standards have not been developed, such as minimum expected number of calls, maximum allowable cost per call or maximum allowable busy signal rate. Contractors do not know what the CIS Branch expects in relation to access indicators, if anything. Some contractors are uncertain about how to balance providing quality, personalized and detailed attention to callers with their need to reduce busy signals and wait times. One telephone service manager commented that "the number of standards in the contract should be investigated" and suggested that standards be developed separately for each contractor. In the absence of standards provided by the CIS Branch, this manager has instituted a standard for the number of calls that her staff should complete per day.

Similar national health information telephone services have benchmarks and standards

One nonprofit telephone health information service is applying private sector standards and techniques that are similar to those mentioned in the National Performance Review. Located in a single national call center, the service recruited and hired a manager who had managed a corporate call center. The service has goals for wait times, abandonment rates and "service levels." Technology permits them to virtually eliminate their busy signal rate. The service currently experiences a 15-second average wait time with a goal of 12 seconds and has a

3.5 percent abandonment rate with a goal of less than 3 percent. The percentage of calls answered in 30 seconds or less is 88 percent, with a goal of 90 percent.

Another health information service, operating under a federal government contract, has call volume standards set by the contracting agency. The service is under contractual obligation to complete a minimum number of calls per year.

RECOMMENDATIONS

The Cancer Information Service, through its telephone service, provides the public with an invaluable resource for information about cancer prevention, causes and treatment. To expand access to the toll-free service, the Office of Cancer Information, Communication and Education should:

1. **Complete and implement its plans to upgrade CIS telephone technology to enhance contractors' ability to provide information to all callers.**

   Among the improvements that should be considered are:

   - the ability to route callers nationally to the first available information specialist;
   - the use of recorded messages that (1) notify callers of their estimated hold time or place in queue, (2) prompt callers to call back if all lines are full, (3) prompt callers to choose either the first available information specialist nationally or an information specialist in their region, (4) provide basic cancer information and (5) include the medical disclaimer and a citation that only NCI resources are used unless otherwise noted by an information specialist and
   - the option to listen to recorded messages that provide telephone numbers for CANCERFAX and the PDQ Search Service for Health Professionals, information about CANCERNET and up-to-date NCI responses to current media events on cancer (e.g., green tea and cancer, the nuclear fallout study).

2. **Establish minimal technical requirements and performance standards for contractors.**

   This could be accomplished by:

   - implementing minimum requirements regarding CIS contractors' computer hardware and software, staff computer aptitude and technical support,
   - creating a single LAN for CIS contractors to (1) eliminate many of the problems with maintaining and updating databases and software and (2) facilitate the computerization of more information and
   - using benchmarks similar to those in the National Performance Review.

3. **Modernize and correct deficiencies in the Physician Data Query.**

   - Continue efforts to redesign the PDQ to enhance search and navigational capabilities, completeness and accuracy.

- Insure that CIS staff, including information specialists, continue to be involved in PDQ improvement efforts.

4. **Improve the efficiency of information specialists by reducing data gathering requirements and computerizing more reference materials, such as "Fact Sheets."**

   - Improve the Electronic Call Record Form by eliminating technical problems and restrictive policies, such as the need to manually insert codes and enter codes as well as narrative.

   - Require documentation of calls and collection of demographic data by utilizing statistically valid random sampling.

   - Allow contractors to use disclaimers and citations at their discretion, given that callers will hear a recorded message.

   - Move forward with plans to institute a system whereby contractors would not be responsible for the actual mailing of publications to callers.

5. **Discontinue collecting and disseminating information on community services; instead, partner with national cancer organizations who would provide this information.**

   The CIS has been unable to routinely collect, update and disseminate information on community resources. Two national cancer organizations have committed considerable resources to this effort and would like to partner with CIS to provide referrals. See the companion report entitled "The Cancer Information Service--A Resource for National Cancer Organizations" (OEI-09-97-00361) for more information on this subject.

6. **Re-evaluate the regional structure of contractors.**

   - Base the structure on objective criteria, analysis and performance indicators.

