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ABSTRACT
        The objective of the project was to develop methods.
for establishing input performance standards for the placement and
placement-support functions of the U.S. Employment Service. Volume 1
provides a comprehensive summary statement of the methods used and
the accomplishments and limitations of the project. The project
developed methods for establishing, validating, and using output
standards for performance evaluation and for funding allocations. It
also developed methods for establishing initial input standards by
sampling local offices, collecting data, and compiling it into
interim standards by type of labor area. (Author/NJ)

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VOLUME 1

EXECUTIVE SUMMARY

DEVELOPMENT OF PERFORMANCE STANDARDS FOR ES

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15. Supplementary Notes

16. Abstracts

The objective of the project was to develop methods for establishing output and input performance standards for the placement and placement-support functions of the United States Employment Service (ES). The Executive Summary provides a comprehensive statement of the methods used, accomplishments, and limitations of the project. The project developed methods for establishing, validating and using output standards for performance evaluation and for funding allocations. It also developed methods for establishing initial input standards, by sampling local offices, collecting data and compiling it into interim standards by type of labor area. Output standards can be developed from secondary data sources and used within a few months, while the establishment of initial input standards requires primary data collection. The uses of performance standards are subject to several caveats and policy decisions.

17. Key Words and Document Analysis. 17a. Descriptors

Performance Evaluation, Placement, Productivity, Cost-Effectiveness, Economic Models, Job Analysis, Questionnaires, Statistical Analysis, Statistical Samples

17b. Identifiers/Open-Ended Terms

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I. PROJECT PURPOSE AND OBJECTIVES

In May, 1974, E. F. Shelley and Company, Inc. was awarded MA/OPER Contract No. 20-36-74-22 on a competitive bid pursuant to RFP MA/OPER 7411. The purpose of the project was to develop methods for establishing and using performance standards for the job placement and support functions of the public Employment Service system (ES), as the first phase in a research and developmental program. As stated in the original request for proposals:

> The primary objective of the demonstration project is
> to develop valid performance standards for Job Place-
> ment activities and the Placement Support Service func-
> tions. These standards will be used to reflect the
> effectiveness and the efficiency levels at which the
> various placement and support functions of the ES should
> be performed with consideration to both quantity and
> quality; to design a feasible system of methods and
> procedures for using such measures to assess the perfor-
> mance of state agencies in performing activities rela-
> tive to the standards; and to design a system for the
> periodic revalidation of the standards.

The original project objectives were implemented by a plan to demonstrate the feasibility of developing valid performance stan- dards through design of a model system, field data collection and analysis, preparation of a handbook documenting the methods and techniques, and preparation of a final report. During the design phase of the project, it became clear that output performance stan- dards to be used in planning, budgeting and evaluation must be developed independently from and prior to the development of input performance standards to be used as diagnostic tools. Therefore, the scope of work was expanded in August, 1974, to include research into the Balanced Placement Formula (BPF), an empirically-derived performance-based budgeting system using national averages as the key standards of output performance. The objectives of the expan- sion were to identify internal weaknesses of the BPF that might cause inequities or permit manipulation, to identify external en- vironmental factors that affect ES performance, and to test alter- nate formulations or suggested revisions in the BPF through a simulation model. The short-run purpose was to perform analyses in support of revisions to the BPF for use in FY 1976 funding allocations; the long-run purpose was to develop a model system for setting output standards for state and local ES operations that take into account the effects of environmental contraints on ES placement functions.

In its final form, the scope of the project encompassed two of the Presidential Objectives for the United States Employment Service and, consequently, was the subject of broad interest throughout

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The Manpower Administration. While attempting to demonstrate the feasibility of applying innovative methods to ES planning, budgeting, evaluation and diagnosis, the project was also required to develop immediate, short-run applications of some of the new and complex techniques to on-going problems and needs. The result of this productive tension was that the methods developed for establishing and using ES output and input standards focus on specific applications that are feasible to implement within the next 12 months, using existing secondary data sources and standard statistical methods for setting output standards, and using minimum primary data collection and analysis for setting input standards. The Methodology Guide, Volume 3 of the Final Report, presents the methods in detail.

