

Indexing Using Target Population Terms in the AIRS/INFO LINE Taxonomy

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One of the most frequent questions heard during Taxonomy training sessions concerns the use of the target terms. The authors systematically discuss issues and options that need to be considered when using target terms to index a resource database. Points covered include the distinction between the concepts of target populations and eligibility requirements, how to combine target terms with service or facility terms, use of compound target terms, and whether to target service terms whose target is already specifically stated or implied.

The AIRS INFO LINE Taxonomy is the backbone of the modern resource database. Although a set of practices about how to index with the Taxonomy is generally accepted and well-documented, most articles and training sessions tend to say little about the target populations. Before we discuss target terms, a quick refresher on the overall structure of the Taxonomy might prove helpful. The Taxonomy is divided into 11 categories or Level 1 groups. These Level 1 groups are the broadest concepts, with levels two through five¹ becoming more and more specific. The path drilling down to a typical level five term is:

	<u>Term</u>	<u>Code</u>
General	Consumer Services (Level 1)	D
↓	Consumer Regulation	DF
	Licensing/Certification/Accreditation	DF-450
↓	Facility Licensing	DF-450.200
Specific	Day Care Licensing (Level 5)	DF-450.200-18

Ten of the 11 Level 1 groups focus on services:

- *Basic Needs* B
- *Consumer Services* D
- *Criminal Justice and Legal Services* F
- *Education* H
- *Environmental Quality* J
- *Health Care* L
- *Income Support and Employment* N
- *Individual and Family Life* P
- *Mental Health Care and Counseling* R
- *Organizational/Community/International Services* T

¹ Note: Not all areas of the Taxonomy descend all the way to level five terms. Many branches end with level four terms or even level three terms.

The 11th Level 1 group, however, is functionally different from the other ten. The Y branch is comprised of *Target Populations* rather than services. The definition of *Target Populations* is “Individuals who have specific disabilities, medical diagnoses, ethnic backgrounds, national origins, family relationships, income levels, religious affiliations, special problems or considerations, or other targeted characteristics.” In her article “Indexing with the AIRS/INFO LINE Taxonomy,”² Margaret Bruni provided the following explanation of Target Terms.

Target populations are grouped by characteristics such as age, gender, ethnicity and disability. Target terms are intended to be used in conjunction with service type or facility³ type terms to restrict the service or facility type. The facility type term Social Events/Clubs is pretty broad, but combining it with a target group, such as Single Parents or Older Adults, sharpens the focus considerably.”

Purpose for Using Target Terms

There are different ways one can incorporate target terms into a resource database. Because implementation can differ widely, it is important to establish the reason for using target terms so that you will have something to guide your implementation decisions.

Target terms can help users of a Resource Database accomplish the following tasks:

- Collocate services by a population (homeless, Hispanic) or condition (cancer), rather than by a service provided.
- Narrow a service listing to a specific population or condition.
- Assist with the production of specialized lists and directories.

Without the use of target populations, it would not be possible within the Taxonomy to search the resource database for all services targeted to people with AIDS/HIV, or those with cancer, or those who are Hispanic. In addition, it would not be possible within the Taxonomy to reduce long match lists of available resources to only the target population you desire. Target populations can prove very useful, but tremendous indexing discipline is required if they are to be helpful.

² Available in the Library section of the AIRS Web site (www.airs.org/downloads/indexing_with_the_Taxonomy.PDF)

³ Facility terms (like *Public Libraries* or *Senior Centers*) describe what an organization is, while service terms (like *Crisis Intervention* or *Adult Day Care Complaints*) describe specific activities which the organization engages in. Service terms comprise the bulk of the Taxonomy, but facility terms are very useful to indexers. Rather than trying to enumerate every service that the hospitals in a community offer, the indexer can opt to simply index them as *Hospitals* (or to descend to more specific terms like *Military Hospitals*, *Teaching Hospitals*, and *Veterans Administration Hospitals*).

