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Developing CASPAR: A Computer Assisted System for Patient Assessment & Referral

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Abstract

A study was completed on the use of a computer-based system that provided counselors with resources for client referrals to free or low-cost services within the community based on problems identified with an ASI (Addiction Severity Index) assessment. That study, completed in Philadelphia, found that in comparison with clients whose counselors received a standard ASI assessment training, clients whose counselors also received brief training on the simple, easy-to-use computer-based Resource Guide (RG) had treatment plans that were substantially better-matched to their presenting problems and received significantly more and better-matched services. Because of these favorable results, the current manuscript presents further data on counselor use of the RG and, to facilitate the implementation of these procedures by others, we provide access to the original RG database, describe the steps necessary to develop and maintain a RG, and provide training suggestions.

Keywords: assessment, technology transfer, problem-services matching, substance abuse treatment, treatment planning

1. Introduction

According to Waltman's review of the substance abuse treatment literature, some of the key factors associated with successful treatment include: easy access to services, skilled therapists, and "matching treatment to salient patient variables" (1995). Research also indicates that problems in social and personal health areas such as family, legal, employment and psychiatric problems are predictors of prognosis during addiction treatment as well as predictors of relapse to substance abuse following treatment (Rounsaville et al., 1987; Fiorentine et al., 1999; Hser et al., 1999; Woody et al., 1985; McLellan et al., 1997). Thus, it is reasonable to think that substance abuse treatment outcomes would improve if patients received services tailored to the specific needs identified in their assessment, as part of their treatment.

However, a comprehensive review of contemporary addiction treatment practices by the Institute of Medicine (1999) and a more recent study with a national sample of treatment programs (McLellan et al., 2003) showed that few treatment programs have professional staff available to provide additional services; that shrinking medical insurance funds rarely reimburse for services they categorize as 'medically unnecessary', and that the general rule is standardization of treatment, regardless of the many individual differences in patients problems at admission (also see, Institute of Medicine, 1990). The ongoing decrease of funding for and provision of "ancillary" services, such as medical and social services, is well documented in several longitudinal and national-level studies (D'Aunno & Vaughn, 1995; Etheridge et al., 1997; Etheridge et al, 1995).

Some of the factors preventing the delivery of supplemental or "wrap around" services in community addiction treatment settings are organizational and include the lack of available on-site services, few professional staff, inadequate counselor training and no reimbursement for referral to these services (Institute of Medicine, 1999). Assistance with locating public programs

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and agencies where patients can receive needed services for problems in areas such as employment, medical, or housing would be valuable to both clinicians and patients. To this end, we developed a software-based resource guide to all manner of wrap-around services available in the Philadelphia area and randomly assigned 33 counselors working in outpatient substance abuse treatment programs to receive either a standard 12-hour ASI assessment training or the standard 12-hour ASI assessment training plus an additional 2 hours training on using the resource guide to access services and provide referrals to patients based on the problems identified at assessment. In another article, (See Carise et al., 2004, in press) we discuss the results of our study in detail. The purpose of this article is to present data on the successful use of the RG and to provide a “how-to” manual for the development and maintenance of a computer-assisted resource and referral guide to free or low-cost services in any community. The Institutional Review Board at this research center, as well as at each site where applicable, approved the study and signed informed consent forms were collected from both the counselors and the clients. All procedures followed were in accord with the Helsinki Declaration of 1975.

1.1. Background and purpose of the original study

It was reasoned that match between patient problems identified at assessment and services received (either at the treatment site or through referral) would improve if counselors were provided with and trained to use a directory or resource guide with information on local agencies delivering services in social and personal health areas such as job skills training, housing, medical care, etc. These are the kinds of services that a prior study had shown to be those most desired by substance abusing patients and that were thought to be most necessary for their rehabilitation by directors of substance abuse treatment programs (McLellan et al., 1998, 1999). With this as background, we developed and tested a computer assisted Resource Guide (RG) designed for

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practical use by counselors in conjunction with a standard ASI admission assessment (McLellan et. al., 1992) such as is widely used by treatment programs. Because training is expensive and because frequent counselor turnover is a common problem (McLellan et. al, 2003), we designed the RG for easy, intuitive use, following a brief, 2-hour training.

As stated earlier, counselors who used the RG had treatment plans that were substantially better matched to their presenting problems and their patients received significantly more and better-matched services. Encouraged by these results, we now describe the development of the RG, the RG training, the nature and extent of RG use by trained counselors (again, see Carise et al, 2004 in press, for more details on patient outcomes in the study), and procedures others can use to develop Resource Guides for their communities.