II. PROJECT ACCOMPLISHMENTS AND LIMITATIONS

A. Accomplishments

1. Feasible Methods for Establishing and Using Output Standards

The project has defined key ES output performance indicators and environmental factors, tested methods for establishing output standards for these indicators and developed methods using output standards for performance, evaluation and funding allocations. A by-product is a performance projection method.

a. Definitions

Output standards should be established at the labor area level, because the labor area or SMSA is an integrated social and economic system constituting the environment within which the ES placement and placement support services are provided.

Given available data sources and the current level of conceptualization, it is possible to set an output standard that is an expected average level of performance based on the average performance of similar labor areas, and attainable by management of average quality, taking into account external social and economic factors and internal policy, law, and resource factors, for each of the 150 major labor areas and 48 balance-of-state areas.

Standards must be set for each labor area for each performance indicator used in performance evaluation or budgeting. Three measures of ES performance recommended for use as the key performance indicators were selected because they are not significantly

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affected by state or local policy with respect to
applicant registration or job order taking, the data
can be verified, and they represent key aspects of
the labor exchange function. They are:

    (1) Productivity: Individuals placed per
        man-year worked.

    (2) Service to the Labor Market: Individuals
        placed as a percent of the number of un-
        employed individuals.

    (3) Service to the Job Market: Job openings
        filled as a percent of non-agricultural
        wage and salary employment.

Indicators (2) and (3) are combinations of more tra-
ditional measures.

These 3 indicators capture the "quantitative" aspects
of ES output performance; for uses requiring "qualita-
tive" measures, such as percent of veterans placed, etc.,
an algorithum was developed to derive standards for
qualitative measures in a way that encourages balanced
performance relative to national objectives without en-
couraging data manipulation.

The relationships between environmental factors and ES
performance are sufficiently complex to require a table
of hypotheses, not all of which were tested during the
project. Because additional analysis and testing is re-
quired, the environmental factors found significant in
previous analysis are merely listed here:

    (1) Stable external factors

        • Industry Composition

        • Labor Force Composition

        • Size of Area   (employment and unemployment)

    (2) Volatile external factors

        • Growth rate

        • Unemployment rate

    (3) Internal Environment factors

        • Policy and law, especially registration of
          UI claimants

        • Resources (man-years)

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Statistical analyses conducted during the project indicate that these factors, in combination, account for up to 70 percent of the differences in performance among states and labor areas, even though the analyses did not thoroughly test all hypotheses. The conclusion is that environmental factors have a major, if not dominant, effect on ES performance.

b. Methods for establishing output standards.

Two alternate methods were developed for establishing output standards at the labor area level that take into account environmental factors. One method uses multiple regression analysis to produce an estimating equation for setting an output standard for each key performance indicator for each labor area. The equation indicates how much the performance indicator is expected to increase (or decrease) as a result of a one-point increase in each external factor, based implicitly on the average of all labor areas. The equation can be used to compute an expected value, or output standard, for each specific area. Test results were produced.

The second method uses the environmental factors to develop a typology of labor areas and to group labor areas by type. Within each such group, the output standard is based on the average of all areas within the type, and each area within each type has the same standard for each key performance indicator. No tests were made of this method.

The choice between the two methods depends primarily on political consideration, i.e., which method yields results that have the greater face validity to ES administrators and which appears to be fairer. On technical grounds alone, the estimating equation is preferred. Both methods yield output standards that should be attainable by management of average quality, and they have known standard errors which can be used to set "standards of excellent performance" or a "minimum acceptable level of performance", both of which may be desirable for certain uses. Both methods can be used to set output standards for qualitative performance indicators; and both can be used to set standards for sub-parts of labor areas, needed for evaluation and funding allocation purposes especially in labor areas that cross state lines.

c. Using output standards

Output standards and the model system by which they are established have several uses. As a management tool,

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comparison of actual performance against the standard identifies individual areas within a state that are significantly above or below the standard, and helps to identify priority areas in which diagnostic tools should be applied to improve performance.