Understanding the Distinction Between Eligibility and Target Populations

It is critical not to confuse the concepts of *target population* and *program eligibility*. Use target populations to indicate the population at which the program is *aimed* or for whom the program was *designed*, not who the program will *serve* (its eligibility). This distinction may be difficult to understand at first, since it is possible for the target population to be identical to the population eligible for the program. Consider the following example:

A program targets people who are homeless. If you must also be homeless to participate, then that program is restricting *and* targeting its services to people who are homeless. The eligibility narrative for that program might read, “Must be homeless to participate” and the target population chosen would be *Homeless Individuals* (YV-300.305).

However, it is more likely that a target population is a subset of the eligible population. Consider the example of an *Adult/Child Mentoring Program* that is targeted to African Americans. The program may allow all races to participate, but it may aim its program toward African Americans. The eligibility narrative for that program might read “Services targeted, but not restricted to, African Americans” and the target population chosen would be *African Americans* (YH-600.025).

There’s a very practical reason for not using target population terms to reflect eligibility—it won’t work for programs with unrestricted or even very broad eligibility requirements. Consider using target population terms to index two programs:

- Program A—A health education program open only to ex-offenders
- Program B—A health education program with absolutely no eligibility restrictions.

Indexing Program A would be straightforward—*General Health Education * Ex-Offenders*⁴ would be both simple and clear. Program B could present a major problem, however, if the indexer elected to apply targets. Since ex-offenders apparently aren’t prevented from participating in it, she could certainly index it as *General Health Education Programs * Ex-Offenders*. The program also doesn’t restrict by gender, so she could also index it as *General Health Education Programs * Males* and *General Health Education Programs * Females*. Nor does it restrict by religion, so indexing the program as *General Health Education Programs * Christians*, *General Health Education Programs * Jews*, *General Health Education Programs * Muslims*, and even *General Health Education Programs * Atheists* would be possible. By the time she worked her way through the *Age Groups*, *Diseases/Disabilities*, and *Ethnic Groups/National Origin* sub branches of the Y branch, she might have combined the *General Health Education*

⁴ Because the agencies for which both authors work use *REFER* database management software, this article adopts the *REFER* convention of using an asterisk to denote indexing in which a target term (or terms) are used to modify a conventional service term. Other software packages may use other conventions to reflect this kind of linkage, and some packages may not include the capability to link Taxonomy terms.

service term with a couple of hundred target terms . . . and without making Program B any easier for her agency's referral workers to find.

Think about it from their perspective. When they take a call from a Muslim woman who is looking for a health education program, they won't have any problem identifying the unqualified term *General Health Education*. But if they take a call from someone who identifies himself as being on parole, the indexing term *General Health Education * Ex-Offenders* will draw their attention to the program specifically targeted at this audience. And if that program turns out to be an unacceptable referral (perhaps due to location or schedule), then they can still browse through the programs indexed under the untargeted term to try to come up with a good referral.

Occasionally, it can be a bit tricky to choose the correct target population when presented with a statement about whom the program serves.

For example, suppose an agency indicates that their program "serves homeless men and women." What should you choose as your target population?

The program's *target* is *Homeless Individuals* – that is the population for which the service was designed. It was not designed specifically for men or for women, so the gender targets would not be appropriate. As a rule, if an agency indicates they are serving all of a particular group (all ages, all genders), they are not really targeting at all.

In summary, target populations should be thought of as *enhancing* the eligibility narrative, but not as defining eligibility.

Initial Consideration: Using Target Terms Alone or in Conjunction with Service Terms

There are two basic philosophies for using target terms: *Linking* or *Floating*. With *Linking* you *attach* a target directly to a service or facility term. With *Floating* you *do not attach* a target to a specific service or facility term—the target stands on its own.

Imagine a program called VFAP (Veterans Financial Assistance Program) that provides specific types of financial assistance for veterans.

Databases which employ a *linking targets* philosophy might apply indexing like this:

- *Electric Bill Payment Assistance * Veterans*
- *Mortgage Payment Assistance * Cancer * Veterans*
- *Rent Payment Assistance * Veterans*
- *Transportation Expense Assistance * Homeless Individuals * Veterans*

In contrast, the indexing done in a database which employs a *floating targets* approach might look like this:

- *Cancer*
- *Electric Bill Payment Assistance*
- *Homeless Individuals*
- *Mortgage Payment Assistance*
- *Transportation Expense Assistance*
- *Veterans*

Both approaches have advantages and disadvantages.