2. Materials and Methods - Development of the RG

Our RG used the Electronic Edition of the United Way of Southeastern Pennsylvania's First Call for Help (FCH) directory as a foundation (Mackie & Walton 1998). The United Way of Southeastern Pennsylvania cooperated with Dorland's Directories to produce that directory and allowed for its use and modification in our study. The FCH directory was chosen to be the foundation because it was the most comprehensive source available and it had been adapted for electronic use, though we produced the modified RG in both electronic and paper versions.

2.1. Resource Guide Content

Our first goal was to ensure that the original information in the United Way services database was updated, relevant to the needs of our target population, and easy to access. The FCH directory included information on more than 5900 human services agencies, sites, and programs in the greater Philadelphia area including numerous counties surrounding Philadelphia.

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We first deleted all programs that were not located in Philadelphia County. To get an estimate on the reliability of the information, a sample of 81 agencies in Philadelphia County were randomly selected and called approximately six months after receipt of the database to verify the information presented in the FCH. Of those 81 agencies, 77 % (N=62) had no change in their information and 23% (N=19) had minor changes in either their location or in some detail of their operation and service availability, but all were easily contacted and updated during the verification phone call. Because the majority of changes found did not hinder access to the agency, we were satisfied by this validation effort. It should be noted that we would suggest a random validation of the agency information on a bi-yearly basis. After this verification, the guide's organizational structure became the focus of our efforts.

Modifications - Our RG started with the FCH but reduced the listings to just those programs with services available in Philadelphia County (where we were conducting the study) and added some services that were thought to be of particular value to substance abusing patients. We deleted auxiliary clubs and agencies that were not thought to be pertinent to the needs of substance abusers presenting for treatment (e.g., 4-H club, animal control, programs soliciting donations, etc). Finally, we were particularly careful to add services not currently in the system that would be of value to substance abuse patients or addressed topics specifically assessed by specific ASI questions. For example, we added listings for agencies assisting with obtaining driver's licenses, or dealing with suspended or revoked licenses because these are common issues for substance abuse patients and were specifically assessed by the ASI questions.

One of the key features within the original FCH is the keyword-cued organization. Typing any of the 316 identified keywords within the database program immediately prompts a range of services associated with those words. This too required modification. First, there were too many keywords for easy use and we combined several into broader categories. For example

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we combined “epilepsy”, “heart/lung disease” and other medical topics into the keyword phrase “health care.” In this way we reduce the original, cumbersome list of 316 keywords in the FCH to a more manageable 131 keywords. All changes to the database were made using Microsoft Access software.

The resulting Resource Guide is a Microsoft Access database which includes 971 Philadelphia-based agencies and parent organizations, 1525 programs, organized into 14 problem categories (including all the ASI problem areas) and accessed through 131 keywords (see Table 1 for Category and Keyword List sample). The same general format for the service provider’s specific information (program name, services available, address, phone number, hours of services, nearest public transportation, intake procedures, languages spoken, fees, eligibility, age groups, and handicapped accessibility) from the original format was maintained. For added ease of use, a service index of the categories and the keywords, a laminated keyword list as well as a category-specific table of contents was added.

2.2. Organization and search methods of the RG software version

Within our computer program, an introduction screen was written to describe the general search features of the software as well as acknowledge supporters of the study - the United Way and the National Institute on Drug Abuse. There are two search methods in the RG - the Agency Name Search and the Program Services Search. The first method uses agency name - the counselor or patient can enter part of or the entire name of a known agency to access information (e.g. Planned Parenthood, Head Start). From the *agency’s* information screen, the various, specific *programs* offered can be directly accessed and printed (see Figure 1 for Agency Information Screen). The second and more frequently used searching approach, the Program Services Search, utilizes the program keywords. The program keyword search gives the user a

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menu of the 131 keywords with the number of programs offering services related to each keyword. The user simply highlights the appropriate keyword (e.g.: day care, family planning, education, legal services, etc). As an added feature, the user can also enter the patient's location by zip code, so that upon highlighting the chosen keyword, the programs display in order of proximity to a pre-specified zip code (see Figure 2). This location (zip code) feature is particularly useful for allowing the patient to select the service provider nearest to his/her home, work or to the substance abuse treatment program. Finally, once the program is selected, the Program Information Screen also lists extensive information on the program including a description of services available, address, hours, languages spoken at the program, how to get to the program on public transportation, etc. (see Figure 3).

