

# Technological Considerations

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## Overview

Technologies supporting quitlines are constantly evolving. They have become increasingly powerful and sophisticated and now offer many capabilities that were not widely available when the first quitlines were established. Telephone systems in particular have evolved a set of features specifically for “call centers,” the generic term for organizations that conduct a major portion of their business over the telephone, usually from a single location with many agents. Likewise, information systems have evolved many tools for managing the information necessary for the smooth functioning of these call centers.

“Call center” is the generic term for an organization that conducts a major portion of its business over the telephone.

All states contracting with vendors to provide quitline services should request a complete description of the call-center technology to be used. This chapter examines technologies that are important to quitlines. It also includes a case study that details specific systems and software that the American Cancer Society uses to provide quitline services to several states.

## Telephone Systems

Quitlines, like most other call centers, typically utilize a private branch exchange (PBX) telephone system. PBX systems are made by many manufacturers and vary greatly in capacity, but collectively they represent the most robust telephone systems available. All PBX systems have a communications server, which functions as the “brain” of the system. This server can be connected to hundreds or even thousands of telephones. Because such systems lend themselves readily to expansion, quitline providers that are part of larger organizations may simply work within their organization’s telephone system instead of buying or leasing a separate one. Quitline providers that do acquire a separate PBX system generally find them easy to scale up as needed.

High-speed telecommunication lines enable large amounts of information to be moved efficiently and at low cost.

High-speed telecommunication lines such as T1, DSL (digital subscriber lines), or ISDN (integrated services digital network) enable large amounts of voice or data information to be moved efficiently and at low cost. For the high levels of telephone traffic that quitlines experience, T1 lines provide optimal efficiency. Each T1 line can handle up to 24 simultaneous conversations. Quitline providers can realize savings by using T1 or high-speed lines instead of more expensive, conventional switched-access lines. Also, long-distance rates are cheaper (as low as a few cents per minute) since voice transmissions over T1 lines are less expensive for carriers, and much of the savings is passed through to the subscriber.

A basic call-center function is to queue incoming calls and route them to staff members according to preestablished priorities.

Perhaps the most basic call-center function required in a quitline telephone system is the ability to queue incoming calls and route them to staff members according to preestablished priorities.

Quitlines that offer service in more than one language need to be able to code each staff member's linguistic abilities in the system so that, for example, calls coming in on a Spanish line are routed only to those who speak Spanish. They may also need to prioritize Spanish calls over English calls if all of their staff members speak English, but only a small number also speak Spanish. This would help address the difference in staffing of the two lines.

Quitlines may need to define other staff skills in the system, such as the ability to perform intake or to provide counseling. For example, all staff members may be trained in intake, while only a subset is trained to provide counseling. These skills can be programmed into the phone system so that anyone can receive an intake call, but only a counselor can receive a counseling call (e.g., one transferred by an intake worker who has assessed the caller's preference for service). To make the distribution of workload equitable, the system can also be programmed to route calls to the staff member who has gone the longest time without handling a call. These are just a few of the ways in which the "automatic call distributor" (ACD) function of call-center systems enables quitlines to serve large numbers of callers in an organized, efficient manner.

A good telephone system allows supervisors to silently monitor sessions at will.

Quitlines must be able to supervise and monitor the work of their staff, and technology is available to help in this area. A good telephone system allows supervisors to silently monitor sessions at will. This allows the supervisor to ensure that individual staff members provide quality service and to aid them in the event of a crisis, such as when a caller threatens suicide. Training headsets that allow new counselors to shadow a supervisor and hear firsthand how an "expert" counselor handles counseling sessions are available.

Sophisticated software can allow managers to generate a multitude of reports on important aspects of staff members' telephone work, such as the number and length of intake or counseling sessions, percentage of time spent on a call or being available to receive one, percentage of calls answered "live," and so on. Just as important, the software allows real-time monitoring of call traffic, showing at any given moment how many staff members are logged in and available, how many are talking to callers, how many callers are in queue on each toll-free line, how long each has been waiting, and so on.