   - Consider reducing the number of contractors and increasing the number of lines to eliminate inconsistencies and allow contractors to answer more calls.

   - Reallocate resources based on historic and expected demographic predictors of call volume (e.g., resident population, cancer incidence).

7. **Encourage contractors to further enhance training.**

   - Regularly evaluate the training needs of CIS staff with the goal of not only increasing cancer knowledge but also career advancement skills.

   - Clarify and publicize the instructive purpose of CISTERS and contractors' obligations to address CISTERS recommendations.

AGENCY COMMENTS AND OIG RESPONSE

We received written comments on the draft report from NCI (see appendix B). We are encouraged that NCI already has taken action on some of our recommendations. However, we remain concerned about inefficiencies in vital areas of the program and would like to clarify and reassert the following recommendations.

1. DATA GATHERING PLAN

Sampling is a scientifically valid method for collecting caller information

To improve the efficiency of CIS, NCI should quickly adopt a statistically valid sampling methodology that would capture caller data and information. For example, our statisticians have suggested that an annual sample of no more than 6 to 10 thousand callers could provide adequate and reliable data to project to the universe of callers. In order to address CIS's concerns about collecting adequate data specifically from small groups of under-served callers, our statisticians suggest that sample sizes could be modified using a screening question.

2. COMMUNITY SERVICE INFORMATION

Private sector organizations are in better positions to provide the public with information about community resources, and CIS should no longer attempt to duplicate their efforts

Since considerable private sector resources are being spent to develop, maintain and disseminate information for the public on community resources, we must emphasize our recommendation that CIS discontinue duplicating private sector efforts. Given their finite resources and inability to implement efficient systems for developing and maintaining a community referral system, we recommend that CIS contractors no longer operate such systems. Instead, CIS should rely on national organizations who also have toll-free information services to provide this service.

Using one national database, CIS contractors could refer callers to organizations that maintain up-to-date information on local resources for cancer patients, their families and friends. By doing so, contractor resources could be committed to where they are needed most--providing

NCI information about the prevention, causes and treatment of cancer to the public in a timely and easy-to-understand manner.

3. CIS REGIONAL STRUCTURE

The phone service's current regional structure is inefficient. Furthermore, it cannot be justified by the phone service's relationships with the outreach program and research activities.

Regardless of CIS's outreach program and research activities, the current regional structure does not strengthen the telephone service. Specifically, there is no correlation between the

regions' sizes, budgets, number of attempted and completed calls, number of phone lines and number of staff.

While the CIS telephone service and outreach programs are collocated, they are not interdependent. The programs have different missions, different audiences and, with few exceptions, different staff members.

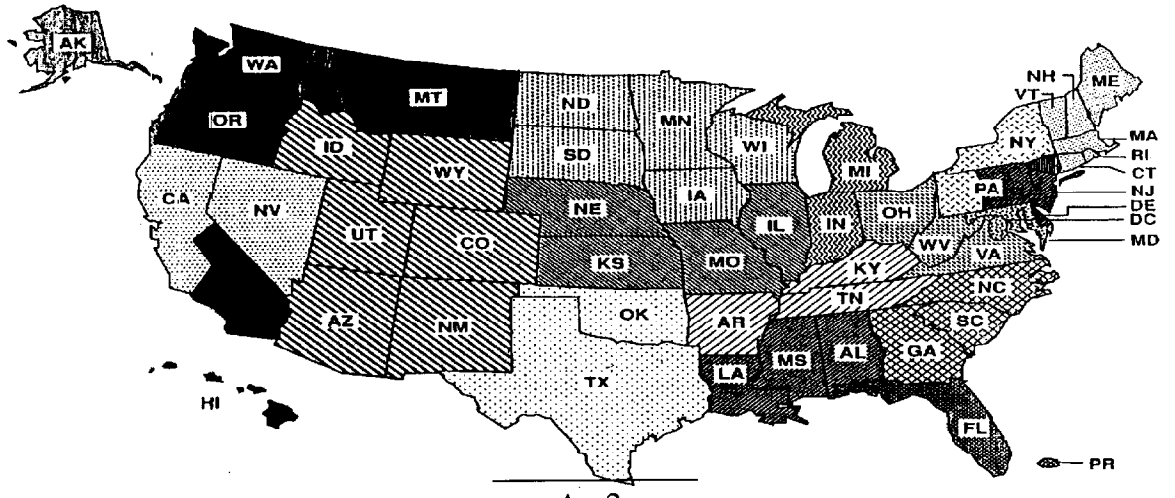
During the course of the inspection, there was little mention of the research activities or their effect on the phone service. Contractors who did mention research participation explained that such activities may consist of asking callers additional questions or providing them with additional information. Contractors' participation in the research projects varies. Some contractors did not believe that such projects interfered with the day-to-day work of the phone service, while others did not believe that it is appropriate for CIS staff to conduct research.

