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ABSTRACT

Indicator checklists (questionnaires or checklists that contain selected predictive items from longer, comprehensive instruments) are used by states to monitor the conformance of human service providers with state requirements. This guide provides instructions for developing such a checklist as part of an instrument-based program monitoring system. The resulting instrument is intended for use by managers and technical specialists responsible for monitoring systems. It is pointed out that, although the guide focuses on monitoring systems for child day care, indicator checklists are potentially useful in other human service areas as well (e.g., foster care). The first section of the guide provides a brief introduction. The second section describes the origin of the indicator checklist concept as part of instrument-based monitoring and discusses the advantages of developing a checklist. The third section provides step-by-step instructions for constructing an indicator checklist based on an existing comprehensive instrument. The fourth section suggests ways of integrating the use of indicator checklists with comprehensive instruments and provides ideas on implementation. Appendices contain detailed information on technical issues such as quantitative methods for selecting particular predictor items. (RH)

An Instrument-Based Program Monitoring System:

A New Tool for Day Care Monitoring

Volume 2-Guide For Developing The Indicator Checklist (Revised Edition)

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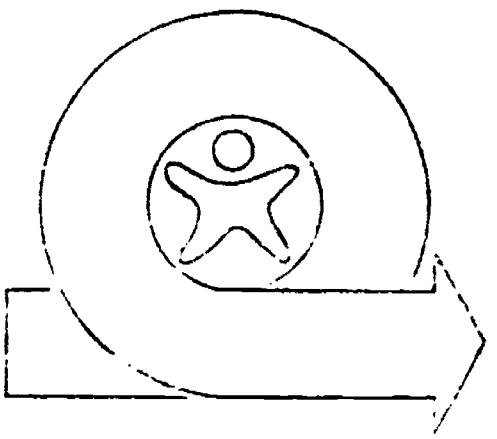
CHILDREN'S SERVICES MONITORING TRANSFER CONSORTIUM



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1. INTRODUCTION

This Guide provides instructions for developing an indicator checklist as part of an instrument-based program monitoring system. It is intended for use by managers and technical specialists who are responsible for managing and improving monitoring systems for human services. Though the Guide focuses on monitoring systems for child day care, the concept of an indicator checklist has potential relevance for other services (e.g., foster care) for which states have monitoring responsibilities.

The Guide is organized into three sections:

- **What is an indicator checklist?** This section describes the origins of the indicator checklist concept as part of instrument-based monitoring and discusses the advantages of developing a checklist.

- **How to develop an indicator checklist.** This section provides a step-by-step guide for constructing an indicator checklist that is based on an existing comprehensive instrument.

- **How to implement the indicator checklist.** This section suggests ways for integrating the use of indicator checklists with comprehensive instruments and provides ideas on how to implement the checklist.

The appendices to the Guide contain detailed information on technical issues, such as quantitative methods for selecting particular predictor items, which should be considered in the process of developing an indicator checklist.

II. WHAT IS AN INDICATOR CHECKLIST?

An indicator checklist is a questionnaire or checklist that contains selected predictive items from a longer, comprehensive instrument that a state uses to monitor service providers' conformance to state requirements. The state requirements may include health and safety regulations, fiscal compliance provisions in service contracts, or programmatic requirements that are the basis for the provider's receiving public funding.

The indicator checklist is a shortened version of the comprehensive instrument. It contains items that have been determined to be most effective in discriminating between providers that typically receive high overall scores on the comprehensive instrument and providers that typically receive low overall scores. Because these items distinguish well between providers who are in strong compliance and those that are in weak or non-compliance, they have been called "predictor" items. That is, an individual who conducts a monitoring review should be able to use scores on the indicator checklist to "predict" whether a given provider would have scored well or poorly on the comprehensive instrument.

Background of the Indicator Checklist

The concept of the indicator checklist grew out of instrument-based program monitoring (IPM) systems. IPM systems are monitoring systems that rely on the use of objective, specific questionnaires or checklists, rather than narrative site visit reports, as the basis for conducting reviews to ensure that human services providers comply with a state's requirements.

The advantages of an IPM system over narrative-based systems include:

- consistency among monitors in the scope and depth of monitoring reviews;
- assurance that all regulatory areas will be covered in sufficient detail;
- establishment of clear, objective expectations of providers and state monitors;
- simplified procedures for monitoring;
- potential for cost efficiencies in the state's monitoring effort; and
- promotion of quality programs.

These advantages and other details of IPM systems are discussed at greater length in Volume 1 of this series, *Guide for Policymakers.*

Once an IPM system is developed, the next logical question is whether the comprehensive version of a state's questionnaire or checklist needs to be administered for every review of all providers, even those who have maintained consistently high levels of compliance over the years. That is, would it be possible to eliminate certain questionnaire items for particular providers who have good records of compliance without sacrificing the quality of the monitoring effort or reducing regulatory requirements below desired, appropriate levels? The indicator checklist was developed in response to this question.

Advantages of the Indicator Checklist

The advantages of an indicator checklist that can be used selectively in place of the comprehensive instrument are readily apparent:

- The quality of the monitoring effort is maintained. There is no reduction in the need for all providers to comply with all state requirements, and the state still has an objective, consistent basis for determining whether providers are in compliance.
- The burden of undergoing a comprehensive review is reduced substantially for providers who have a history of high compliance and quality service.
- The state has the potential for substantial cost reductions in such areas as staffing and information processing.
- The state can reallocate staff resources that would have been applied to administering the comprehensive instrument to other areas such as providing technical assistance to problem providers and taking more effective action against providers who refuse to comply.
- Reviews of providers may be consolidated. For example, state staff who perform fiscal/contract compliance audits of providers might be trained to administer the indicator checklist during their audit.

These advantages are considerable for states that are currently under pressure to operate more efficiently and with the minimum necessary interference into the operations of private sector organizations.

Concerns About the Indicator Checklist

States may find the advantages of the indicator checklist appealing, but some states will have specific concerns that must be addressed before a decision is made to proceed with development. Such concerns would typically include the following.

1. Can every state benefit from an indicator checklist?

Practically *every state that now has some form of questionnaire or checklist* which contains weighted items can *potentially* profit from using a shortened form of the instrument. Naturally, if a state's instrument is already sufficiently short, then little will be gained by being even more selective about questions or items to include. However, many states are confronted with lengthy instruments that cover a wide range of requirements. These states are prime candidates for indicator checklists.

On the other hand, if a state does not currently have an instrument-based system, then consideration of an indicator checklist is premature. In that instance, the state may be interested in reviewing other volumes in this series on IPM systems that describe how IPM can improve monitoring and reduce costs.

To develop a successful indicator checklist, it is important that the items on a state's current instrument be clearly linked to:

- the state's requirements (e.g., regulations); and
- the results or outcomes that are considered desirable with respect to the providers' performance in such areas as licensing, contract monitoring, and program quality.

Unless there is a clear correspondence between instrument items and requirements, there is a danger that the items selected for inclusion on the indicator checklist may be perceived by providers as improper or illegal.

