BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

The Labor Department Should Reconsider Its Approach To Employment Security Automation

The Department of Labor proposes to spend over $250 million during the next few years to implement automated employment security systems in the States for employment services and unemployment insurance activities.

This report discusses problems with the planning, management, and implementation of this project. It describes how Labor is advocating systems that have not been properly tested or evaluated. It recommends that Labor halt the project until these problems can be solved.
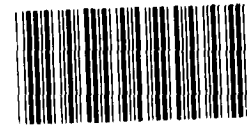
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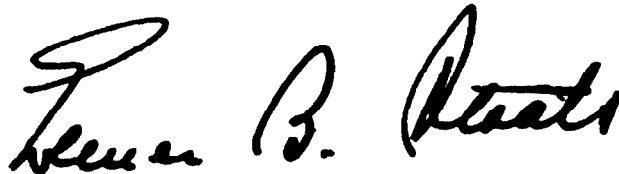O 02988

HRD-78-169
DECEMBER 28, 1978

B-133182

To the President of the Senate and the
Speaker of the House of Representatives

This report summarizes our review of the Department
of Labor's Employment Security Automation Project. The
review was part of our continuing evaluation of programs
administered by Labor's Employment and Training Adminis-
tration. The report discusses problems with Labor's
approach to automation and recommends that Labor halt ex-
pansion of the project until these problems can be solved.

We made our review pursuant to the Budget and Account-
ing Act, 1921 (31 U.S.C. 53), and the Accounting and Audit-
ing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director,
Office of Management and Budget, and the Secretary of Labor.

Comptroller General
of the United States

D I G E S T

The Department of Labor proposes to spend
over $250 million during the next few years
to implement automated employment security
systems in the States for employment service
and unemployment insurance activities.

In May 1976 Labor's Employment and Training
Administration announced the Employment
Security Automation Project. This project
was to coordinate the development, implemen-
tation, and operation of automated employment
security systems nationwide.

Labor believed that, by consolidating the
automation activities of both the Employ-
ment Service and the Unemployment Insurance
Service, greater efficiency and economy
would be achieved. Labor estimated the
project would take 5 years to complete at
a cost of $170 million. (See pp. 1 to 3.)

The project has experienced many problems
since its inception over 2 years ago. The
estimated cost has risen to over $250 million
and may go even higher ($71 million has been
appropriated through fiscal year 1978). The
completion date for the project has slipped
from 1981 to 1984, and will probably slip
further. States have had difficulty in im-
plementing their plans because of insufficient
computer capacity and delays in acquiring
new computers. (See pp. 5 to 7.)

WHY LABOR'S PROJECT
SHOULD BE HALTED

These problems have several causes. Chief
among them is the fact that the methods of
automation advocated by Labor have not been
properly planned, tested, or evaluated for
State use throughout the country. (See
chs. 3 and 4.)

Although Labor justified the project by
citing the advantages in combining the
independent approaches to automation into
one concerted effort, it is not clear that
any real benefits are accruing from this
approach. Since the objectives of the
project have not been stated in measurable
terms, Labor does not know if it is accom-
plishing its purpose.

Labor officials told us that the project
is nothing more than a "funding mechanism"
to enable the States to automate their em-
ployment security functions. There is a
general lack of criteria as to what the
project should accomplish in any given State,
and as a result, each State has a unique
approach to automation. (See pp. 7 to 10.)

Finally, there is a lack of management con-
trol. Labor's project requires the partici-
pation of four separate organizations within
Labor's Employment and Training Administra-
tion, but no one office or individual has
overall authority and responsibility. The
project is planned and run by committees,
a fact which contributes to the problems.
(See pp. 10 and 11.)

As a result of continued questioning by GAO,
the Office of Management and Budget, and
Labor's own internal auditors, Labor plans
to have an outside contractor evaluate the
project's impact. This evaluation has not
yet begun, and Labor estimates it will take
2 years to complete. (See pp. 9 and 10.)

GAO recommends that the Secretary of Labor
suspend the expansion of this project and
direct that a comprehensive study be done.
This study should

--establish measurable objectives,

--assess how successful the project has been
  in meeting these objectives,

--estimate the computer resources required,
  and

--estimate the project's total cost.

No further expansion should take place unless and until the Secretary has adequate evidence from the study results that the project should continue. If the project continues, the Secretary should assign total project responsibility and authority to one office within the Department. (See p. 11.)