2.3 Training on the Resource Guide

The training was designed to supplement and complement training on patient assessment. Although not limited to any specific assessment instrument, in this case, we added the RG procedures to assessment training on the Addiction Severity Index (ASI). ASI training, including instruction on the ASI software developed by the Drug Evaluation Network System (DENS; Carise, McLellan, Gifford, 1999) typically requires 12-hours over two days for full competency. The RG training may be (typically is) provided as a 2-hour adjunct to the standard ASI training – but could also be provided as a general “in-service” training session for those who have previously been trained with the ASI. Nine treatment organizations (33 counselors and 131 patients) participated in the original study. In the study, treatment programs (and therefore their staffs) were randomly assigned to one of the 2 training groups - fifteen counselors from 5 treatment programs received the basic DENS-ASI training (the “standard assessment” or SA group) and 18 counselors from 4 treatment programs received the DENS-

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ASI training and an additional 2-hour training on the RG (the enhanced assessment or EA group). We present data primarily on the EA group.

The two-hour RG training given to the EA group was typically provided to counselors in groups of 5 – 10 and focused not simply on the use of the computerized RG but particularly on how to use the RG with the ASI information to facilitate treatment planning. Participants are shown the RG software with special attention to the two methods of searching for services or program information and basic software navigation skills. Each counselor is given a manual that details the software program's abilities and provides computer screen shots for easy navigation (available in the Treatment Systems Section on www.tresearch.org).

Following the RG and software use training, some time is also spent on the use of ASI information and resource guide functions to develop treatment plans. Counselors are shown that the Treatment Plan Problem List generated by the DENS-ASI software can be combined with the RG to identify specific clinical services available that are directed at those problems identified during assessment. After a few examples, participants are given a mock assessment and are asked to produce a treatment plan using the RG software. After approximately twenty minutes, the group typically discusses the treatment plans that have been developed, with special focus upon the reasons for decisions to target certain problems, and how to decide on the appropriate prioritization of problems and services. For example, counselors are instructed to prioritize any services needed for the immediate resolution of acute medical, withdrawal, or psychiatric problems.

Further, counselors are instructed that prioritization of services may necessitate a delay in linking patients to some beneficial services. For example, a patient needing detoxification and significant levels of psychiatric services would not immediately be targeted to receive job counseling. Again, this training is not simply an exercise associated with the use of the RG

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software, but is instead designed to give clinical meaning to the entire assessment and treatment planning processes that are required by virtually all state substance abuse treatment authorities and by most accreditation agencies (e.g. JCAHO, CARF, etc).

Counselors were encouraged but not required to make the initial call to the service providers during the treatment-planning phase of treatment. If they did not make the initial call with the patient, they were instructed to provide the patient with an automated, printed hand-out of the agency listing which included the agency name, address, phone number, contact person, services provided, fee structure, client groups accepted, etc. Counselors were not specifically asked to follow-up with outside agencies to ascertain whether the patient presented for the services, however, this data was collected through patient interviews completed by research technicians.

3. Results

3.1 Who were the treatment programs, counselors and patients involved in the study?

Treatment Programs

Nine outpatient treatment agencies in Philadelphia participated in the study with 13 separate treatment sites (1 agency had 4 sites, another had 2 sites, and the remaining 7 agencies each had 1 site). All participating treatment sites were community-based agencies serving primarily impoverished areas within Philadelphia. The majority (67%) were non-profit programs; most sites (89%) were affiliated with a larger, parent health system. All sites reported offering group-counseling sessions. About half reported providing on-site medical evaluations or HIV testing. All but 1 site allowed patients “living on the street” to participate in their program. These were fairly large sites; the average number of treatment slots per site was 93. The average length of treatment was planned for 195 days and the average length of stay for

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clients was 128 days.

Counselors

Demographics - Thirty-three counselors participated in the study. Forty-five percent of counselors (n=15) were White and 42% (n=14) were Black, 12% (n=4) reported being of Hispanic origin. Over half the counselors were male (58%). Counselors had, on average 14 ½ years of education and had been working in the substance abuse treatment field for an average of 7 years.

Prior experience and training - Prior to study implementation, although 72% of counselors had administered ASI interviews, only 56% of the counselors had participated in any type of training on the ASI. The average number of ASI's completed by counselors trained on ASI administration (prior to study implementation) was 53, for counselors not trained on ASI administration, the average number of ASI's completed was 45. Similarly, while only 52% of counselors had received any training on developing treatment plans (TP's), 77% of counselors have written TP's. TP Trained counselors wrote an average of 82 TP's and counselors not trained in treatment planning had written an average of 26 TP's.