Similarly, if items on a state's comprehensive instrument are only weakly linked to the results that are expected from providers, then the grounds for selecting particular items as good predictors will not be solid enough.

2. How can the quality of monitoring be assured?

Administrators may wonder whether the shortened instrument will compromise the quality of their state's current monitoring efforts. Our view is that the indicator checklist will *enhance* current monitoring efforts by increasing the efficient and effective utilization of monitoring staff; however, there are precautions that states should take in developing and using indicator checklists.

First, the short instrument should not be used as a substitute for the comprehensive instrument, but rather as its complement. If the short form is viewed as *the* monitoring instrument, then over time providers may have a tendency to meet only the requirements covered on the indicator checklist. This could indeed compromise the levels of provider compliance.

On the contrary, a state should keep its comprehensive instrument as the definitive set of compliance expectations and administer it for the initial review (e.g., licensing review) of a provider. The state could subsequently use the indicator checklist as:

- a **screening device** to determine whether, for a given provider, it is necessary to administer the longer version; and
- an **interim review** instrument to be used as the principal tool for providers who have a good record of compliance.

For example, the longer version would continue to be used both for "problem" providers and on a periodic basis, perhaps every three years, for good providers. Naturally, if the indicator checklist were used with a provider and problems were discovered, then the longer version, or some portions of it, could be administered.

Over time, as conditions change, it will be necessary to update and revise both the comprehensive instrument and the indicator checklist. Using the comprehensive instrument at least periodically with all providers will establish a basis for modifying the shortened version to reflect changing compliance patterns.

Second, it is expected that both versions of the instrument would be used by state staff who are trained and competent to assess compliance (not necessarily only licensing staff or staff with formal training in child development). These staff would certainly not limit themselves to using the short form if they determined, on site, that conditions warranted using the comprehensive instrument.

The purpose of the indicator checklist is to increase the options available to the state for monitoring in a flexible and cost-effective manner, not to put unreasonable constraints or "blinders" on monitoring staff.

3. What are the potential drawbacks?

As with all innovations, the introduction of an indicator checklist as the basis for routine monitoring in a state may create some problems. Because no state has yet made widespread use of such checklists, it is difficult to identify all of the concerns that may arise in practice. However, a few potential problems can be anticipated.

First, some states' laws require that all providers be reviewed every year in all requirement areas (e.g., licensing regulations). That is, the state may insist that an annual review take place for each provider using the comprehensive form of a state's instrument.

In such situations, the use of an indicator checklist may require a state to change its current legal provisions concerning the frequency and scope of reviews. A strong basis for making such a change is the cost-effectiveness of the shorter form, in that it can substantially reduce monitoring costs without reducing the quality of the monitoring effort.

Second, the state staff who are responsible for monitoring may resist the introduction of the short form. From their viewpoint, it may appear that the use of indicator checklists is a reduction in the importance of their professional roles and that the state's cost savings may take the form of fewer jobs for monitors.

If this resistance occurs, a state may need to assure staff that the indicator checklist is not intended to reduce either their professional judgments or the scope of the monitoring function. As mentioned earlier, the indicator checklist must be used to complement, not substitute for, the comprehensive instrument in order for the shortened form to have validity. If anything, the professional judgment of the monitoring staff may be called upon even more frequently as it becomes necessary to decide whether, in a particular case, the short instrument will be sufficient to measure compliance with state requirements. Monitors must be persuaded that the short form is an aid that is designed to reduce the monitors' workload, while offering clear-cut review guidelines, for those providers with whom the short form is appropriate.

The reduction in workload could potentially change the relationship between monitors and providers from one of regulation to one of active support in improving the health and safety of the day care environment and encouraging child development. This change in the monitors' role could enable the state to make even better use of the current monitoring staff's knowledge and experience.

With respect to costs and staff reduction, there is little question that substantial decreases in workload could also result in reduced staffing levels. However, before considering cutbacks in staff, states should consider reallocating staff time that is saved because of the indicator checklist. This time could be earmarked for other monitoring activities such as technical assistance and training for providers.

4. Other legal issues?

Since the first publication of this volume, questions have been raised about the legal status of the indicator checklist, such as:

- Can a state use the results of administering the indicator checklist as a basis to issue a license?
- Can a state licensing agency take action against a service provider based only on the results of administering the indicator checklist?

In the first case, at least one state has received an opinion from its legal counsel that such a use of the indicator checklist may be supportable under its statutes.

In the second case, it should be noted that the indicator checklist was designed as a management tool and a productivity tool, not as an enforcement tool. Neither the results of an indicator checklist review nor a comprehensive review are a substitute for the investigation and evidence gathering required to support an administrative or legal action against a provider.

Other questions about the appropriateness and legality of the indicator checklist will surely arise. *In all uses, the only safe answer is to consult with your state's legal staff before implementing the indicator checklist to ascertain any areas of possible legal exposure.*

This section describes a method of designing an indicator checklist to assess compliance with requirements in child day care. Before proceeding, the reader may find it helpful to review the items selected by Pennsylvania for its indicator checklist (Appendix A).

General Approach

The general approach for constructing the instrument is presented schematically in Figure 1 and consists of the following steps:

1. Begin with your state's comprehensive instrument. In this generalized approach, it is assumed that your state has such an instrument and that it contains a sufficiently large number of items that greater efficiency is desirable.

   Each item on your state's comprehensive instrument should be assigned a score or weight that reflects its relative importance. These weights are essential in order to ensure that the items selected for the indicator checklist according to the method prescribed in this Guide are the items that are most important to the state.*

2. Obtain at least one-year's data on day care providers' compliance as measured by the comprehensive instrument. The scores will be used to categorize providers as either "high-group" (providers in strong compliance) or "low-group" (weak or non-compliant) providers. Consequently, a state must have sufficient confidence in its comprehensive instrument that it is comfortable using scores as the basis for distinguishing between high- and low-group providers.

3. Use the formula described in Appendix B to identify the items from the comprehensive instrument that are most useful in distinguishing between high-group and low-group providers. These "predictor" items become the basic items included on the indicator checklist.

4. Make certain that all "essential" items from the comprehensive instrument are included on the indicator checklist. Essential items cover compliance areas, such as those pertaining to health and safety, that are so important that non-compliance with them might be the basis

*Procedures for developing item weights or scores are described below for those states that have not yet met this prerequisite for developing an indicator checklist.