GAO recommends that, pending completion of the above study, the Congress appropriate no further funds for project expansion. The Congress should direct the Secretary of Labor to commit no further funds for expanding the project--and only such funds for continuing the project that the Secretary finds are absolutely essential for States that have already signed agreements. (See p. 12.)

COMPUTERIZED JOB MATCHING:
EFFECTIVENESS IS HIGHLY QUESTIONABLE

Although experiments with computerized job matching within the Employment Service have been going on for 10 years, Labor has not demonstrated that this system is an effective way to find jobs for people and people for jobs. Several evaluations of computerized job matching have been made, but they are inadequate. Although Labor plans to do further evaluations, GAO considers these efforts to be perfunctory in view of Labor's decision to implement computerized job matching nationwide.

In addition, Labor's evaluations, past and planned, do not differentiate between improvements due to computerized job matching, and those due to other factors, such as changes in the economy, or organizational and procedural changes. (See pp. 17 to 20.)

One objective of computer matching is to improve the quality and quantity of placements made by the Employment Service. Although the Labor-approved computerized job matching system has been in operation in some locations for more than 2 years, Labor has collected little information on the results of these operations.

GAO gathered and analyzed data from several States on the effect of computerized job matching on placement productivity. These data show that comparatively few placements are being made through computerized job matching. There is no evidence on whether or not the quality--for example, duration, wage, or skill level--of placements has improved due to computerized job matching. (See pp. 15 to 17.)

Labor expects many efficiencies to be achieved in Employment Service operations through automation of various activities. States are required to absorb the continuing costs of automation into their regular budgets after 2 years of operation. The feasibility of this concept, called "cost absorption," has not been demonstrated. There is also some confusion among Labor and State Employment Service officials as to exactly how it will be accomplished. (See pp. 20 to 23.)

While there may be advantages to automating some routine functions to eliminate paperwork and streamline local office operations, Labor has placed less emphasis on these forms of automation--where many see a real payoff-- and instead, has stressed computerized job matching. (See pp. 23 and 24.)

In addition to the comprehensive study of the project, GAO recommends that the Secretary of Labor:

--Reevaluate the benefits that can be achieved from computerized job matching to determine whether it is cost effective and will result in more effective operations.

--Review plans for such a reevaluation of computer matching to assure that other factors--such as major changes in the economy, and local office organizational and procedural changes--that affect performance are identified and taken into account.

--Review the concept of cost absorption to determine whether it is feasible.

--Evaluate the automation of routine Employ-
  ment Service operations, other than job
  matching, for costs and benefits. (See
  p. 25.)

POOR JUSTIFICATION FOR
UNEMPLOYMENT INSURANCE
AUTOMATION

Labor's goal for Unemployment Insurance
automation is for States to install computer
systems which include computer terminals in
all local offices for data entry and inquiry
into central computer files. The costs of
installing and maintaining these systems are
expected to be recovered through reduced
funding by Labor to the States in future
years. (See pp. 26, 27, and 34.)

Labor has not adequately evaluated the costs
and benefits of these systems. Although
four "pilot" States were funded in 1975 to
experiment with such systems, these experi-
ments were not properly evaluated. While
they were still in progress, Labor decided
to proceed on a nationwide basis. Conse-
quently, there is no assurance that the
projected level of automation is either
necessary or cost effective in all cases.
(See pp. 27 to 29.)

Further, Labor has not properly guided the
States' efforts nor provided them adequate
assistance in the complex task of installing
such computer systems. (See pp. 31 to 34.)

Although the concept of cost recovery has
appeal, the methodology involved and limited
experience to date raise serious questions
about States' abilities to reduce personnel
costs sufficiently to cover the costs of
automation while maintaining satisfactory
levels of program quality control and
service to claimants. (See pp. 34 to 38.)

GAO further recommends that the Secretary
of Labor:

--Reevaluate the goal of installing computer
  terminals in all local offices to deter-
  mine whether it is necessary and cost
  effective.

--Provide States with appropriate assistance
  in design and implementation of automated
  systems if these systems are determined to
  be cost effective.

--Evaluate the concept of cost recovery to
  determine whether staffing can be reduced
  while maintaining satisfactory levels of
  program quality control and service to
  claimants.

--Revise the methodology for preparing cost
  recovery schedules, to insure that the
  projected efficiencies are reasonably
  achievable by the States. (See p. 39.)