Treatment experience and recovery status - Fifty-nine percent of counselors reported being in recovery from drug and alcohol problems, and 59% also reported receiving treatment for their problems. Interestingly, there was 1 counselor who had received treatment but was not in recovery and 1 counselor who had not received treatment but was in recovery. Seventy-five percent of those counselors receiving treatment felt that their treatment had been matched to their specific needs.

Prior use of resource guides/referral sources - Twenty-eight percent of counselors had previously used the United Way's First Call for Help resource guide, and 47% reported using the yellow pages to find resources for their clients.

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Patients

Demographics – The 33 counselors recruited a total of 131 patients to participate in the study. The majority (70%) of those patients were Black, 19% were White and 9% reported being of Hispanic origin; 63% of patients were male. Patients had an average of 11.2 years of education and worked an average of 2.7 days in the 30 days prior to assessment.

Substance use and prior treatment – Patients had on average, 11 years of heavy alcohol use, 9 years of marijuana use, 8 years of cocaine use and 2 years of heroin use. The average number of prior treatments for drug abuse was 2.3 and the average for prior alcohol treatments was 1.7.

Criminal justice involvement - Twenty-six percent of patients reported that someone from the criminal justice system suggested their admission to treatment and 30% were on probation or parole. Eight percent of patients had been detained in the past 30 days and 8% reported engaging in illegal activity for profit in the past 30 days.

3.2 Did Counselors who received the RG training plan more services for their patients?

To evaluate the range and specificity of services planned for patients, the 73 treatment plans developed by counselors who received the RG and training were compared with the 52 treatment plans from counselors who had been trained to assess patients in the same way and with the same instrument (ASI and DENS software) but who did not receive the RG and the additional two-hour training. Based on structured ratings by two independent, blinded evaluators (for further discussion, see Carise et al., in press), the counselors who were trained on the use of the RG listed significantly more patient problems and planned significantly more targeted services - particularly in the family/social, psychiatric, employment, medical, and legal problem areas (all differences significant at $P < .05$ or greater).

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Eighteen counselors from 4 sites were trained in the use of the resource guide. Unfortunately the number of counselors at each site was not evenly distributed. Site # 1 had 7 counselors and all were confirmed (by chart records) to have used the resource guide. Site # 2 only had 1 counselor participating and resource guide use for this counselor was not confirmed. Site # 3 had 6 counselors participating and use of the resource guide could only be confirmed by chart records for 2. Finally, Site # 4 had 4 counselors and RG use was confirmed for 2. These varying levels of use might indicate that in some cases, the treatment program has influence over counselor RG use (e.g. in site # 1 all counselors used the RG) and that in other cases, the counselors made decisions on the use of the RG (in sites 3 and 4, one third to half of the counselors used it). It could also be that some patients did not need additional services or that some sites had more additional services than others. For example, site # 3, where only 2 of 6 counselors used the RG is a program just for Veterans that has easy access to other medical or psychiatric services.

We used documented chart records (treatment plans) to confirm actual use of the RG because we felt this was the most conservative measure. We looked for specific referrals to agencies or programs listed in the RG that provided a level of information (address, phone number, who called the agency to make an appointment, etc) only available in the RG, however, counselors whose treatment plans did not have documented referrals that could be directly linked with the RG also reported using the RG in a less formalized manner, not only with their patients, but with prospective patients who call in but don't go through admission at their agency, and for themselves or their family members.

Four counselors used the RG with every one of their patients; and 10 counselors used the RG with at least half their patients. Although we do not have records to link specific off-site referrals made with the RG to off-site services received, seventy-five percent of EA patients

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actually received off-site services via counselor referrals.

3.3 What Types of Referrals were made?

Counselors referred patients to a total of 65 ‘wrap-around’ services from the RG. Psychological services accounted for the largest number of referrals (38%, n=25), employment services accounted for 27% of referrals (n=17). Family/social services accounted for 15% (n=10) of service referrals, whereas medical accounted for only 12% (n= 8), legal services accounted for 5% (n=3) and housing services accounted for 3% (n=2) of the total number of referrals made.

3.4 What Components of the RG did Counselors Value Most?

Eleven of the 18 counselors completed an additional survey, rating the value and frequency of use of each service category in the RG. Although not the most frequently used service, 82% of participating counselors reported that the medical resources were the most valuable. Psychological services, educational services, and housing services categories were each endorsed as valuable by 64% of the counselors; the family and social services category by 55%, and the remaining categories were identified as valuable resources by 25% – 45% of the counselors.