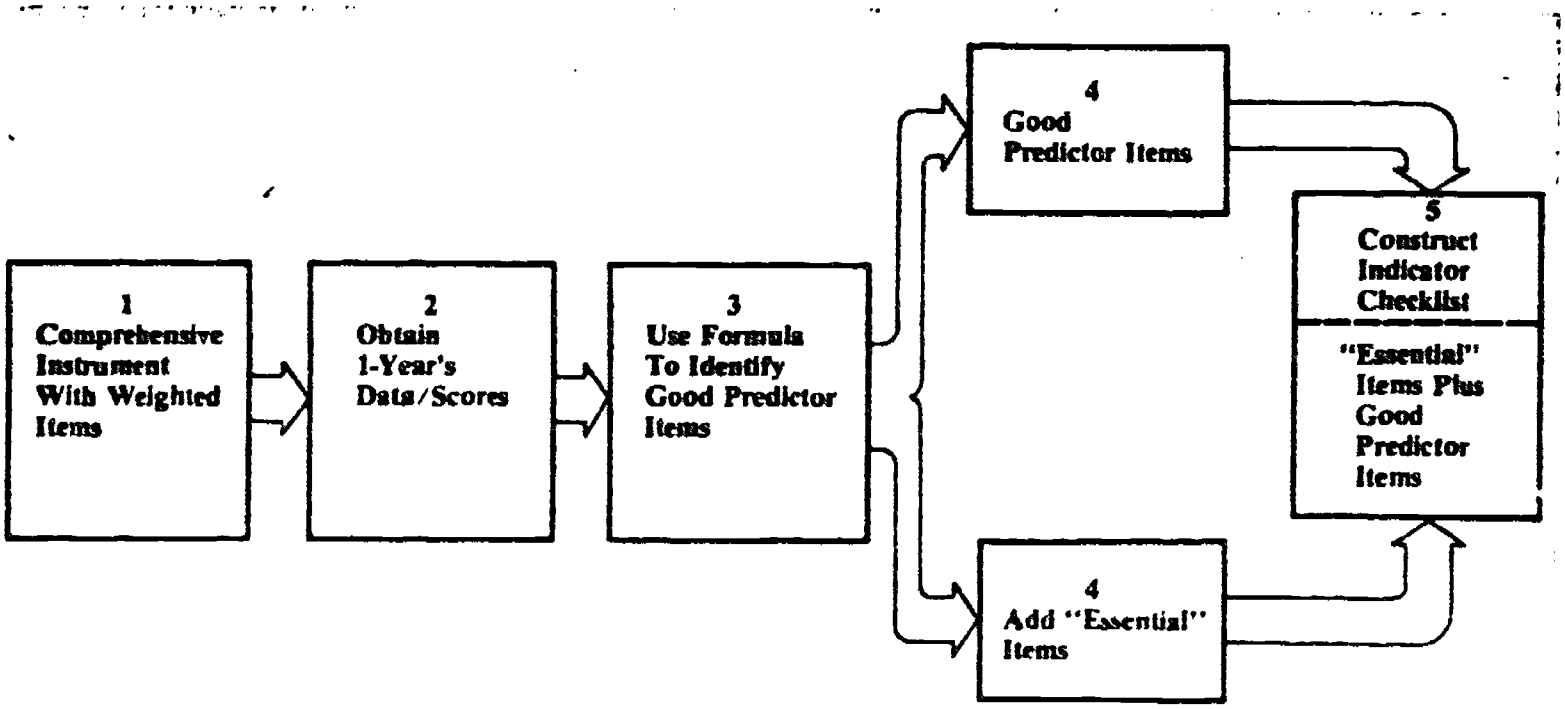

Figure 1: Constructing the Indicator Checklist

for denying a license to a provider. The predictor items may include essential items. It is possible, however, that essential items will not be among the items that distinguish between high- and low-group providers because practically every provider usually meets at least these minimum requirements. It is expected that in most states essential items are few in number. They should be added to the indicator checklist if they have not already been included as predictor items. In Pennsylvania, an example of an essential item is: "Are all heaters, space heaters that are fixtures, hot water pipes, heated radiators, and other sources of heat exceeding 110° F that are accessible to children equipped with wrapping, insulation, partitions, or screens?"

5. The predictor items plus the essential items constitute the indicator checklist.

Prerequisites for Developing the Indicator Checklist

The general description of the method for constructing the indicator checklist demonstrates that the necessary prerequisites for such an instrument are:

- a comprehensive instrument in which state administrators have confidence;
- items that are assigned weights or scores indicating their relative importance; and
- sufficient (i.e., at least one-year's) score data from ing the comprehensive instrument to distinguish between high-group and low-group providers.

It is also necessary that the state make a commitment to develop an indicator checklist. States that are interested in the indicator checklist concept but lack one or more prerequisites may consult other volumes in this series for further information about how to proceed with developing an IPM system or may arrange more specific consultation through the Children's Services Monitoring Transfer Consortium.

Step-By-Step Instructions

The remainder of this section contains detailed procedures for developing an indicator checklist. The procedures are based on Pennsylvania's experience in designing its version of the short instrument.

1. Appraise Your Comprehensive Instrument and Weight Items

The first step is to review your current instrument to determine that an indicator checklist would be useful and assign weights to items on the instrument, if the weights do not already exist. These procedures are discussed in detail below.

- **Review Instrument**

An instrument with more than 50 items provides a good basis for developing an indicator checklist. Even if there are fewer items, a state may find it useful to shorten its instrument, especially if each question or item is further subdivided. However, there are relatively fewer advantages to be gained by producing an indicator checklist based on already short instruments. A brief description of Pennsylvania's comprehensive instrument may be useful as background for the rest of the instructions and an example of an instrument that is a good candidate for development of an indicator checklist.

Pennsylvania's comprehensive instrument* contains 276 items that are grouped into seven categories according to state regulations: (1) Administration, (2) Environmental Safety, (3) Child Development, (4) Nutrition, (5) Social Services, (6) Transportation, and (7) Health. A total score for each category and a grand total score are calculated using weights that have been assigned to each item. The weights range from 2.80 to 48.00, based on the degree of risk to the child in day care. Low weights indicate relatively low risk items; items with weights of 48.00 are considered such high risk items that non-compliance with *one* of these "essentials" is sufficient to deny a license in Pennsylvania.

Scores on Pennsylvania's comprehensive instrument may range from zero (perfect compliance) to 1447 (total non-compliance), with providers receiving the score/weight assigned to each item found out of compliance. That is, low scores indicate that providers are in high compliance while high scores indicate providers are in low or non-compliance.

- **Assign Weights**

Questionnaire items may be assigned weights only on the basis of some criterion or standard. Pennsylvania used the "degree of risk to children" as the criterion for assigning weights to the items in its comprehensive instrument. The term "risk" included all types of risk, such as risk of physical harm

*See Volumes I and 3 of this series for illustrations of Pennsylvania's comprehensive instrument format.

(e.g., from unsafe facilities), risk of psychological harm (e.g., from callous and uncaring treatment), and risk of developmental harm (e.g., from not having some form of development program).

Using degree of risk as the criterion, Pennsylvania asked 100 individuals to rate each item on the state's comprehensive instrument on a scale of zero (no risk) to 5 (high risk). The 100 individuals represented a variety of perspectives, including providers of day care, state human services staff, and other child development professionals (e.g., university researchers). The results of the survey were compiled and averages for each item were calculated. Because the range of the averages was so narrow (.28 to 4.80), very small differences (e.g., the difference between 2.8 and 3.0) represented substantial differences in perceived risk. Pennsylvania multiplied all item values by a factor of ten to produce a range of 2.80 to 48.00. States intending to conduct a similar survey to establish weights are advised to begin with a 10-point scale rather than the 5-point scale used by Pennsylvania.