Using the *Floating Targets* Approach

The advantages of this approach include:

- For certain programs, a Resource Specialist would find data entry easier than linking Taxonomy terms to service terms. For example, if a program had multiple service terms but the same target applied to all, the target would only need to be entered once in that program. In the Floating example above, we chose the *Veterans* target once instead of three times like the Linking approach required.
- It may be more understandable to the user to pick a service term and a target term independent of one another when searching.

The disadvantages of this approach include:

- For certain programs, a Resource Specialist would find data entry more difficult. In the Floating example above, you cannot tell that *Mortgage Payment Assistance* is targeted to veterans with cancer and that *Transportation Expense Assistance* is targeted to homeless veterans (you can tell this by looking at the Linked example). You only know that at least one service has to do with cancer and at least one service has to do with people who are homeless, but you don't know *which* service by looking at the list of indexed terms. To remedy this, the Resource Specialist would either need to explain this in the narrative (which would not help refine/narrow the search results) or create three programs (one for each combination of targets) so that the user would know precisely which targets modified which terms.
- The problem of not knowing which service is being modified by which target spills over into problems with searching. For example, if a user wanted to find a rent assistance program for someone with cancer, they might choose the terms *Rent Payment Assistance* and *Cancer* in a Taxonomy keyword search. The VFAP program would be found because it matches both of those terms. The problem is that the VFAP program *does not* provide rent assistance for someone with cancer, it only provides rent assistance to veterans. This type of false positive result would happen unless the Resource Specialist did extra work to separate the program into three separate programs (one for each combination of targets).
- An additional problem with searching would be that a user would not know whether a specific combination of service term and target existed until they selected them and searched. This method forces the user to think of the combination of terms and then test to see if it is available rather than simply displaying what combinations are available as in the Linking method. For example, suppose in your database there was no program that provided rent assistance specifically targeted to Hispanics. However, there were programs that provided rent assistance, and programs that were targeted to Hispanics. If a user chose the term *Rent Payment Assistance* and then chose the target term

Hispanics/Latinos (because those terms exist—albeit independently—in the database), he or she would have to run a search to determine whether that *combination* of terms appeared in one program. In this case, the search would return no results.

Using the *Linking Targets Approach*

The advantages of this approach include:

- When viewing a list of used indexing terms, users immediately recognize that the target term is modifying that specific service and can therefore easily scroll through lists of services for the specific target population needed:
*Mortgage Payment Assistance * AIDS/HIV*
*Mortgage Payment Assistance * Cancer*
*Mortgage Payment Assistance * Cancer * Veterans*
- Users immediately recognize compound targets⁵ as serving a combination (*Mortgage Payment Assistance * Cancer * Veterans*) rather than each group independently (*Mortgage Payment Assistance * Cancer*, *Mortgage Payment Assistance * Veterans*).
- Resource Specialists may include multiple terms and targets in one program without running the risk of misinterpretation by the user.

The disadvantages of this approach include:

- Resource Specialists must be careful to add the appropriate target to the service term that it modifies. This often results in long lists of service term and target combinations.
- Depending on the software, you may not be able to search solely on the target population term (for instance, all programs with the target *Veterans*).
- Unfortunately, some users may be confused when a service term appears in both targeted and untargeted forms in a list of terms used to index a database:

Health Related Support Groups
*Health Related Support Groups * Arthritis*
*Health Related Support Groups * Cancer*
*Health Related Support Groups * Diabetes*

Users may not be sure whether selecting the first option in the above list will result in a list of all *Health Related Support Groups* or only those that are not targeted (the result is a function of the software). Users seem to understand the concept better if all of a particular service term are targeted or none are.

(Actually, there's theoretically a third philosophy: using a target term by itself. This approach makes no sense whatsoever. Indexing a resource with a solo target term like *Older Adults* or *Veterans* is a waste of effort unless you expect to get calls asking for referrals for undifferentiated services for those populations . . . and that's unlikely to happen.)

⁵ Compound target populations will be addressed in the next section.