4. Discussion

In an attempt to make the process of developing comprehensive, individualized treatment plans more clinically relevant; and to make the process faster and easier; we modified the United Way’s First Call for Help service directory. We designed it for use with the ASI (specifically the DENS computerized ASI – See Carise et al., 1999); and made it more specific for drug abuse

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treatment providers by modifying its categories, organization, and referencing system, adding specific resources and providing a 2-hour training.

Counselors have been very receptive to the resulting computer-based resource guide and training. We found that the treatment plans from counselors who used the computer-based resource guide were more complete, better matched to the reported needs of the patients at the admission assessment and led to more services (See Carise, Gurel, Kendig, & McLellan, in press). It is interesting with regard to the results of our study that the assessment and treatment planning were not new activities for these counselors. Most were experienced in this area and had performed the function many times prior to the training they received in this study. Further, since most treatment programs in Philadelphia are required to use the ASI in conducting admission assessments, virtually all the counselors were familiar with the instrument. When asked about the value of the assessment prior to the training, almost all of the counselors said that they generally filed the assessment results in the patients' folders and began standard counseling duties without further consideration for the assessment findings. In their view, the assessment and the treatment plan were merely administrative requirements – “paperwork” with no real clinical value. Based on these comments and the results of the training, we do not think that simply training counselors to use the ASI in assessment, or even providing a computer-assisted program to collect the ASI data alone will lead to substantive improvements in the clinical use of the collected information. It is our view that it was the linking of the assessment information to an easy-to-use service directory (i.e. the RG) and the brief training that gave the assessment information clinical meaning and facilitated the problem-services matching.

One of the limitations of the study is that the implementation was limited to 9 treatment providers in Philadelphia. The development process as well as the acceptance and utilization of similar resource guides in different geographical locations may be somewhat different from what

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we observed in Philadelphia. Based on these findings, the RG appears to have notable potential for large urban areas, however, in rural areas (believed to have limited availability of needed services for substance abusers), it may have diminished utility. This is compounded by the facts that there are generally many free and low cost health and social services available in urban areas (such as Philadelphia), and that the transportation systems in cities provide relatively easy access to many of these services. Further, the United Way's electronic First Call for Help was very well developed and our only tasks were to add some specialized services, update and re-categorize the listings. We do not know if other cities or non-urban areas have the same range of services, public transportation or similarly well developed resource guides available (a newly-funded grant will implement the system in 2 suburban areas outside of Philadelphia and may be able to provide additional information on the transferability of the technology).

A second limitation is that we were not able to measure the quality of the assessment and treatment planning process among these counselors prior to our training. Again, this limitation will be addressed in a current NIDA-funded grant to be implemented in 12 treatment programs in 2 counties. Not measuring the differences between the 2 groups at baseline made it difficult to know whether and how much our training actually improved this process. As reported elsewhere, we do have anecdotal reports about the views of the counselors regarding the assessment and treatment planning process prior to this intervention; and these reports suggest only a casual attention to that process (Carise et. al., in press). In a future study we have made plans to obtain baseline measures prior to providing the intervention.

Despite these limitations, the availability of the computer-based resource guide appeared to help counselors not only in widening the scope of the treatment plans they created, but also in making plans with specific action steps. It bears emphasizing that the difference between the 2 groups (EA and SA) treatment plans was not due to differential patient assessment information,

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all counselors had the same, standard training in patient assessment and all counselors passed a post-training test of proficiency in collecting that information.

In fact, it appears that better developed treatment plans among RG-trained counselors could be a simple and direct function of having access to brief training and the computer technology. This is a very simple, even obvious finding, but one that has not been applied in the substance abuse treatment field. We think this process is worthy of further study and we encourage other researchers, treatment providers, and quality improvement personnel to pursue this line of work with their population. In the text that follows, we offer access to the resources created in this study, as well as guidelines for those who wish to develop a similar RG in their location.

5. Guidelines for Creating a Resource Guide in Other Cities

There are two sets of activities associated with the development of a new RG specific for a specific region or geographic area. The first set of activities is the development of an electronic database that will be easy to use and will organize community resources into problem areas pertinent to patients presenting for substance abuse treatment. To facilitate this step we offer the Microsoft Access database used in the study at our website (see CASPAR study information in the Treatment Systems Section of www.tresearch.org) – although many other standard database programs (e.g. Excel, SPSS, etc) could be used. Of course the database provided on our website is specific to Philadelphia but the categorical structure and the programming within it should provide a convenient organizing framework for other potential users. Also, the types of services listed and even some of the specific sources may be useful in focusing local efforts to find and organize similar resources. One easy way to do this would be to simply use the Philadelphia RG as a shell; when specific local resources are identified, go to the corresponding service category

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within the Philadelphia RG and systematically replace the Philadelphia listings with the local listing.