The multiplied averages constitute the weighting/scoring system that Pennsylvania uses. As might be expected, the survey results indicated considerable agreement among the respondents concerning which items involve risk to children, and the face validity of these results was sufficient for Pennsylvania to adopt the averages as the relevant weights without further statistical testing and refinement.

The importance of assigning weights to items on the comprehensive instrument is revealed in the types of questions that were selected for Pennsylvania's indicator checklist.* Practically all of the items on the indicator checklist are highly weighted, reflecting their importance with respect to the degree of risk for children. The likelihood that these questions would appear on the indicator checklist was enhanced because their high weights were crucial in placing a provider in either the high group or the low group (as described in Step 3 below). If no weighting system had been established, then providers might have been placed in the high or low groups based on *percentage* scores of items in compliance. Using simple, unweighted percentages increases the possibility that compliance with administrative regulations such as posting menus for children's snacks would take on undue importance in differentiating high- and low-group providers and that items based on such regulations would be chosen as predictor items.

*See Appendix A

2. Obtain At Least One-Year's Data/Scores on the Comprehensive Instrument

The availability of providers' scores on the comprehensive instrument for a period of at least one year is a necessary prerequisite for development of an indicator checklist. In Pennsylvania, the comprehensive instrument has been used to license providers since 1978, and the state has detailed provider data for three years.

3. Use Formula to Identify Good Predictor Items

The formula presented in Appendix B can be used to select predictor items once certain preliminary steps have been taken to identify the groups of providers whose scores will be used in the formula. The bulleted sections below describe these steps, as well as the basic logic involved in using the formula.

- **Identify "High-Group" and "Low-Group" Providers**

The first step in selecting predictor items is to take a sample of providers for whom scores are available and to identify subgroups of providers who have histories of good and bad compliance. These subgroups' scores are used in applying the formula.

Pennsylvania selected a random sample of 200 providers from the state's roster of 1,000 licensed providers. This 20 percent sample was judged to be large enough to include most types of providers (e.g., profit, non-profit) and geographic regions (e.g., southeast Pennsylvania, central Pennsylvania). A sample of 200 also allowed quartile figures (50 providers to a quartile) that were large enough to create confidence in the analytical results.

The 200 providers in the sample were then listed, according to their recent scores on the comprehensive instrument, from the provider in the highest compliance (lowest numerical score) to the provider in worst compliance (highest numerical score).

The top 50 providers (highest quartile) were designated the **high group**, while the bottom 50 providers (lowest quartile) were designated the **low group**. The middle group of 100 providers were excluded from the rest of the analysis.

- **Tabulate Item Non-Compliance**

For each item on the comprehensive instrument, a frequency count was made of how many high-group providers were out of compliance with the item and how many low-group providers were out of compliance with the item. The results of this analysis were tabulated using a form like that in Figure 2.

Comprehensive Instrument Item Number	Number of Providers Out of Compliance	
	High group (n = 50)	Low group (n = 50)
1	4	7
2	0	6
3	0	0
4	0	1
5	0	30
6	10	20
7	0	0
8	0	50
9	50	50
10	25	35
11	30	26
12	50	0
13	2	28
14	5	38
15	15	33

Figure 2: Frequency Table of Items Out of Compliance

- **Sort and Select Predictor Items**

The objective of the sorting and selection procedure is to identify those items from the comprehensive instrument that are useful for distinguishing between high- and low-group providers. These items are designated **predictor items.**

The logic of the sorting and selection procedure may be illustrated as follows. For every item on the tabulation list (Figure 2) it is possible to construct a table like that in Figure 3.

	Providers In Compliance	Providers Out of Compliance	Row Total
High Group	50	0	50
Low Group	0	50	50
Column Total	50	50	100

Figure 3: Example of Good Predictor Item #8 in Frequency Table (Figure 2)

Figure 3 illustrates a good predictor item. It shows that all 50 of the high-group providers were in compliance with the selected item (in this case Item 8 from Figure 2) and that all 50 of the low-group providers were out of compliance. Clearly, this item from the questionnaire is useful for making distinctions. Thus, if a monitor found a randomly selected provider to be in compliance with this item, then there is a good probability that the provider would be among the high-group providers as measured by the comprehensive instrument. This item would be included in the indicator checklist.

Figure 4 illustrates another possible situation. In this case, *none* of the high-group providers was in compliance with the item while *all* of the low-group providers complied. It is difficult to imagine a questionnaire or checklist item for which this situation would occur, but it is a logical possibility. An item that reflected this pattern could *not* be used as a positive predictor of a high-group or low-group program. It would *not* be included in the indicator checklist.

	Providers In Compliance	Providers Out of Compliance	Row Total
High Group	0	50	50
Low Group	50	0	50
Column Total	50	50	100

Figure 4: Example of Terrible Predictor Item #12 in Frequency Table (Figure 2)

Figures 5 and 6 illustrate other situations that could occur for particular items. In Figure 5, all of the providers, both high-group and low-group, are out of compliance on the item. This could occur if the item is very difficult to comply with, too costly to correct, or out of the providers' control to correct. In any case, this type of item would not be a good predictor for distinguishing between high- and low-group providers.

The opposite situation is illustrated in Figure 6, where all of the providers are shown to be in compliance with the item. One could easily expect this to occur if the item were very easy to comply with or if the item represented a minimum necessary requirement for operating, for example, a building that met fire safety code requirements. The item shown in Figure 6 would not be a good predictor item for distinguishing between high-group and low-group providers. A state might, however, want to include certain items that are like this on its indicator checklist if the items are **essential items** pertaining to the health and safety of children. These essential items would presumably be those that would place children at high risk and that would be sufficient grounds for denying a license to a provider who was out of compliance.

	Providers In Compliance	Providers Out of Compliance	Row Total
High Group	0	50	50
Low Group	0	50	50
Column Total	0	100	100

Figure 5: Example of Item That is Too Difficult
Item #9 in Frequency Table (Figure 2)

	Providers In Compliance	Providers Out of Compliance	Row Total
High Group	50	0	50
Low Group	50	0	50
Column Total	100	0	100

Figure 6: Example of Item That is Too Easy
Item #3 in Frequency Table (Figure 2)

Figures 3 through 6 illustrate situations that may be atypical in actual practice, since they portray all 50 of the high-group and low-group providers as in compliance or out of compliance with particular items. In practice, it is more likely that some of each group would be in compliance and others in each group would be out of compliance with a given item (e.g., Item No. 14 in Figure 2). It is necessary, then, to have a method for measuring gradations and degrees of an item's usefulness in distinguishing between high-group and low-group providers. One such method is to calculate a correlation coefficient. Procedures for selecting predictor items using a correlation coefficient (phi coefficient) are described in Appendix B. The correlation coefficient simply provides a convenient quantitative method for identifying which questionnaire items are better and worse for distinguishing between high- and low-group providers using a logical approach identical to that illustrated in Figures 3 through 6.