As a funding allocation tool, the project developed methods whereby the output standards can replace the national averages used in past BPF's. A labor area score is computed for each indicator by dividing the standard into the actual performance, i.e., the ratio of actual to standard. The state score for each performance indicator is computed as the weighted sum of the individual labor area scores. The state summary score comparable to previous BPF scores is computed as a weighted average of the state scores for each indicator, where the weights are analogous to the budget weights used in previous BPF's. This summary score would be 100 for a state with average performance, with better-performing states having a higher score.

A similar method could be used by a state for allocating funds among labor areas within a state, if the state chose to do so. There is, however, an important limitation: the results do not apply directly to individual local offices within a labor area, nor, more importantly, to individual areas outside the 150 major labor areas because data on external factors are not available from published sources for such areas. Each such office or area must be evaluated individually by state ES management.

d. Toward a dynamic model

The preceding methodology will result in a static model which calculates expected ES performance based on total performance for the year (or other time period) and the average of external factors for the same period. Such a model is quite useful for a variety of purposes, but it cannot fully reflect the real world, in which events occur in a time continuum and in which current ES performance is a function not only of current conditions but also of recent history. In the real world, use of annual data may obscure time-dependent relationships between ES performance and external factors if the impact of a change in external factors such as rapidly rising unemployment passes within one or two quarters. The effects can plainly be seen by an observer in any ES office, but may wash out in annual averages.

The purpose of a dynamic model, then, is to provide a framework reflecting the instantaneous and time-lagged effects of cyclical variations in external factors on ES performance, and in particular on individuals placed

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per man-year. To develop the model, it is necessary to explore these intertemporal cyclical relationships, adjusted for seasonal factors and for variations caused by the structure of the ESARS reporting system.

Quarterly ES performance data are affected both by true seasonal factors and by artifacts of the reporting systems. ESARS is a cumulative reporting system, which counts each individual placed (IP) only once during the fiscal year, no matter how many times the individual is placed. The annual ratio of transactions (P) to individuals is about 1.5. It appears that approximately 75 percent of the individuals placed more than once during a fiscal year, usually in casual, day worker, or other short-term jobs, are placed in the first quarter of the year. Thus, even though the level of placement transactions may remain constant throughout the year and the cumulative total of individuals placed year-to-date will rise, estimates of the net number of new individuals placed will always show a quarter-to-quarter decline.

Unfortunately, there does not appear to be a simple method for estimating the quarterly effects of the reporting system in isolation from seasonal or cyclical variations.

A dynamic model would represent a very significant step forward in refining the ES management system. Some of the dynamic effects of cyclical change on ES performance might ultimately be reflected in the annual funding allocation process, insofar as the data on external factors found relevant are available shortly after the conclusion of each quarter. These effects could also be reflected in specific resource requirement and performance projections which are a part of the annual budgeting process. Given the current needs for further development of the static model, however, it is not recommended that substantial resources be devoted to development of a dynamic model.