The second set of activities is actually more time consuming and requires the identification, categorization and checking of the local services within the target city/county. This set of activities requires no formalized level of training and can be completed by any staff member or by an unpaid assistant (such as a student or volunteer). Here we offer a five-step method that has worked for us – with estimates of the time required for each step.

1. Locate existing resource directories in the target city/county. The United Way has directories and websites available throughout the United States. Other resources can be found in the telephone blue or yellow pages and on the Internet. Length of time needed to collect this information will vary considerably based on resources and directories available in the area and size of the geographic area to be covered.
2. Combine all resource directories' content into a single electronic database (e.g. Microsoft Access or Excel) organized into the same problem areas covered within the ASI. For our study in Philadelphia (a city of approximately 4,000,000) this step required one full-time staff member approximately two weeks.
3. Expand and personalize the database by asking staff members and associates in other facilities about their favorite or most accommodating referral sources for such regularly required services as recovery houses, educational opportunities, employment assistance, etc. Include the names of the contact person at each agency; specific client background characteristics required by the agency (the agency takes only Spanish speaking clients, etc); any special programs (e.g. services specifically for pregnant women, veterans, homeless, etc.); and any special forms or procedures

required for referral. This step required one staff member approximately two weeks to complete in Philadelphia.

4. Verify that all information available is correct or up to date by calling a sample of the references. This step required a full-time staff member approximately one week to complete in Philadelphia.
5. Repeat this process every six months to update the existing list. Repeating steps 2 – 4 is estimated to require a staff member approximately five weeks to complete in a city the size of Philadelphia.

The provision of the RG and the additional 2-hour training yielded significant results in the number and ‘match’ of the services provided for clients presenting for substance abuse treatment. We believe this is a valuable finding and will continue to study and encourage others to study the importance of providing a link between assessment and services delivery in community-based substance abuse treatment programs.

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Acknowledgements

We would like to thank the United Way of Southeastern Pennsylvania for allowing Treatment Research Institute staff to use their First Call for Help as a basis for our RG. We also want to thank the patients and counselors at the participating treatment programs for their help throughout the data collection process, as well as Keith Royal, and Van Lam who helped with the programming of the resource guide. Work reported was supported by the Counter-Drug Technology Assessment Center at the Office of National Drug Control Policy; and the National Institute on Drug Abuse (NIDA) Grant # RO1 DA13134-01. Portions of this work have been presented at the College on Problems for Drug Dependence (2003 & 2004), a CSAT Sciences to Services Meeting (2004), at the Office of National Drug Control Policy Symposium (2002 & 2003), at a World Health Organization meeting in Egypt (2004), and in DENS-ASI trainings in Wyoming, Delaware, California, Pennsylvania, Scotland, Thailand and Sweden.

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Table 1

RG Category and Keyword Samples

Categories	Sample of keywords
Food and Material Needs	Congregate Meals, Food Banks, Home Delivered Meals
Housing	Boarding Home, Halfway House, Community Living, Mortgage Assistance
Medical	AIDS Testing, Healthcare, Primary Care, Women's Services
Psychological	Counseling, Bereavement, Grief, Mental Health, Outpatient, Support Groups, Sexual Abuse
Financial	Financial Guidance. Housing Assistance. Social Security
Education	Career Counseling, Job Training, GED Training and Testing
Legal	Crime Victim, Equal Opportunity/Discrimination, Legal Services
Employment	Computer Services/Training, Employment, Job Readiness, Unemployment
Family	Counseling, Marriage, Family Centers, Support Groups, Caregivers
Children and Youth	After-School Programs, Foster Care, Youth Development Programs
Older Adults	Alzheimer's Disease, Homebound Services, Transportation
Women	Emergency Housing & Shelters, Healthcare, Maternal & Child, Reproductive Health Care
Gay, Lesbian, Transgender	Advocacy, AIDS, Support Groups, Family Counseling
Other Populations (disabled, hearing impaired, vision impaired, Veterans, non-English speaking)	Case Management, Mental Retardation, Sign Language, Language Interpreters

Note: A keyword can be found in more than one category.

Figure Legends

Figure 1. Sample Agency Information Screen.