4. Add Essential Items

In general, a state might find it desirable to include certain questionnaire items that are not good predictors but are nonetheless extremely important for ensuring that essential minimum requirements are met by all providers. These essential items are usually few in number and pertain to basic considerations of health and safety. Typically, all providers that are licensed will conform because of this essential nature. For example, an open heat source would be too hazardous to permit licensing.

It is possible that some of these essential items will also be good predictor items and would be included on the indicator checklist because of their ability to distinguish between good and unacceptable programs. If, after looking at the items that are selected as predictors, a state decides that additional essential items must be included on the indicator checklist, these can readily be added. A state should use discrimination in adding these essential items to be sure that only the most important items are added. Otherwise, the indicator checklist could expand rapidly and the advantages of the shortened instrument would be lost.

Because essential items on Pennsylvania's comprehensive instrument were so highly weighted, many of them were selected as good predictor items, and it was not necessary to add them separately to the indicator checklist as essential items.

5. Construct the Indicator Checklist

The complete indicator checklist will contain both predictor items and essential items. Depending on the standards set by the state in selecting essential items, the indicator checklist should be a much more versatile instrument than the comprehensive instrument and should require far less time to administer. In Pennsylvania, the comprehensive instrument, which contained 276 items, was the basis for an indicator checklist that required only 18 items that were selected using the procedures described above.

Several refinements to the indicator checklist are possible depending on the state's policies and the resources available for developing and maintaining the state's IPM system.

First, the state may refine its indicator checklist by segregating the predictor items by area of regulation, for example, the seven areas of regulation covered in Pennsylvania's comprehensive instrument. The procedure described above for selecting predictor items did not involve a conscious attempt to include predictor items from each area on the indicator checklist, but focused instead on the general predictive value of the items to be included on the indicator checklist.

States may select area-specific items simply by generating a different list of high-group and low-group providers on the basis of scores for each area of the regulations and then following the procedures for tabulating item responses and selecting predictor items. For example, a state would list providers in

order of their recent scores in the area of environmental safety and then follow the procedures for distinguishing the high and low groups and selecting the predictor items. The state would repeat these steps based on scores for transportation, administration, child development, and so forth. The ranking lists generated for each area would be expected to show some differences in the providers selected for the high group and the low group.

Second, states may consider revising their comprehensive instrument scoring to account for partial compliance with particular items and then revise the indicator checklist on the basis of these revised scores. For example, providers would be given credit for being in 80 percent compliance with a particular item rather than being marked out of compliance for not meeting the item's standard 100 percent.

While these kinds of refinements are appealing conceptually, it is difficult to tell how different the indicator checklist would be as a result of the changes without actually testing the refinements in practice. To our knowledge no state has yet performed such tests.

Maintenance of the Indicator Checklist

Items on the indicator checklist wi[illegible]ed to be reviewed and changed periodically. Revisions are needed to: (1) reflect changes over time in the compliance of providers; and (2) prevent providers from regarding one version of the checklist as the only set of state requirements.

For example, it is likely that regulations will change over time and that providers' compliance with particular items will change as their clientele, management, staff, and even physical facilities change. The checklist should be revised in response to this evolution. A state should plan on revising its checklist at least every three years, following the procedures described above.

An alternative approach would be for the state to develop three different checklists (e.g., a new one each year for the first three years) and then to administer the three instruments to providers on an alternating basis for three or four years. Having more than one version of the shorter instrument gives the state greater flexibility in assessing providers' compliance with a broader range of checklist items.

Each time the state prepares a version of its indicator checklist, it will need scores from the comprehensive instrument for providers in both high and low compliance. To ensure an adequate number of strong providers' scores on the comprehensive instrument, the state should consider using the comprehensive instrument to monitor some low percentage (e.g., 10 percent) of the strong providers on a random basis each year.

[illegible] INDICATOR CHECKLIST

The successful implementation of the indicator checklist will depend heavily on three main factors:

- confidence in the indicator checklist;
- clear expectations on the part of top state administrators, monitoring staff, and providers about what the indicator checklist is intended to accomplish; and
- organization of the implementation effort.

Each of these factors is discussed below.

Confidence in the Indicator Checklist

The state must be convinced that the indicator checklist will ensure that providers still comply with all state regulations. In adapting from the comprehensive instrument to the short form, there is always a possibility that providers will gradually cease to comply with the items that are excluded from the short form. Top administrators must be convinced that the shortened instrument is valid and capable of distinguishing between providers whose compliance is high and those who are not in compliance.

The state can foster this confidence by:

- developing an indicator checklist that has face validity, covers the critical areas to be enforced, and contains predictor items that are good indicators of high and low compliance; and
- testing the indicator checklist to make sure that it will yield useful results.

An instrument is said to have "face validity" if an experienced practitioner in the occupation for which the instrument is designed judges the instrument to be accurate and appropriate. This underscores the importance of professional opinion and professionals' ability to weigh numerous subjective factors that statistical tests can only approximate. To check the face validity of the indicator checklist, the state could circulate the newly designed instrument to state monitoring staff (especially top administrators), independent researchers such as university faculty, and perhaps a cross section of the day care providers. The reactions of these reviewers can be invaluable in detecting problems with predictor items and also in suggesting additional essential items that should be included regardless of their predictive value.

The second method for building confidence is to pilot test the indicator checklist. This can be done in two ways. The least expensive way is to conduct a statistical test of the instrument using historical data that are already in the state's files. It is reasonable to expect that if the items on the shortened form had been used in the past in place of the comprehensive form, the state would have reached similar conclusions concerning compliance.

To conduct this test, the state simply selects a random sample of provider evaluations that were completed in the past using the comprehensive instrument. The state then calculates the scores that the providers would have received if the short form had been used. (Remember: the checklist questions are a subset of the questions on the comprehensive instrument.) Then, the results of using the short form versus the longer version are compared. If both forms would have resulted in similar conclusions concerning appropriate actions to take, then the state can have greater confidence in the shortened instrument. Pennsylvania is currently conducting these experimental tests of its indicator checklist.

A second way to test the indicator checklist is to use it on a pilot basis with providers in current monitoring situations. This kind of test can build confidence that the right items have been included on the shortened instrument. It can also yield necessary information on how providers will respond, what types of discretion must be used by the monitors in deciding whether the indicator checklist should be used with a particular provider, and how use of the indicator checklist can increase efficiency.

The state should conduct both types of tests before full-scale introduction of the shortened instrument. On the basis of these tests the instrument can be improved to yield even more accurate findings.

Clear Expectations About the Use of the Indicator Checklist

The indicator checklist is designed to be used to complement, not replace, the comprehensive instrument. The uses of the shortened form as a screening device and as an interim monitoring tool for good providers have been mentioned earlier in this Guide.