2. Feasible methods for establishing and using input standards

   The project has developed practical definitions of standards for placement and placement support activities of the ES local office, efficient methods for the data collection and analysis needed to establish initial input standards; and guidelines for establishing input standards.

   a. Definitions

      Input standards are models, measures and comparisons whereby a local ES manager can compare his pattern of

resource utilization with the standard for his type of
local area. Through review of the ES Manual, hand-
books, and in consultation with national, regional,
state and local ES staff, 13 placement and placement
support activities were defined, and through field
work 9 categories of non-placement time were identified,
as follows:

Placement and Support Activities

AT	APPLICATION TAKING
CS	COMMUNITY SERVICE
CO	COUNSELLING
ES	EMPLOYER SERVICE
FC	FILE SEARCH/CALL IN
JD	JOB DEVELOPMENT
JIS	JOB INFORMATION TAKING
JO	JOB ORDER TAKING
RE	RECEPTION
RC	REFERRAL CONTROL
RI	REFERRAL INTERVIEWING
TE	TESTING
VE	VERIFICATION/VALIDATION

Non-Placement Activities

XC	CETA
XE	EFS STUDY
XF	CLERICAL
XI	SICK
XJ	JOB CORPS, FOOD STAMP, UI, ETC.
XM	MEETING, TRAINING
XS	SUPER., MANAGEMENT, ETC.
XV	VACATION, ANNUAL LEAVE
XX	PERSONAL, COFFEE BREAK, ALL ELSE

When established, there would be four types of standards:
percent of resources devoted to each activity, service
ratios, efficiency measures, and key quality factors.

b. Methods of data collection and analysis

During the initial field work stage of the project,
specific data collection instruments were tested.
The key instruments are the time ladder, on which each
staff member records time utilization by function in
5-minute intervals and number of persons served, and
the key quality factor questionnaires for each of the
functional activities. Subsequently, these instruments
were packaged with instructions, and a field test
demonstrated the feasibility of local staff using them
in a self-application mode with no contractor assistance
and with minimal assistance from a trained person from

the state.

After completing the field work and initial data analysis, techniques were developed for future use at the local office level to simplify central data analysis and to incorporate local cross-validation at the source data collection point. This will save on analysis and error correction at the central point.

c. Establishing input standards

The ideal objective of the next major phase of input standards development would be to establish and validate patterns of resource use, service ratios, and efficiency and key quality factors that discriminate between areas having high levels of output performance (under given sets of external conditions) and all other areas. However, the current state-of-the-art does not permit the "validation" of input standards. Validation of standards requires the analysis of input patterns in relationship to output performance, and the identification of input patterns that discriminate between high performers and low performers, holding all other factors constant.

The use of output standards and the comparison of actual performance with the standards permits identification of high and low performing labor areas, holding constant the effects of external economic and policy factors. To validate input standards additional factors must be held constant: local office location, overall management quality, staff skill level and morale, and quite possibly the mix of applicants and job openings. This would permit the observed patterns of inputs to be tested, net of all other influences, to identify those patterns which discriminate between high and low performers. While techniques have been developed for measuring location and management quality, they have not been sufficiently tested and integrated into a comprehensive system to permit us to factor them into an analysis in the immediate future.

Therefore, an achievable short-run objective is to identify patterns of input utilization characteristic of high performing labor areas and of offices within those areas, ignoring the other internal factors and deferring the question of validation to a future time when the state-of-the-art permits validation. The steps needed to achieve the objective include measuring input utilization in a sample of labor areas, identifying input patterns, and preparing input guidelines for different types of labor areas.

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(1)   Sample of areas

The sampling plan developed in the project
uses the output standards methods to identify
high performing areas, i.e., those whose ac-
tual performance is at least one standard
deviation higher than their standard, and uses
the environmental factors to group areas into
discrete types. The 12 largest SMSA's are
excluded from the sample, because their size
and complexity requires a separate stratified
sampling plan to select representative offices
within them, and because their size alone in-
dicates that they should be studied irrespec-
tive of output performance. The plan results
in a sample of 23 high-performing labor
areas plus 8 balance-of-state areas. It is
estimated that the sample would contain about
200 local offices and 2,000 staff.

(2)   Computation of input standards

The data collected from the sample of labor
areas will be used to compile the four types
of input measures for each of the 13 functional
activities and non-placement time for each
of the 31 sample areas, using the detailed
methods contained in the Handbook for Analyzing
Local ES Performance. The result will be 31
sets of input measures.