Figure 2. Sample Keyword List Screen.

Figure 3. Sample Program Information Screen.

Figure 1. Sample Agency Information Screen.

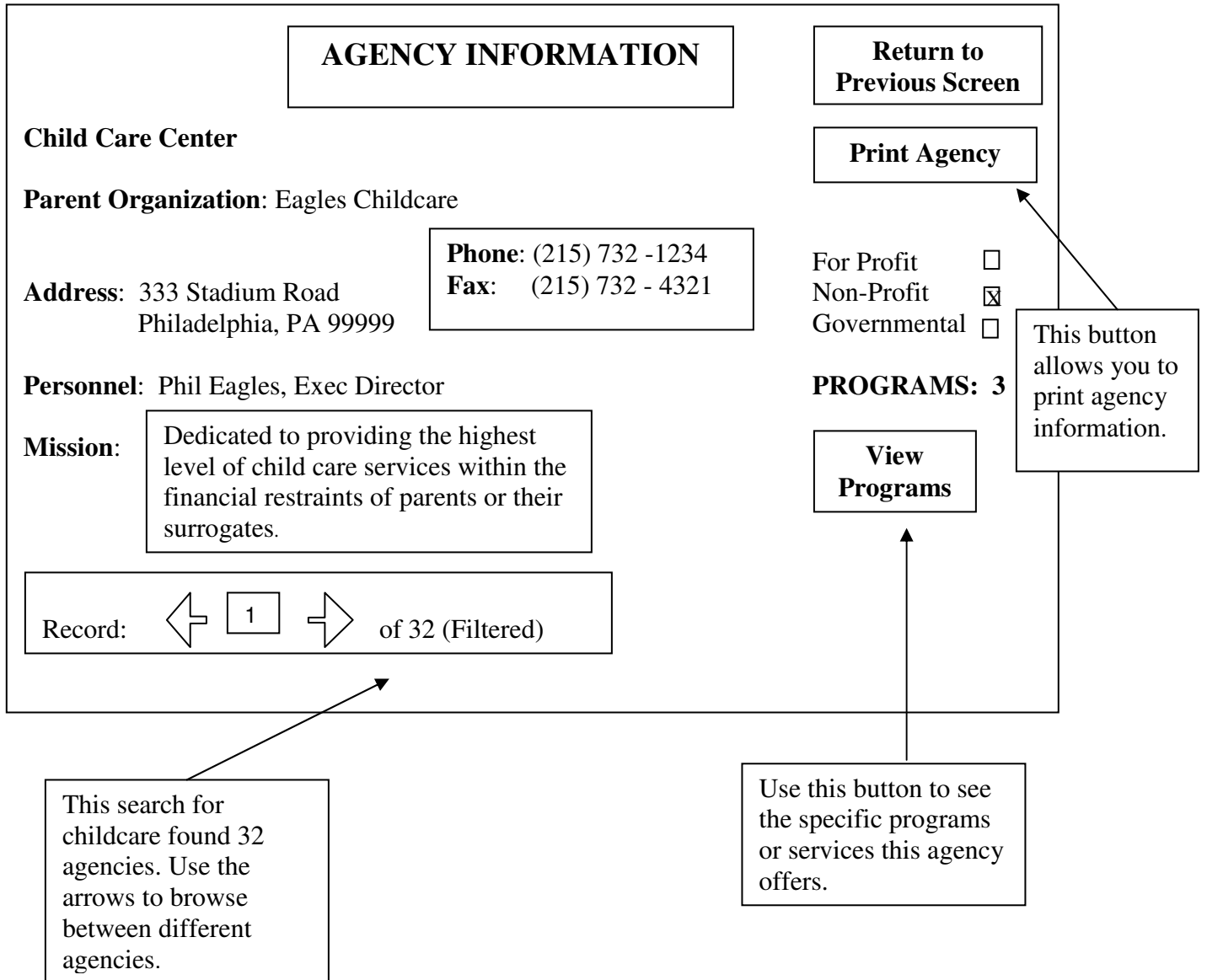


Figure 2. Sample Keyword List Screen.