Top administrators for a state must establish exactly how the indicator checklist is to be used and

communicate their decision to both the state's monitoring staff and providers. Policies concerning the monitors' range of discretion in using the short and comprehensive versions of the instrument should be specified so that monitors know clearly the extent and limits of their authority in particular situations.*

Finally, top administrators must recognize that the move to an indicator checklist inevitably means a reduction in the amount and detail of compliance information about individual providers. The short form clearly generates greater uncertainty with respect to providers' compliance with all regulations, and it is possible that instances of non-compliance will be overlooked by monitors with adverse consequences for children and for the state. A well designed indicator checklist can overcome these potential problems to a large extent. Before committing the state to using the indicator checklist, top administrators should, however, explicitly weigh the trade-offs between the benefits of cost savings, reduced burdens on providers, and more effective allocation of state resources against the costs of increased uncertainty.

Organization of the Implementation Effort

The successful implementation of any change in a state's system will depend on having a clear, well organized implementation plan that includes the following:

- **Clear objectives** that specify what is to be accomplished, why the state is developing its indicator checklist, and what issues are likely to arise that will influence the development effort. A state can use this Guide and other publications in this series to clarify these issues.

- **Clear assignments** of specific responsibilities to the individual staff members who will develop and implement the indicator checklist. These staff will typically include the head of the state's licensing or monitoring unit, individuals with knowledge of research and evaluation methods, selected supervisors in the state's field offices, and management information systems staff. Care should also be taken to include assistance from the state's legal staff in developing and reviewing the checklist.

- **A schedule** for implementation that shows all of the tasks to be accomplished, their sequences for completion, critical completion dates, and the timing of progress reports.

- **A budget** that covers the allocation of staff time and other resources to particular implementation tasks. Other resources may include funds for printing and computer time.

When the plan has been drafted, it should be reviewed and approved by all state officials who have control over the work to be done and the resources to accomplish the tasks. The plan should be reviewed periodically in the course of implementation, and necessary revisions should be made and agreed upon by all managers and staff involved.

An illustrative work plan for implementing a short-form instrument is presented in Figure 7. The illustrative plan shows each of the steps described in this section in addition to the steps involved in the actual design of the instrument. The plan assumes that the state already has a comprehensive instrument with weighted items and that at least one-year's data are available.

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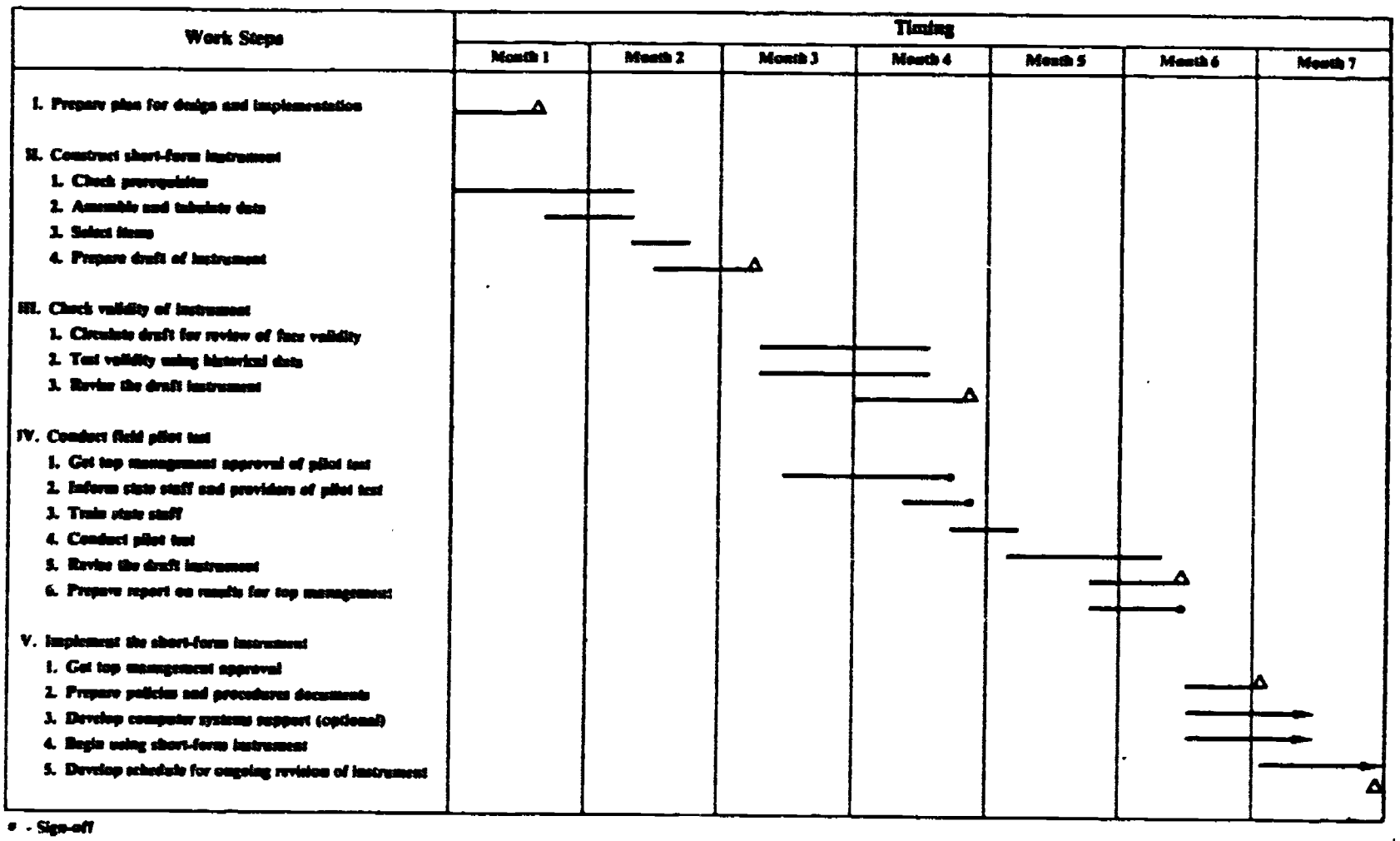
*See Appendix C for a description of policy options.

Figure 7: Illustrative Implementation Plan



• - Sign-off

Δ - Completion of document

APPENDIX A: PENNSYLVANIA'S LIST OF PREDICTORS

A list of Pennsylvania's predictor items is reproduced in its entirety in this appendix to illustrate the kinds of questions that can be selected using the method described in this Guide.

The questions are grouped according to the seven regulatory areas covered in Pennsylvania's comprehensive instrument. The first number in parenthesis after the item heading is the item's number on the comprehensive instrument. The second number in parenthesis is the weight that is assigned to the item for purposes of scoring.

ADMINISTRATION (A)

A-1 Health appraisal (#37) (13.50)

All staff, including temporary and substitute employees and volunteers who serve on a regular basis, who come into contact with the children, or who work with food preparation, have a health appraisal within 3 months prior to providing intitial day care service and annually thereafter? (Health appraisals shall be certified by a licensed physician.)