NO FORMAL RESPONSE
FROM LABOR

In mid-September 1978, GAO provided Labor with
a draft of this report, requesting comments.
Labor did not respond formally in time for
its comments to be included in the report.
A meeting was held at which Labor expressed
concern about the critical nature of the
report. Labor felt that the automation of
employment security operations is vital and
that criticism of the project could jeopard-
ize the future of such automation.

GAO does not take issue with the automation
of certain activities; however, Labor's
approach through the Employment Security
Automation Project has been poorly planned
and managed. Labor needs to reconsider how
and to what extent employment security opera-
tions should be automated.

Contents

APPENDIX

ABBREVIATIONS

ES   employment service

ESAP   Employment Security Automation Project

GAO   General Accounting Office

MPUs   minutes per unit

UI   unemployment insurance

CHAPTER 1

INTRODUCTION

The Employment and Training Administration, Department of Labor, administers the Federal-State employment security program authorized under the Wagner-Peyser Act (29 U.S.C. 49) and the Social Security Act (42 U.S.C. 501). The program provides for (1) an employment service (ES) system that finds jobs for people and people for jobs and (2) unemployment insurance (UI)--collecting taxes from employers and providing financial benefits to insured, unemployed individuals. Within the Employment and Training Administration, the U.S. Employment Service and the Unemployment Insurance Service establish standards and provide guidance and technical assistance for operating the program. Operations are carried out by State employment security agencies having over 2,800 offices in the 50 States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia. The ES and UI activities discussed in this report are financed totally with Federal funds.

THE EMPLOYMENT SECURITY AUTOMATION PROJECT

The Employment Security Automation Project (ESAP) is Labor's 5-year plan to automate employment security operations nationwide. It was planned as a fully coordinated approach by Labor and the States for developing, implementing, and operating systems which would take advantage of the interrelationship between ES and UI. Automation of ES and UI activities had been underway before ESAP, but these efforts were largely independent of each other.

In the late 1960s and early 1970s, ES conducted various experiments to determine the feasibility of matching people and jobs by computer. Initially, four States were involved in testing computerized job matching. After these initial experiments, Labor decided to conduct further experimentation in six additional States. In 1975, Labor established a 5-year program to expand computerized job matching systems to all States.

UI had been using computers before ES, but each State was responsible for deciding the extent to which UI functions--such as benefit payments and employer tax accounting--would be automated. In 1975, Labor began a pilot project in four States to develop and test the expanded use of automation, but the project was never completed.

Considering these separate approaches to automation, Labor believed that greater efficiency and economy would be achieved if ES and UI developed a joint automation plan, ESAP. Under this plan, Labor saw the sharing of resources-- equipment, facilities, and data bases--as an opportunity to reduce the overall cost of automation.

Goals and objectives

Labor formally announced ESAP in May 1976. ESAP's goal was to develop and install, on a nationwide basis, an automated employment security system consisting of:

--An ES system of batch 1/ job matching in all large metropolitan areas and/or statewide, with real-time 2/ job matching in selected large metropolitan areas.

--UI on-line 3/ benefit systems in all States with computer terminals in all local offices for data entry and inquiry into central computer files, and other appropriate uses.

--Automated UI employer tax accounting systems in all States.

--Experimental work at a limited number of sites to continue to upgrade job matching and UI systems.

The UI systems were to be implemented within 3 years and the ES job matching systems within 5 years. Labor initially estimated a project cost of $170 million.

Following Labor guidelines, States are to prepare pro- posals for Labor's review and approval. Each proposal is to include information on the type and extent of automation, as well as implementation requirements. Once the proposal

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1/Batch refers to the technique whereby transactions are collected into groups for processing during the same machine run, usually at specified times during the day.

2/Real-time refers to the method of processing data so quickly that there is virtually no passage of time between inquiry and result.

3/On-line refers to an ability to interact with a computer, usually through terminals at different locations linked by a communications system, such as telephone lines.

is approved, an agreement is signed between a Labor regional administrator and the State employment security administrator. This agreement specifies Federal funding levels over a period of several years.

Status of project

Through fiscal year 1978, the Congress had appropriated about $71 million for ESAP. As of July 1978, Labor had approved 24 State proposals for either ES or UI automation, or both, with funding commitments totaling $87 million. Since Labor funds States over a multiyear period, these funding commitments depend, in part, on the availability of funds through congressional appropriations in subsequent years. Labor anticipates that most of the remaining States will submit proposals; however, States are under no obligation to participate in ESAP.