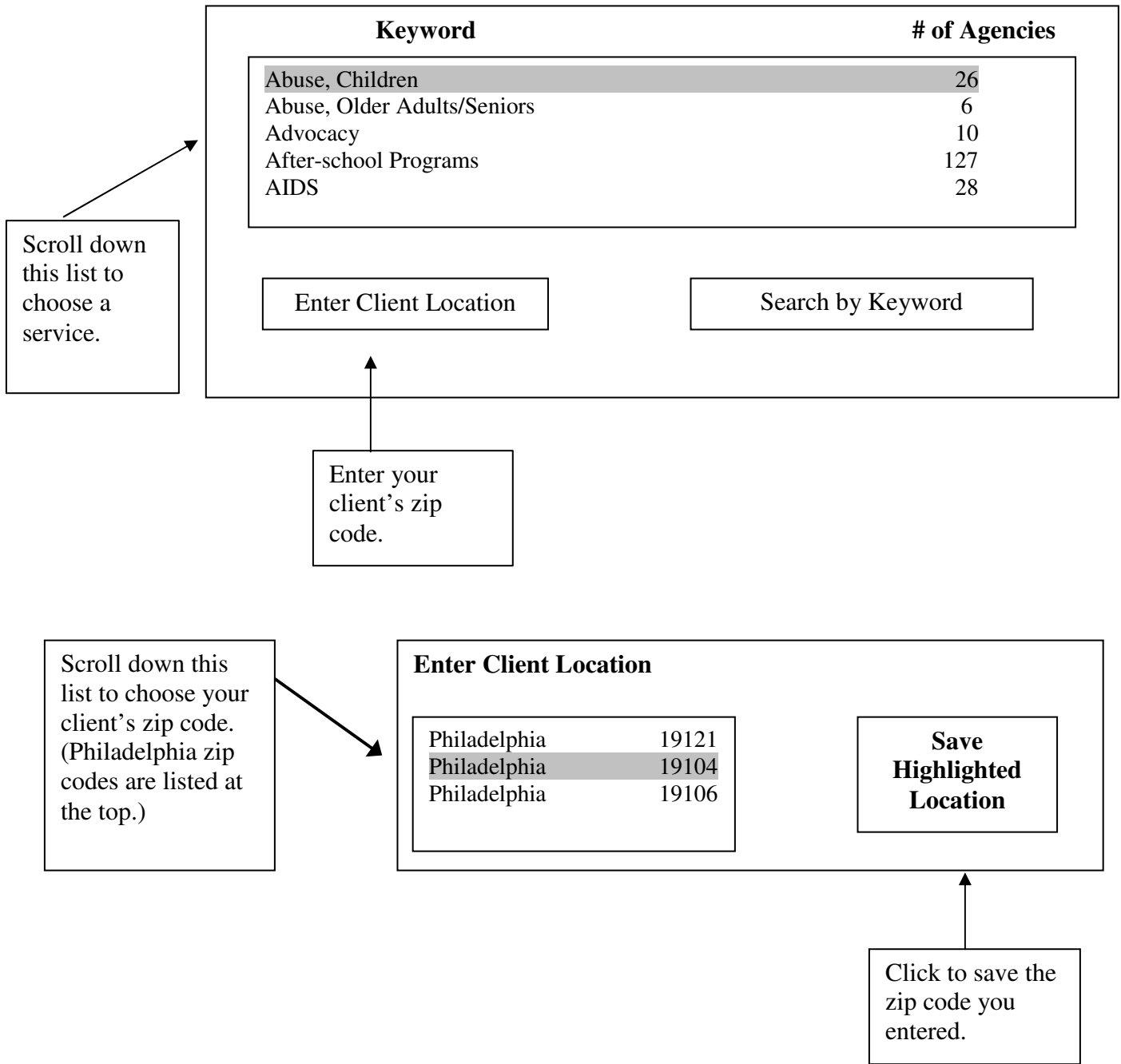


Figure 3. Sample Program Information Screen.

PROGRAM INFORMATION		Return to Previous
Program Name:	Education Classes Eagles Academic Upgrade Program	Print
Agency:	Philly Non-Profit Agency	Go to Agency
Contact Person:	Jane Quarterback.	
Program Information:	Basic skills and literacy education including reading, writing, math, computers and career classes and support services. Classes are 36 weeks long, but students can stay as long as needed. Application required.	
Eligibility:	Desire to upgrade academic skills.	Fees: No Fee
Address:	123 Franklin Field St. Philadelphia, PA 19190	Phone: (215) 555-1234 Fax: (215) 555-5678
Hours:	Mon-Fri 8:30am-3pm	
Intake Procedure:	None	Languages: English, Spanish
Genders Served:	Ages Served: 0-6 7-12 13-18 19-25 26-59 60+	
Male <input checked="" type="checkbox"/>	Female <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Handicap Access:	Yes	
Transportation:	Market & Frankford subway; Buses: #5 and #54	