The data for the areas would be grouped by
type of area - 5 or 6 SMSA types and 1 balance-
of-state type. To calculate the input standard
for each type of labor area requires two
related computations. The first step is to
calculate the average across areas within each
type for each of the input measures, minutes
per unit, service percents, percent of resources,
and key quality factors. (Of these, only the
percent of resources is relevant to non-place-
ment time.) The average for each measure is the
initial input standard for each ES function.
The second step is to compute the standard
deviation for each of the measures. The stan-
dard deviation will be published along with the
average to indicate the extent of variation ob-
served.

Uses of End Products

In preparing a report on a demonstration project designed to develop
major, new systems approaches to the evaluation, management and funding

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allocations for a national service delivery system such as the Employment Service, the researcher tends to overstate either the strengths of the end products, or their limitations, or as in the present case, both. It may be useful, therefore, to summarize for decision-makers the size and shape of the forest and the general quality of some of its major sections without regard to the strengths or weaknesses of individual trees.

A.   Output Standards

It is clear that the methods developed (and future refinements thereof) can be used to establish performance standards for ES placements and placement-related outputs that take into account the net effects of external and internal environmental factors on an annual, cross-sectional basis and that should be attainable by management of average quality. The refinements recommended in the report may clarify how the effects operate on different parts of the labor exchange process and how intertemporal variations in external factors impact the ES. They may even result in the capability to explain up to 90 percent of the differences in performance among areas, as compared with up to 70 percent explained in the present project, with the combined effects of broader data coverage and refinements in the specification of external factors and the estimating method.

The key question even prior to undertaking further refinements, is what should the output standards be used for, and, conversely, what should they not be used for? Such standards can readily be used as a tool for evaluating the overall quality of management. If ES performance in a given area is significantly below the standard which takes into account the net effects of all environmental factors, there is a prima facie case that overall management is below par. If many areas within a state have performance below standard, then the process of diagnosing the causes of poor performance should begin at the state level, with a review of management systems, training approaches, staffing methods, etc. At the labor area level, the location of offices, staff assignments, and the overall manner in which staff resources are organized, trained and managed should be examined. This evaluation is, conceptually, part of the self-appraisal process. The model or system for establishing output standards should also be used to estimate ES performance, particularly in response to small increments (or decrements) of resources. Used in this way, it becomes a simulation model, wherein the equations used to set the output standards can be multiplied by the marginal increment of resources to yield estimates of additional placements and placement-related outputs.

In relation to the annual funding allocation process, the report describes in detail the rationale and methods for using output standards adjusted for external environmental factors in lieu of national averages in the performance-based budgeting system.   14

The interpretation of the research results is that certain states having average management capability can reasonably be expected to have performance levels at least twice as high as certain other states also having average management capability. The credibility of the research results has been challenged, because on-site evaluations have identified numerous examples of poor management practices in certain areas where the statistical analysis results indicate that actual performance is equal to or better than the (low) standard; the converse is also true. One hypothesis (not easily testable) is that the environment in certain areas is so detrimental to ES performance as to produce organizational frustration, manifested as poor management, low morale, etc. This leaves the policy-maker with something of a dilemma:

On the one hand, it is desirable to reward good management, implying that the absolute level of performance is not being judged, only actual performance relative to a reasonable standard. This approach is advantageous, particularly when in the past it has been the large northern and eastern states who have suffered most through BPF. If the standards are lower for such states, it is less likely that they will suffer cuts in the future.

On the other hand, the ES exists to serve job seekers and employers who request its services. Irrespective of the quality of management or the stability of the service organization, it seems reasonable to allocate the resources to states where the greatest number of clients can be served. It is often argued that resource reallocations through the BPF have in some sense penalized the people living in the states losing resources.