The information available shows that computerized job matching is operational in 260 local offices located in 20 States. The status of UI automation is less certain, although a Labor official told us that 11 States were operational with on-line benefits systems as of October 1977.

SCOPE OF REVIEW

We made our review during the latter part of 1977 and the first half of 1978 at Labor headquarters in Washington, D.C., and at Labor regional offices in New York, Philadelphia, and Dallas. During our review, we

- --reviewed ESAP program documentation, including plans, policies, and internal reports;

- --held discussions with Labor and State employment security agency officials;

- --visited project sites in Texas, Oregon, and New Jersey; and

- --collected and analyzed data on the results of computerized job matching operations in Oregon, Texas, and Missouri.

In addition, we talked by telephone with State employment security agency officials in 14 other States.

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RELATED REPORTS

Following is a list of other recently issued GAO reports
which apply to the employment security programs and automation.

--"Developing State Automated Information Systems to
   Support Federal Assistance Programs: Problems
   and Opportunities" (FGMSD-78-31, May 26, 1978).

--"Unemployment Insurance--Need to Reduce Unequal Treat-
   ment of Claimants and Improve Benefit Payment Controls
   and Tax Collections" (HRD-78-1, Apr. 5, 1978).

--"The Employment Service--Problems and Opportunities
   for Improvement" (HRD-76-169, Feb. 22, 1977).

The February 1977 ES report described our review of com-
puterized job matching operations at one of the experimental
sites during 1976. The report concluded that Labor had not
demonstrated that the system would greatly improve ES' ability
to make more timely or accurate job matches, and recommended
that Labor reevaluate the benefits that can be achieved from
computerized job matching to include its cost effectiveness.
Labor agreed with this recommendation and told us that it
would proceed cautiously, requiring each State to develop a
plan which would be reviewed against specific criteria
designed to insure that the benefits of automation justify
the cost. We are making a similar recommendation in this
report because Labor has still not adequately demonstrated
that computerized job matching is cost effective. (See
ch. 3.)

CHAPTER 2

WHY LABOR'S PROJECT SHOULD BE HALTED

ESAP has experienced many problems since its inception over 2 years ago. The estimated cost of $170 million has risen to over $250 million and may go even higher. The completion date for the project has slipped from 1981 to 1984 and will probably slip further. States have had difficulty in implementing their plans because of insufficient computer capacity and delays in acquiring new computers.

These problems have several causes. One of the main causes is the fact that Labor has not properly planned, tested, or evaluated ES or UI automation for statewide use throughout the country. Chapters 3 and 4 deal with this aspect in more detail.

Although Labor justified ESAP by citing the advantages in combining the independent approaches to automation into one concerted effort, it is not clear that any real benefits are accruing as a result of this approach. Since the objectives of the project have not been stated in measurable terms, Labor does not know if ESAP is indeed accomplishing its purpose. Labor officials told us that ESAP is nothing more than a "funding mechanism" to enable the States to automate their employment security functions. Because there is a general lack of criteria as to what ESAP should accomplish in any given State, each State is unique in its approach to automation.

Finally, there is a lack of management control over the project at Labor headquarters. ESAP requires the participation of four separate organizations within Labor's Employment and Training Administration. But no one office or individual has overall authority and responsibility. The management arrangement of ESAP, which is being planned and run by committees, has contributed to the problems facing ESAP.

THE ULTIMATE COST AND COMPLETION
DATE OF ESAP ARE UNKNOWN

The original cost projection for ESAP was $170 million over a 5-year period. Labor officials acknowledged that the figure was a rough estimate and now estimate that ESAP will cost over $250 million. However, this figure is also only a rough estimate and is not supported by reasonable cost projections for each State.

About $87 million has been committed already to the 24 States whose proposals have been approved. Labor estimates a need for at least an additional $160 million for the remaining States, but it has no specific basis for this estimate. Under the current planning process, Labor does not know how much a given State will receive until the State's ESAP proposal is submitted and approved. Even then, the funding commitment is subject to renegotiation. To illustrate this uncertainty, a Labor official told us that, depending on the contents of an ESAP proposal from one large unfunded State, the estimated cost could range between $20 and $100 million.