APPENDIX A

THE CIS REGIONAL CONFIGURATION

THE CIS REGIONAL CONFIGURATION

Region	Area Served
1	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
2	New York City, Long Island, and Westchester County, NY
3	New York State (excluding NYC and Westchester County), and Western Pennsylvania
4	Delaware, New Jersey, and Eastern Pennsylvania
5	District of Columbia, Maryland, and Northern Virginia
6	Georgia, North Carolina, and South Carolina
7	Florida and Puerto Rico
8	Alabama, Louisiana, and Mississippi
9	Arkansas, Kentucky, and Tennessee
10	Ohio, West Virginia, and Southern Virginia
11	Iowa, North Dakota, Minnesota, South Dakota, and Wisconsin
12	Indiana and Michigan
13	Illinois, Kansas, Missouri and Nebraska
14	Oklahoma and Texas
15	Alaska, Montana, Oregon, Washington State and Northern Idaho
16	Arizona, Colorado, New Mexico, Utah, Wyoming, and Southern Idaho
17	Nevada and Northern California
18	Southern California
19	Hawaii



APPENDIX B

NCI'S COMMENTS ON THE DRAFT REPORT

DEPARTMENT OF HEALTH & HUMAN SERVICES | Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

APR 24 1998

TO: June Gibbs Brown
Inspector General, OS

FROM: Deputy Director for Management

SUBJECT: Office of Inspector General (OIG) Draft Reports, *The Cancer Information Service: Expanding Telephone Access, OEI-09-97-00360, and The Cancer Information Service: A Resource for National Cancer Organizations, OEI-09-97-00361*

Attached are the National Institutes of Health comments, prepared by the National Cancer Institute (NCI), on the subject draft reports. These reports provide confirmation of previous NCI findings as well as further insight into the issues affecting access to this valuable resource for the American public.

We agree generally with the OIG recommendations or with the objectives of the recommendations. However, in some cases we believe that these objectives can be met through actions or initiatives other than those recommended in the reports. Our comments describe the steps that NCI has taken or plans to take to address each recommendation.

Should your staff have any questions, please call William Gillen, Office of Management Assessment, at 301-496-2462.

Anthony L. Itteilag

Attachments

MAY 7

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Cancer Institute
Bethesda, Maryland 20892

APR 16 1998

TO: June Gibbs Brown
Inspector General
Through: Director, NIH APR 23 1998

FROM: Director, National Cancer Institute, NIH

SUBJECT: **Office of Inspector General Draft Report: Cancer Information Service: Expanding Telephone Access (OEI-09-97-00360)**

Office of Inspector General Draft Report: The Cancer Information Service: A Resource for National Cancer Organizations (OEI-09-97-00361)

We have reviewed the above-referenced draft inspection reports that assess access to the National Cancer Institute's Cancer Information Service. The inspections were conducted in cooperation with NCI program staff and the contractor staff at the regional CIS offices. The reports provide confirmation of previous NCI findings as well as further insight into the issues affecting access to this valuable resource for the American public.

Our detailed comments on both reports are attached. Thank you for the opportunity to review and comment.