Issues Raised When Compound Targets Are Used

The term *compound target* refers to indexing in which more than one target term is used to index a program in order to identify the program's intended audience. If a community clinic is specifically designed to provide culturally sensitive medical care to Muslim women whose religious and cultural mores strictly limit their contact with unrelated males, then indexing the program as *Community Clinics * Muslims * Females* would be more accurate than indexing it as *Community Clinics * Females* and as *Community Clinics * Muslims*.

If an I&R agency's software permits the use of compound targets, they can be very helpful. However, Resource Specialists need to be cognizant of how literally computers act. If one program is indexed as *Community Clinics * Muslims * Females* and another program is indexed as *Community Clinics * Females * Muslims*, problems may arise. When referral staff do a database search or consult a directory generated from the database, they may find a long list of indexing terms and combinations of terms that have been used to index resources:

Community Clinics
*Community Clinics * Females * Muslims*
*Community Clinics * Homeless*
*Community Clinics * Immigrants*
*Community Clinics * Muslims * Females*

It is very possible for the referral specialist to see the *Community Clinics * Females * Muslims* combination and jump to the premature (and false) conclusion that the programs indexed under it are the only resources available for the caller. The resources indexed as *Community Clinics * Muslims * Females* could be overlooked.

One simple way to prevent this from happening is to adopt the practice of always attaching target terms to service or facility terms in a particular order: *GED Instruction * Ex-Offenders * Female*, not *GED Instruction * Females * Ex-Offenders*.

The conclusion many Resource Specialists come to is to place terms in alphabetical order. Unfortunately, while this is an easy rule to follow, it causes much confusion in searching and in printed lists. No targeted group is "collocated" or found together. Here is an example of why alphabetizing does not work:

*Health Related Support Groups * African-Americans * Diabetes*
*Health Related Support Groups * AIDS/HIV*
*Health Related Support Groups * Asians/Pacific Islanders * Cancer*
*Health Related Support Groups * Cancer*
*Health Related Support Groups * Children * Leukemia*
*Health Related Support Groups * Diabetes*
*Health Related Support Groups * Hispanics/Latinos * Cancer*
*Health Related Support Groups * Leukemia*

A better way of ordering this is to always place the health condition first. Here's how it would display. In this manner, counselors can quickly see related topics.

*Health Related Support Groups * AIDS/HIV*
*Health Related Support Groups * Cancer*
*Health Related Support Groups * Cancer * Asians/Pacific Islanders*
*Health Related Support Groups * Cancer * Hispanics/Latinos*
*Health Related Support Groups * Diabetes*
*Health Related Support Groups * Diabetes * African Americans*
*Health Related Support Groups * Leukemia*
*Health Related Support Groups * Leukemia * Children*

One of the authors has created a set of rules about the order in which targets should appear.⁶ These rules order the targets in a preferred order based on their code (YB, YR, etc.) with some exceptions. It would be ideal if a software package would allow for an order to be specified and automatically order targets accordingly.

Another option is to attach the targets strictly in code order. This option would be far less arbitrary than attaching codes alphabetically, but more arbitrary than specifying an order. If we attached the targets in code order, the above sample list would remain the same except the last support group would appear as Health Related Support Groups*Children*Leukemia because YB codes (age) appear in the Taxonomy before YF (Diseases/Disabilities), making that term look out of order in comparison because the Leukemia terms would not be collocated. This problem would happen if any of the codes before YF (YB, YC, YD, YE) were part of the compound target. Despite the limitations of this option, a software package would also be able to incorporate this functionality.

Handling Service Terms with Implied Targets

Another complication arises when a target audience is implied by a Taxonomy term. Consider two terms that share a common concept:

- *Ex-Offender Halfway Houses*
FF-190.185 (within the F branch—Criminal Justice and Legal Services)
Community-based programs that provide congregate living arrangements and a wide variety of counseling and supportive services for ex-offenders who recently have been released from a correctional facility but who require a gradual transition from that highly structured and supervised way of a life to a relatively free and normal existence in the community.
- *Mental Health Halfway Houses*
RR-880.510 (within the R branch—Mental Health Care and Counseling)
Programs that provide congregate living arrangements and a wide variety of counseling and supportive services to facilitate the return to the community, if

⁶ Contact Diane Gatto (dgatto@uws.org) if you would like a copy of these rules.

possible, of people who have received inpatient psychiatric treatment for acute or chronic mental or emotional disorders. Included are facilities that provide brief, intermediate and lifelong living arrangements in a sheltered environment.