Some quitlines also use computer telephony integration (CTI), which allows the exchange of information between an organization's voice and data systems. For example, the telephone system can instantly and automatically collect a caller's phone number and route it through the quitline's database to see whether it belongs to a previous caller. If so, the caller's previous records are made available to the current agent, which aids the seamless provision of services. CTI can also make outbound calls more efficient by allowing staff members to speed-dial numbers using their computer mouse. By merging data collected by the telephone system with data collected and entered by staff members, CTI allows quitlines to streamline their processes and improve their performance.

The merging of data collected by the telephone system with data entered by staff members allows quitlines to streamline processes and improve performance.

## Information Systems

Quitline operators need to be able to generate a wide variety of reports, both to ensure high quality in all processes involving interaction with callers and to keep their funding agencies apprised of their activity. Quitline staff typically work within a local area network (LAN) with shared data resources in a centralized database. This allows multiple staff members to interact with the same participants and enter, check, query, and analyze data gathered from them.

Many quitlines develop graphical user interfaces (GUIs) that follow their intake, counseling, and evaluation protocols, essentially serving as computerized survey instruments. The software used to create the front and back ends of quitline databases varies by organization, but almost all applications are proprietary programs created specifically for one quitline contract or another. Reporting capabilities are typically enhanced by inclusion of a standard analysis package such as Statistical Analysis Software (SAS) and a report-generating application such as Crystal Reports.

## Case Study

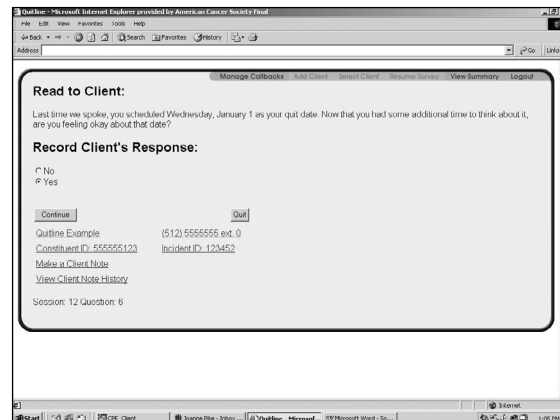
### The American Cancer Society's Quitline Demonstrates Effective Use of Technology

In May 2000, the American Cancer Society (ACS) expanded its tobacco-related services by launching a quitline, which is now available in states that contract for this service. The quitline operates out of the ACS National Cancer Information Center (NCIC) in Austin, Texas, and has access to NCIC's state-of-the-art call systems infrastructure and connections.

The ACS quitline has the capacity to meet large spikes in demand resulting from advertising campaigns and events such as the Great American Smokeout. NCIC uses a Siemens telephone and switching system that can handle up to 244 simultaneous incoming and outgoing calls. NIC also uses computer telephony integration software (IBM Call Path and Call Bridge) and workforce management software that help to maximize efficiency. The telephone system supplies ANI (caller location) and DNIS (caller dial-in phone number) data, which allow staff to identify the caller's state-specific quitline program and provide them with geographic and program-specific services. Intake specialists are able to schedule proactive counseling appointments at callers' convenience by using Siebel scheduling software to access counselors' calendars.

Staff use computerized survey tools to enter data from intake and counseling calls. Every answer to every question is a data point that can be viewed either individually or aggregated with those of other callers for purposes of analysis and reporting. Cold Fusion software is used for data collection and storage, but staff can access the database through Microsoft Access. All data management and cleanup are performed in Access, and then data are exported to SAS for statistical analysis.

Data storage, backup, and recovery procedures are in place to protect all data and programs associated with quitline operation. For example, answers to survey questions are committed to the database after every entry rather than at the end of a session. This enhances the quitline's ability to restore survey data in the event of a system failure.



Screen shot of computerized tool used to enter data from intake and counseling calls.

## Recommendations

Both the agencies that contract for quitline services and those that provide them should be aware of elements of current call-center technology that can streamline and enhance quitline performance, including

- ◆ Private branch exchange (PBX) telephone systems, which include a strong, scalable communications server capable of serving large numbers of telephones.
- ◆ T1 lines, which are high-speed lines that can handle up to 24 simultaneous calls.
- ◆ Complete automatic call distributor (ACD) functionality to manage the routing of large numbers of calls in an organized, efficient manner.
- ◆ Software that allow supervisors to monitor both individual telephone sessions and overall system activity.
- ◆ Computer telephony integration (CTI), which allows the exchange of information between the voice and data systems.