A-2 Physical exam (#133c) and Immunizations (#133e-i) (4.39 each item)

From the sample selected does each child have an age-appropriate health appraisal on record which includes the following:

(c) physical examination?

(e) required number of DPT immunizations for child's age?

(f) required number of polio immunizations for child's age?

(g) required measles immunizations for child's age?

(h) required rubella immunizations for child's age?

(i) required mumps immunizations for child's age?

ENVIRONMENTAL SAFETY (ES)

ES-1 Hazard Free (#48) (45.10)

Are play areas free of hazards and unsafe areas such as open drainage ditches, wells, holes, and heavy street traffic or surrounded by fences or natural barriers to limit access of children to hazards?

ES-2 Cleaning materials/detergent accessibility (#64) (47.10)

Are all cleaning materials, detergents, aerosol cans and other poisonous and toxic materials kept in a place inaccessible to children and separate from child care areas, food and food preparation areas?

ES-3 Peeling paint/holes (#66b) (21.40)

Are all room surfaces (including ceilings) free of peeling paint or plaster, cracks and holes?

ES-4 Inaccessible heat source (#75) (48.00)

Are all heaters, space heaters that are fixtures, hot water pipes, heated radiators, and other source of heat exceeding 110 degrees F accessible to children equipped with wrapping, insulation, partitions or screens?

ES-5 Outside phone line (#77) (22.05)

Does the facility have a telephone number which is listed?

ES-6 Outdoor equipment (#82) (45.80)

Are all outdoor toys, play equipment, and all other equipment used by the children of substantial construction; in good repair; and free from rough edges, sharp corners, pinch and crush points, splinters and exposed bolts, and unguarded ladders on slides.

ES-7 Water safety instruction (#87) (45.80)

Have all staff, volunteers, and other adults who are counted in the adult-child ratio for swimming received basic water safety instructions from a person certified in lifesaving?

CHILD DEVELOPMENT (CD)

CD-1 Observations (#99) (9.00 each item)

Do activities promote:

(a) development of skills?
(b) self esteem?
(c) positive self-identity?
(d) choice of activities?

(See COFAS, opposite page.)

CD-2 Supervision of children (#102) (45.60)

During the site visit, did staff supervise the children at all times, both indoors and out?

SOCIAL SERVICES (SS)

SS-1 Application form (#154) (3.69 each item)

From the sample selected, does each child's application include the following:

(a) name and birthdate of child?
(b) any special disability?
(c) full names, home and work addresses and home and work telephone numbers of parents?
(d) name, address and telephone number of child's physician or source of medical care?
(e) name, address, telephone number of emergency contact person?
(f) health insurance coverage for the child under family insurance policy or medical assistance?
(g) signature of parents?

SS-2 Agreement Form (#155) (4.06 each item)

From the sample selected does the agreement for day care service include the following:

(a) amount of fee to be charged per day/ week?
(b) date fees will be paid?
(c) services to be provided by the provider which are part of the fee and those services which are extra costs?
(d) hours of care including arrival and departure times?
(e) person designated by parent to whom the child may be released?
(f) date of admission?
(g) signatures of administrator or director and the parents?

TRANSPORTATION (T)

T-1 Safety carrier (#126) (45.50)

Is each vehicle equipped with operable age-appropriate safety carriers or restraints for each child?

T-2 Vehicle in motion (#127) (45.50)

Are all children seated and secured in restraints at all times the vehicle is in motion?

HEALTH (H)

H-1 Emergency Contact (#136) (12.96 each item)

From the sample selected is there emergency contact information on each child including the following:

(a) name, address and telephone number of child's physician or source of health care?
(b) home and work addresses and home and work telephone numbers of both parents?
(c) name, address and telephone number of emergency contact person?

H-2 Administration of Medication (#140) each item)

Does the facility have any children receiving m tion or health aids (i.e., cough drops, a vitamins, ear drops, aspergum, cough syrup, ide, alcohol, ointments, creams, mercuroc iodine, methiolate)? If yes, do the records/ m tion log include:

(a) physician's current written instructio for all prescription medication?
(b) parent's current written instruction f all non-prescription medication?
(c) written consent from child's parents f prescription and non-prescriptio medication?
(d) record of dose and time medication administered?

CAREGIVER OBSERVATION FORM AND SCALE (COFAS)

This form is designed to be used by the monitor in recording specific observations of caregivers' child development activities during a 30-minute period. See Volume 3 of this series for detailed instructions for completing and scoring this form.

No. of children present at the beginning of the caregiver observation _____
No. of adults present at the beginning of a caregiver observation _____
Time of observation _____ Name of caregiver _____

	During your observation did the caregiver:		Two-minute Observation Periods 1	2	3	4	5	6	7	8	9	10	Weights
LANGUAGE	Speak unsolicited to a child	01											+2
	Use the child's dialect	02											+1
	Respond verbally to a child's speech	03											+2
	Read or identify pictures to a child	04											+1
	Sing or play music with a child	05											+1
	Speak slowly and clearly to a child at all times	06											+1
	Interrupt or cut off a child's verbalization	07											−3
	Scream or yell at children	08											−30
	Allow noise level to become so high it is hard for observer to understand children	09											−1
SOCIO-EMOTIONAL	Give affectionate physical contact to child	10											+3
	Make activity suggestion to a child	11											+1
	Physically punish a child	12											−100
	Use food as reinforcement	13											−3
	Make fun of or ridicule a child	14											−30
	Let other children make fun of or ridicule a child	15											−30
	Verbally criticize, scold or threaten a child	16											−30
	Isolate a child physically	17											−1
	Ignore a child's request	18											−5
	Interrupt a child's activity and prevent its completion	19											−5
	Leave the child alone	20											−40
MOTOR	Foster development of child's gross motor skills	21											+1
COGNITIVE	Show impatience or annoyance with child's questions	22											−2
	Use terms which are above a child's reasoning ability	23											−3
	Deal in abstract concepts without concrete examples	24											−3
	Show intolerance with a child's mistakes and not accepting faulty thinking	25											−2
CARE-GIVING	Prepare or serve food for a child	26											0
	Prepare activities or arrange the room	27											0
	Do nothing	28											−15
	Talk with other adults	29											−5

Record the type of activity: (e.g., listening to records, reading a story, art project, etc.)

APPENDIX B: SELECTION OF PREDICTOR ITEMS USING THE CORRELATION COEFFICIENT

The correlation (phi) coefficient is a measure of how well a given item on the state's comprehensive instrument will predict whether a provider falls into the high-compliance or low-compliance group. The phi coefficient is computed arithmetically and can be used to select predictor items for an indicator checklist. The phi coefficient is based on logic similar to that used in generating Figures 3 through 6 in the text. To calculate a phi coefficient, it is first necessary to produce a frequency table such as the table in Figure 2 for all items in the state's comprehensive instrument.