The converse of this argument is that leaving resources in states where actual or expected productivity is low (irrespective of quality of management) penalizes the residents of states where productivity is high. For example, a state whose productivity is 200 individuals placed per man-year can serve twice as many people per unit of resource as a state whose productivity is only 100. Job seekers in the first state lose in the ratio of 2 to 1 when (marginal) resources are reallocated to the second state.

The policy-maker must address this dilemma, taking into account both the political and the program implications of different solutions, prior to deciding how the adjusted output standards should enter into the funding allocation process, if at all.

It is recommended that two somewhat different streams of activity be undertaken: to further develop and refine the output standards model system, and to refine the performance-based budgeting system (BPF).

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The major objective for refining the output standards model would be to define a complete system of structural equations describing the response of the ES system to environmental factors, starting with a simple model that describes net responses and building toward a causal model. A secondary objective would be development of a dynamic model reflecting intertemporal processes.

To refine the performance-based budgeting system requires primarily a system for taking (simulated) results or output standards from the model, simulating funding allocations that would result from different policy scenarios, and presenting the results in summary form to decision-makers.

Although the two streams of activity are closely related, the first is research-intensive while the second is policy-intensive; unless adequately separated, there may be too much competition between the two for scarce professional resources.

B. Input Standards.

The methods and techniques for establishing initial input standards were advanced to a much greater level of detail during the project, and in particular the feasibility of efficiently collecting and analyzing data on input utilization patterns was demonstrated. It is feasible to establish initial input standards, characteristic of the observed patterns in high-performing offices of each type. The initial standards would be limited, however, because they could not be validated due to the lack of an integrated system for measuring the effects on organization and performance of prior causal factors endogenous to the ES system (i.e., direct measures of the quality of management, the effects of office location, etc.) nor could the standards be fully applied to local offices within labor areas.

The benefits of having models and measures against which local ES managers can compare their input patterns must be offset against the potential costs of misusing such standards to dictate patterns to local managers, á la the now-defunct workload/time factors. Even validated input standards can only be used as one diagnostic tool available to ES management in developing performance improvement plans. State and local management must ultimately make judgements on how best to meet performance objectives in each labor area, drawing upon all available diagnostic tools but using none in a lockstep, cookbook manner.

The decision-maker must weigh all costs against the benefits before deciding to proceed with the data collection and analysis required to establish initial input standards.

There are two additional uses of the instruments, methods and techniques in the Handbook for Analyzing Local ES Performance that could be pursued, even if it were decided to delay im-

plementation of initial standards. The first use is as a
local assessment tool, where the results of a locally initiated
data collection and analysis effort could be compared with in-
ternal standards (such as the Plan of Service, local annual
budget, or even the implicit, experimental standard of cogni-
zant ES managers). While the standard of comparison would not
be overly rigorous or precise, the local manager would gain an
accurate picture of how staff resources are applied, etc.

Second, the results of comparisons of time utilization statis-
tics compiled from time ladders completed during the field work
for the project with cost-accounting system time-distribution
sheets showed significant discrepancies, not so much in total time,
but in the allocation of time among functional activities and be-
tween placement and non-placement activities.. The results con-
firm the assertion that the official time distribution system
does not (and possibly cannot) accurately measure ES staff utili-
zation by function. It might be decided that the ES should use
a time ladder instrument quarterly (one week per quarter) in a
sample of labor areas to obtain accurate estimates of the al-
location of staff time by function.

C.   Conclusion

In undertaking this project to develop performance standards
for job placement and placement-support functions, the Depart-
ment of Labor Manpower Administration has initiated the first
phase of a program that can substantially advance the state-of-
the-art in systems for funding and managing the United States
Employment Service system. The present project has defined
second-phase approaches that are feasible for implementation
in the next year. Because some of the techniques are complex
and new in this application, an important need is to develop
ancillary training and development programs at all levels, to
permit managers and administrators both to shape and to utilize
practical results as the program moves through each phase.

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