While it might appear redundant to overtly target either service at its implied target population (*Ex-Offender Halfway Houses * Ex-Offenders* and *Mental Health Halfway Houses * Mental Illness/Emotional Issues*), a case can be made for doing so if an agency plans to use target population indexing terms to generate a specialized directory of community services targeted at *Ex-Offenders* or at *Mental Illness/Emotional Issues*. If that were the case, then resources indexed as *Ex-Offender Halfway Houses* or *Mental Health Halfway Houses* would not be incorporated into a specialized directory unless the relevant target terms were linked to the service terms.

While there are relatively few Taxonomy terms that imply their target audiences, the practice is heavily used within the *Mutual Support Groups* section. Here's a sampling of terms in that branch shown in context:

<u>Term</u>	<u>Code</u>
• <i>Individual and Family Life</i>	P
• <i>Individual and Family Support Services</i>	PH
• <i>Mutual Support Groups</i>	PH-500
• <i>Abuse/Violence Related Support Groups</i>	PH-500.020
• <i>Child Abuse Support Groups</i>	PH-500.020.10
• <i>Crime Victim Support Groups</i>	PH-500.020.13
• <i>Domestic Violence Support Groups</i>	PH-500.020.18
• <i>Addictions/Dependencies Support Groups</i>	PH-500.050
• <i>Adult Children of Alcoholics Support Groups</i>	PH-500.050.03
• <i>Clutterer/Hoarder Support Groups</i>	PH-500.050.10
• <i>Co-Dependents Anonymous Groups</i>	PH-500.050-12

The roughly 60 level 4 terms (with codes like *PH-500.###*) and level 5 terms (with codes like *PH-500.###-##*) within this branch permit Resource Specialists to index mutual support groups in their community with minimal reliance on target terms. However, some of these terms could still benefit from having target terms attached to them. Indexing a self-help group for cancer patients as *Health Related Support Groups * Cancer* would make it easier to find in a resource database than would simply indexing it as *Health Related Support Groups*.

Open or Selective Targeting of Terms

Another important decision is whether to use target populations with only certain Taxonomy terms (*Selective Targeting*) or to use them with any Taxonomy term to which they apply (*Open Targeting*). With *Selective Targeting*, a decision is made about which specific terms are to be targeted (such as *Health Related Support Groups*). Only those

terms would be available for targeting. With Open Targeting, any service or facility term can be targeted as long as it is appropriate.

Selective targeting seems to work well if you are not interested in collocating or bringing together all services offered to a particular target population. For example, suppose you decide to only target *Health Related Support Groups*. You then target a program that provides a support group for those with cancer. However, suppose you have other programs in your database that also reach out to those with cancer but which are indexed with terms (such as *Client to Client Networking* or *Medical Expense Assistance*) which you've opted not to target. Those programs would not be found when you search by the term "cancer." A user of the database may think that the only programs that are available for someone with cancer are those that you chose to selectively index.

By contrast, since Open Targeting involves using a target whenever it applies, Resource Specialists would have targeted *Client to Client Networking* and *Medical Expense Assistance* to *Cancer* and those programs would be found. A disadvantage of Open Targeting is that it requires much more work and discipline on the part of the Resource Specialists. In addition, there is a danger of "over-targeting," whereby there are so many targets utilized that the terms become difficult to understand or view (especially when compound targets are used and when targets are linked).

One way to prevent over-targeting is to consider heavily customizing the Target Populations (Y) section of the Taxonomy.

Customization of the Target Populations Section

It is generally accepted as good practice within other sections of the Taxonomy to customize or decide on the level/term within each branch at which it is acceptable to index. For example, if you chose to index at the highest level for Food (BD), you would not use any other terms below that in the branch. It is important to customize the Target Populations (Y) section as much as possible, but not all target areas easily lend themselves to customization.