This inability to accurately predict the ultimate cost of ESAP is caused by Labor's

--uncertainty as to what each State will attempt to accomplish under its ESAP proposal (see p. 8) and

--failure to properly estimate the computer resources necessary to achieve the level of automation which has been approved (see p. 7).

When Labor approves a State's proposal, an agreement is signed between a Labor regional administrator and the State employment security agency administrator. This agreement specifies the extent of funding commitments by Labor for a multiyear period, with the condition that funding beyond the first year depends on the availability of funds in the later years--that is, congressional appropriations. Every signed agreement commits Labor to an ever-increasing need for funding which has not yet been approved by the Congress. Thus, Labor is caught in the middle; it has little control over the amount of money States will request, and once it has agreed to fund a State, there is no assurance that these funds will be appropriated. The States are also faced with a problem. Much time and effort goes into preparing their ESAP proposals and associated cost estimates. Yet final funding is dependent on negotiations with Labor and, ultimately, on the appropriations process.

When ESAP was announced in 1976, Labor expected that the UI automated systems would be implemented by 1979. The ES automated systems were to have been installed by 1981.

These completion dates have proven to be unrealistic. The expected completion date for the project now stands at 1984, although this is not certain. Labor has no control

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over the States' submission of proposals. As of August 1978,
25 States, the District of Columbia, and Puerto Rico had not
submitted proposals to Labor. One State's proposal is pending
approval.

LABOR HAS NOT ACCURATELY ESTIMATED THE
COMPUTER RESOURCES NEEDED FOR ESAP

When ESAP was announced, Labor believed that most States
had sufficient computer capacity to implement the anticipated
level of automation. Labor officials advised us that this
determination was essentially judgmental, and was not based
on any analytical techniques--such as simulation. However,
several States which have attempted to implement their ap-
proved ESAP plans have experienced critical shortages of com-
puter hardware capacity. This has resulted in a postponement
of implementing what was originally planned and approved.

For example, Texas, which has two large computers thought
by Labor and State officials to be sufficient to implement
its ESAP plan, has suspended further ESAP expansion until
its computer capacity problems can be solved. Texas offi-
cials told us that, if they cannot obtain another computer,
they will not be able to fulfill their agreement with Labor.
Pennsylvania's agreement, signed in September 1977, called
for computerized job matching in five locations, and statewide
UI automation. Pennsylvania began computerized job matching
in one location in April 1978 but is planning no further
developments until additional computer capacity is acquired.
Likewise, Iowa has halted expansion of computerized job
matching operations until a larger computer can be obtained.

The acquisition of a new computer requires a substantial
investment not only of money, but also of time, due to Fed-
eral and State procurement regulations. This, of course,
affects the ultimate cost and completion date of ESAP. Labor
has found it difficult to accurately estimate the computer
resources required to implement the various automated systems.

ESAP IS ONLY A FUNDING MECHANISM

ESAP evolved from independent efforts by ES and UI to
automate their operations. As late as the fall of 1975,
these efforts were still proceeding separately. By the spring
of 1976, Labor had planned, approved, and announced to the
States the concept of a joint comprehensive approach to
automation--ESAP. Labor reasoned that, since ES and UI auto-
mated systems are interrelated, greater efficiency and economy
would result from a joint automation project. This approach

would result in the maximum sharing of resources. While we recognize Labor's desire to automate employment security functions as efficiently as possible, we question the rationale for a project such as ESAP. From the evidence we have seen and the statements of Labor officials, it appears that ESAP is serving simply as a means of providing funds to the States for automating their employment security functions.

The methods of automation advocated by Labor--both ES and UI--have not been sufficiently tested to warrant statewide implementation in all States. (See chs. 3 and 4.) A responsible Labor official admitted that Labor's evaluations of the various experimental projects were not conclusive, but felt that they did justify continuing. We question the decision to undertake a project as ambitious and costly as ESAP without proper evaluation of the systems being recommended to the States.

The expressed goal of ESAP is the development and installation of a nationwide automated employment security system. Yet each State's approach to automation has been, and continues to be, unique. The individual States vary widely in their workloads, levels of existing automation, technical expertise, and computer resources. Under ESAP, we have found no consistent element which guides the actions of the States. At least one State does not intend to participate in ESAP at all; some States wish to participate only in certain portions. A few States are planning to implement computerized job matching statewide, while most are planning for only selected geographical areas. We have been unable to determine exactly what ESAP was intended to accomplish, as a national project.