Richard D. Klausner, M.D.

Attachments

National Cancer Institute Comments on
Office of Inspector General Draft Report:
Cancer Information Service: Expanding Telephone Access
OEI-09-97-00360

NCI GENERAL COMMENTS

The Office of Inspector General study provides confirmation of NCI findings and further insight into the issues affecting telephone access to the Cancer Information Service. It is useful to have this additional, independent assessment as the National Cancer Institute proceeds with its plans to upgrade the CIS and improve access to this important source of accurate, up-to-date cancer information for the public, patients, and health professionals.

OIG RECOMMENDATION
Complete and implement plans to upgrade CIS telephone technology to enhance contractors' ability to respond to calls and provide information to all callers.

NCI RESPONSE
The Institute agrees. Plans to upgrade the CIS telephone technology have been in progress since 1996, and the NCI-commissioned report of an independent engineering assessment of the system, routing, and equipment has been completed. On the basis of this information, implementation of upgrades to telephone equipment is under way and will be completed in FY 1998.

OIG RECOMMENDATION
Establish minimum technical requirements and performance standards for contractors.

NCI RESPONSE
The Institute agrees that standards are necessary. With the completion of the NCI-commissioned engineering assessment of the CIS telephone service, the program has baseline measurements that allow for implementing technical, operational, and performance standards. This implementation is under way.

OIG RECOMMENDATION
Modernize and correct deficiencies in the PDQ database.

NCI RESPONSE

The Institute is undertaking a major redesign of its entire clinical trial information system, including PDQ. The new clinical trial information system will increase functionality, integrate all NCI-produced information products, tailor information to meet the needs of diverse users, and make information available in a variety of mechanisms and formats, including the World Wide Web.

OIG RECOMMENDATION
Improve the efficiency of information specialists by reducing data-gathering requirements and computerizing more reference material.

NCI RESPONSE
The Institute agrees that efficiency can be improved. The Institute is working with the CIS Evaluation Task Force, statisticians, and Institute staff to analyze the data gathering requirements, sampling plan, and the requirement for a narrative that documents the call in addition to coding. However, the Institute believes that data collection is critical if the program is to 1) continue to respond to information requested by the public, Congress, the press, or individuals and organizations interested in what the public wants to know about cancer; 2) allow the CIS to participate in cancer control research projects; and 3) conduct quality assurance.

The CIS is preparing to install a new document management system to facilitate the development, updating, and access of CIS reference materials. When implemented, the system will allow the assembly of all resources into a searchable, computerized collection accessible by subject and keyword.

OIG RECOMMENDATION
Discontinue collecting and disseminating information on community services; instead, partner with national cancer organizations who would provide this information.

NCI RESPONSE
The Institute agrees that a more efficient and effective community services referral program is needed, but we continue to think that this type of information is helpful to many people. Redesign of a centralized listing of national organizations providing community resources and referrals is under way. The Institute is actively seeking partnerships with other national organizations to share and reciprocate in this task.

OIG RECOMMENDATION
Re-evaluate the regional structure.

NCI RESPONSE
The CIS program includes not only the telephone service but also an outreach program and a research component that are strengthened by a regional structure.

The CIS outreach program develops partnerships with nonprofit, private, and government

agencies at the national, regional, and state levels. The regional CIS offices reach partners that have an established presence in the region, are trusted within their communities, and are dedicated to serving minority and underserved populations. Through collaborations with cancer centers and universities, regional CIS offices participate in investigator-initiated cancer control and health communications research. All three program components must be considered when evaluating the regional structure of the program. All options for structuring the program will be considered when preparing for the renewal of the CIS contracts.

OIG RECOMMENDATION

Encourage contractors to further enhance CIS staff training.

NCI RESPONSE

The Institute agrees that staff development is important. The CIS program began a management initiative in March 1998 to emphasize the importance of professional development and skills building in regional CIS offices. Additional training programs to enhance career development for CIS staff are appropriate for contractors and indicate institutional commitment to the CIS program.