Consider the following example where customization works well:⁷

YD	<i>Caregivers</i>	YD	<i>Caregivers</i>
YD-200	<i>Formal Caregivers</i>	OR	YD-200
YD-330	<i>Informal Caregivers</i>		YD-330
			<i>Formal Caregivers</i>
			<i>Informal Caregivers</i>

A decision could be made as to whether to use YD, or whether to use the more specific YD-200 and YD-330 terms. Because all caregivers are either informal or formal, all subsets of the care-giving population are represented—so you do not need to use *Caregivers* as well as *Formal Caregivers* and *Informal Caregivers*. To use both the

⁷ The convention of striking through a taxonomy term in a hierarchical printout is often used by Resource Specialists to remind themselves and their staff colleagues that they've made a conscious decision not to use that term in indexing their database.

general term and the more specific terms would be confusing to users since they could never be sure a complete list could be found by searching under each term.

Here's where customization may not be helpful:

YF 300.148 *Cancer*

There are at least 15 specific types of cancer listed in the YF-300.148 branch, including YF-300.148-12 (*Breast Cancer*) and YF-300.148-68 (*Prostate Cancer*). Not all types of cancer are represented within the 15 terms, so unlike the Caregivers example above, one could not decide on that basis to only use the more specific terms. In addition, many programs will be offered to those with any type of cancer. If you chose to only use the lower level terms, you would be selecting every lower level term as a target and you would still be missing certain types of cancers. Because it is not practical within the Taxonomy to house all types of cancers, this list will most likely never be complete.

Therefore, following the rules of customization, you would not use the lower level terms and would instead only use the general term *Cancer*. But, if you follow that rule, how will people find Breast Cancer support groups or Prostate Cancer support groups?

If your software allows for a "roll-up" to occur while searching a keyword, a user could be pointed to "cancer" every time they entered "breast cancer" or any of the more specific cancer types. The danger with this is that if the user enters a more obscure cancer, gets pointed to Health Related Support Groups for Cancer, but the support groups do not serve their type of cancer, the user has just been shown a list of things that will not serve him.

In the case above, the recommended course of action would be to either follow the rules of customization and then chose to index at the top level for all resources, knowing there are limitations, or to consider something called "double targeting," which violates the rules of customization. Many Resource Specialists have resorted to ignoring customization rules for areas of the Target Populations section when the rules do not work well for them.

Double Targeting occurs when both a higher level and a lower level target are available for indexing. Double targeting eliminates the problem with inappropriate roll-up results discussed above. A Resource Specialist can use one of three options (or a combination of them). The examples below are for indexing a breast cancer support group using the linked method of targeting.

- Option 1—Use *either* the higher or the lower level term (whichever is more appropriate).

*Health Related Support Groups * Breast Cancer*

This is a nice option because of its ease of maintenance and accurate search results. However, it does not collocate "cancer" terms in a list like Option 3 would.

- Option 2—Use *both* the higher and the lower level terms independently.

*Health Related Support Groups * Breast Cancer*

*Health Related Support Groups * Cancer*

This option is not recommended due to the high maintenance involved and the

inability to retrieve a list of “general” cancer support groups because even groups that deal only with specific types of cancer would also be indexed under “cancer.”

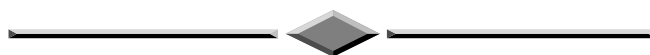
- **Option 3**—Use both the higher and the lower level terms together (the higher-level term is *always* used, followed by the lower level term when appropriate)

*Health Related Support Groups * Cancer * Breast Cancer*

While this option requires more maintenance than Option 1 does, it allows all types of cancer support groups to be shown together in a list. It should be cautioned that this option should only be used in those rare cases where collocating lists is critical. What a user would see when they search on the broader term (*Health Related Support Groups * Cancer*) is also a function of the software they’re using. Should they see *all* types of cancer or only those that are unspecified or deal with all types of cancer? The authors would recommend that selecting the general term should retrieve a list of all cancer support groups regardless of the additional narrower targets and that some other mechanism must be developed to allow users to view the support groups for “all types” of cancer. Perhaps another target could be created for this purpose.

Conclusion

Targets can be a very useful addition to a database, but if they are not used consistently or with forethought, they can create problems in an otherwise well-organized database. It is critical for the database administrator/resource manager to work with staff to consider all the issues involved in using targets and to establish, abide by, and periodically review written policies governing use of target terms.



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