Labor officials acknowledged the looseness of the criteria for deciding what each State is supposed to implement under ESAP. They also told us that ESAP allows the States to automate functions which they probably would have anyway.

ESAP'S ACCOMPLISHMENTS ARE UNKNOWN

Labor established four objectives for ESAP:

--To provide for a sharing of resources, facilities, and capabilities to achieve greater efficiency and reduce costs.

--To provide a fully automated system for improved services to the public.

--To reduce duplicate data gathering and manual
  processes in local offices.

--To consolidate systems to the maximum extent possible
  while allowing for ready access to information.

Although these objectives are generally related to im-
proving the employment security system, they are very broad
and lack specific performance measures. Without such meas-
ures, Labor cannot review and assess the project's success
or take appropriate management actions.

For example, the objective of providing improved services
to the public through automated systems is worthy, but Labor
has not clearly defined what is meant by "improved services."
Improved services could include such things as

--more timely payment of benefits to UI claimants,

--more placements of ES applicants,

--decreases in UI benefit overpayments, and

--increases in the percentage of job openings filled.

Labor has not specifically defined what ESAP will assist
States to accomplish. In the absence of measurable objec-
tives, Labor will not be able to evaluate ESAP.

Belated plans to assess the impact of ESAP

Labor has plans to have an outside contractor evaluate
the overall impact of ESAP. Labor officials told us that
they have undertaken these plans because of continued ques-
tioning by us, the Office of Management and Budget, and
Labor's own internal auditors. The evaluation will seek
to determine whether ESAP implementation has made a differ-
ence in employment security operations, and if so, if that
difference merited the investment. As of August 1978, Labor
had not finalized the study methodology, and it estimates
that the study will take 2 years to complete.

Additionally, in June 1978, Labor appointed a 5-person
review panel, made up of Federal, State, and private sector
members to review Labor's efforts to date and plans for the
future. This panel was requested to provide "directional
recommendations" on the essential elements of ESAP--such as
the appropriateness of continuing to develop national systems
and how best to assure an equitable approach among all States

in improving services through automation. Labor received a preliminary report from this panel in October 1978. The report identified several issues and outlined a workplan for specific areas needing further study.

The studies now being planned by Labor should have been done before the decision was made to undertake a project of the size and scope of ESAP.

LABOR HAS NOT PROPERLY MANAGED ESAP

Labor's organizational structure for managing ESAP is extremely fragmented. No one individual or office involved in the management of ESAP has overall operational authority to make decisions which affect the entire project. In practice, the ES and UI portions are operated independently. The management structure has made it difficult for Labor to define and solve the problems that are plaguing ESAP.

Four separate organizations within the Employment and Training Administration participate in ESAP--the Office of Administration and Management, the Office of Field Operations, the U.S. Employment Service, and the Unemployment Insurance Service. The heads of these offices form the Executive Committee, which provides overall direction and policy guidance. Day-to-day management of the project is carried out by the ESAP coordinator, who along with two other staff members are the only full-time individuals assigned to the project, and the Planning Committee, which is made up of midlevel managers from each of the four organizations.

The Executive Committee, which has the final approval authority over States' ESAP proposals, meets infrequently and keeps no records of its actions. A member of the Executive Committee acknowledged that it operates informally and that its decisions as to how and to what extent States will be funded to automate their operations cannot be reconstructed. For example, Texas was approved for three real-time and two batch computerized job matching sites, while New Jersey was approved for only one batch site. Given that Labor's stated goal is to implement real-time computerized job matching in major metropolitan areas and batch matching in all large metropolitan areas and/or statewide, we could discover no clear-cut basis for these approval decisions and others like them.

Shortages of computer capacity have been a chronic problem in States' attempts to implement their approved plans. There is a limit to the number of computer terminals that can

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be installed with any given computer configuration. A member
of the Planning Committee told us that Labor's failure to
coordinate the number of terminals recommended by ES and UI
separately, with the size and power of the States' computers,
has aggravated the problem. Labor officials told us that
some States were given approval to acquire and install more
terminals than their computers could handle.

CONCLUSIONS

Comments from Labor officials and our own work indicate
that ESAP is merely a funding device to enable the States to
automate certain employment security functions. While there
may be certain benefits, Labor appears to be advocating
full-scale automation for automation's sake, without having
properly assessed how this should best be done or what it
will cost.