The formula for the phi coefficient is:

$$\phi = \frac{(A)(D) - (B)(C)}{\sqrt{(W)(X)(Y)(Z)}}$$

where the letters in the formula represent the numbers in the corresponding cells in the matrix:

	Providers in Compliance	Providers Out of Compliance	Row Total
High Group	A	B	Y
Low Group	C	D	Z
Column Total	W	X	

The following ranges of predictor values obtained by using the phi coefficient formula can be used to select items for the indicator checklist:

ϕ = (Range)	Characteristic of Item	Decision
(+1.00) - (+.26)	Good predictor	Include on checklist
(+.25) - (0)	Too easy	Do not include on checklist
(0) - (−.25)	Too difficult	Do not include on checklist
(−.26) - (−1.00)	Terrible predictor	Do not include on checklist

As an illustration of how to use the phi coefficient, consider Item #8 in Figure 2 and apply formula (1). The matrix is as follows:

	Providers in Compliance	Providers Out of Compliance	Row Total
High Group	A = 50	B = 0	Y = 50
Low Group	C = 0	D = 50	Z = 50
Column Total	W = 50	X = 50	Grand Total 100

Step A. To calculate the phi coefficient for Item #8, multiply cell A (50) by cell D (50).

$$(50)(50) = 2{,}500$$

Step B. Next, multiply cell C (0) by cell B (0).

$$(0)(0) = 0$$

Step C. Subtract the answer in Step B from the answer in Step A.

$$(2{,}500) - (0) = 2{,}500$$

Step D. The next step involves all row and column totals. Multiply them together as follows: (W)(X)(Y)(Z).

$$(50)(50)(50)(50) = 6{,}250{,}000$$

Step E. Take the square root of Step D.

$$\sqrt{6{,}250{,}000} = 2{,}500$$

Step F. Divide the answer in Step C by the answer in Step E.

$$\frac{2{,}500}{2{,}500} = +1.00$$

This is the phi coefficient for Item #8. The result in this example indicates a perfect positive correlation between the item and a provider's being in the high group of providers. This correlation indicates that Item #8 in the frequency table is an excellent predictor.

Generally, a phi coefficient between (+ .26) and (+ 1.00) is indicative of a good predictor item. If the value of the phi coefficient is less then (+ .25), the item is not a good predictor. If the value is between (+ .25) and (0), the item is too easy. If the value is between (0) and (− .25), the item is too difficult. If the value is between (+ .26) and (− 1.00), the item is a terrible predictor. Now consider a more complex example (Item #11 in the frequency table, Figure 2). The relevant numbers are shown in the box below:

	Providers in Compliance	Providers Out of Compliance	Row Total
High Group	20	30	50
Low Group	24	26	50
Column Total	44	56	100

The computational steps are as follows:

Step A. Cell A times cell D. $(20)(26) = 520$

Step B. Cell B times cell C. $(30)(24) = 720$

Step C. Step A minus Step B. $(520) - (720) = -200$

Step D. Cell W times cell X times cell Y times cell Z.

$$(44)(56)(50)(50) = 6{,}160{,}000$$

Step E. Square root of Step D. $\sqrt{6{,}160{,}000} = 2482$ (rounded)

Step F. Step C divided by Step E. $\frac{-200}{2482} = -.08$ (rounded)

This is the phi coefficient for Item #11. The result in this example indicates that Item #11 is too difficult and should not be used as a predictor item. Neither high-group or low-group providers are very successful in complying with the regulation that corresponds to Item #11.

APPENDIX C: DECIDING THE MONITOR'S RANGE OF DISCRETION IN USING THE COMPREHENSIVE INSTRUMENT AND THE INDICATOR CHECKLIST

Suppose a monitor visits a provider to perform a review based on the indicator checklist and then discovers conditions that appear to warrant using the comprehensive instrument. Clearly, if the conditions are readily apparent and obviously harmful, common sense will suggest a simple decision: use the longer instrument. In many instances, however, the appropriate decision will be less clear. For example, should a single item that is out of compliance on the indicator checklist for a provider trigger a comprehensive review? Many monitors and state administrators may want a clear, formal process for deciding when conditions warrant using the comprehensive instrument in place of the indicator checklist. This appendix describes several approaches that a state may adopt. The decision of which approach to take will be made by top state administrators based on the state's particular circumstance.

Approach 1: Permit Monitors Complete Discretion

When a state has sufficient confidence in the judgment of its staff, it may permit monitors to use their own discretion in substituting the checklist for the longer instrument. For example, at the monitor's choice, one item out of compliance might be enough to trigger using the longer instrument, or several items out of compliance might be insufficient cause to conduct a more extensive review.

The apparent drawbacks to this approach are:

- potentially reduced confidence in the quality of the monitoring effort;
- inconsistency in the monitoring effort and possible feelings of harassment on the part of some providers who receive comprehensive reviews; and
- reduced savings to the state if monitors routinely use the comprehensive instrument in place of the indicator checklist.

Nonetheless, the judgment of a knowledgeable, well-trained monitor may be a much better guide for deciding when to use the longer instrument (or parts of it) than the more arbitrary approaches described below.

Approach 2: Single Item Triggers Use of Comprehensive Instrument

A state may determine that the items on the indicator checklist (whether they are "essential" items or not) are important enough that a single item found out of compliance is enough to warrant:

- a review using all the items on the comprehensive instrument that are in the same area (e.g., health, safety, transportation) as the item out of compliance; or
- a comprehensive review of all items.

The first alternative is more appealing than the second, although either may be reasonable depending on the length and format of the state's comprehensive instrument. For example, a state may not have the items on its long instrument classified into sections or areas, so that a monitor would have to use judgment in selecting which other items to review.

A second potential drawback is that the indicator item found out of compliance may be of low weight, and following up with a substantially longer review may seem unwarranted. However, the logic that supports the selection of items for the checklist also provides a good rationale for conducting a comprehensive review if any item is found out of compliance. That is, non-compliance with any of the items indicates a good probability that the provider would receive a poor score on the comprehensive instrument.

Approach 3: Set Threshold Scores for the Indicator Checklist

Assuming that items on both the indicator checklist and the comprehensive instrument are weighted, it is possible to set a "threshold" score that can be used to decide if a provider should receive a comprehensive review. For example, if higher scores mean lower compliance, as is true in Pennsylvania, then a score on the indicator checklist above an established cutoff point would automatically trigger the use of the comprehensive instrument.

The threshold score could be set in several ways:

- Scores on the indicator checklist could be computed for all of the high-group providers whose scores on the comprehensive instrument were used to select checklist items. Then the threshold score could be the average of these high-group scores.

- Following the same procedure, the score of the lowest ranked provider in the high group could be used as the threshold score.

- The state could arbitrarily select a score on the indicator checklist to serve as the threshold score. The reasonableness of the score that is selected would depend on policy issues and other circumstances in the state.

Though each of these alternatives involves a policy decision by the state, the advantage in setting a threshold score is that the state can provide an explicit decision rule to guide monitors as they perform reviews. This rule can both ensure consistency and help maintain the quality of the state's monitoring at carefully chosen levels.