Labor has failed to adequately plan, test, and evaluate
the systems which are proposed for nationwide implementation
under ESAP, and it has provided little management direction
to the States. Labor's lack of firm criteria as to what,
how, and where the States should automate makes it difficult
for the States to determine exactly what they are expected
to accomplish under ESAP.

Labor does not know whether or to what extent States
will participate in ESAP. Nor can Labor accurately estimate
what the total cost of the project will be or how long it
will take to complete.

RECOMMENDATIONS

To the Secretary of Labor

We recommend that the Secretary of Labor suspend the
expansion of ESAP and direct that a comprehensive study of
the project be performed. Such a study should

--establish measurable objectives,

--assess how successful the project has been to date in
    meeting these objectives,

--estimate the additional computer resources required,
    and

--estimate the total cost of the project.

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No further expansion should take place unless and until the Secretary has adequate evidence, based on the results of this study, that the project should continue. Requests to the Congress for further funds should be accompanied by a justification which addresses the problems presented in this report and outlines a plan of action based on the results of the recommended study.

We further recommend that, should the project continue, one office within Labor be given total responsibility and authority to make management decisions affecting both ES and UI automation.

To the Congress

We recommend that, pending completion of the above study, the Congress appropriate no further funds for the expansion of ESAP. Further, we recommend that the Congress direct the Secretary of Labor to commit no further funds for expanding ESAP--and only such funds for continuing the project as the Secretary of Labor finds are absolutely essential for those States that have already signed agreements.

NO FORMAL RESPONSE FROM LABOR

In mid-September 1978, we provided Labor with a draft of this report, requesting comments. Labor did not respond formally in time for its comments to be included in the report. A meeting was held at which Labor expressed concern about the critical nature of the report. Labor felt that the automation of employment security operations is vital and the criticism of the project could jeopardize the future of such automation. We do not take issue with the automation of certain activities; however, Labor's approach through the Employment Security Automation Project has been poorly planned and managed. Labor needs to reconsider how and to what extent employment security operations should be automated.

CHAPTER 3

COMPUTERIZED JOB MATCHING--

EFFECTIVENESS IS HIGHLY QUESTIONABLE

Although experiments with computerized job matching within ES have been going on for 10 years, Labor has not demonstrated that this system is an effective way to find jobs for people and people for jobs. Several evaluations of computerized job matching have been made, but they have not been adequate. Although Labor plans to do further evaluations, these efforts are perfunctory in view of its announced decision to implement computerized job matching nationwide.

One objective of computerized job matching is to improve the quality and quantity of placements made by ES. Although the Labor-approved computerized job matching system has been operating in some locations for more than 2 years, Labor has collected little information on the results of these operations. We gathered and analyzed data from several States on the effect of computerized job matching on placement productivity. These data show that comparatively few placements are being made through computerized job matching. There is no evidence on whether or not the quality--for example, duration, wage, or skill level--of placements has improved.

Labor expects many efficiencies to be achieved in ES operations through automation of various activities. Accordingly, States are required to absorb the continuing costs of automation into their regular budgets after 2 years of operation. The feasibility of this concept, called "cost absorption," has not been demonstrated. There is also some confusion among Labor and State ES officials as to exactly how it will be accomplished. Several States entered their cost absorption period in October 1978.

While there may be advantages to automating some routine ES functions to eliminate paperwork and streamline local office operations, Labor has placed less emphasis on these methods of automation--where many see a real payoff--and instead has stressed computerized job matching.

HOW ES MAKES PLACEMENTS

The basic mission of ES is finding jobs for people and people for jobs. This is done in several ways, in addition to computer matching.

When an employer calls a local ES office with a job opening, the local office staff may act on it immediately, referring qualified applicants who are in the office at that time.

Another way that an individual could be referred to a job might be through the Job Bank system. First introduced in 1968, Job Bank was designed to consolidate job openings from all local offices in a given area. Daily listings are distributed to each local office, so that each has a current inventory of all openings in the area. Before Job Bank, each local office maintained a card file of job openings to which interviewers would refer when dealing with applicants. Under Job Bank, interviewers can refer to a consolidated listing. Openings are not restricted to the jurisdiction directly serviced by the local office, but may be located throughout the area. There are about 200 Job Banks throughout the country.

The Job Information Service, an extension of the Job Bank concept, allows applicants to review lists of job openings and select any for which they feel qualified. It is essentially a self-service operation, with the employers' identification suppressed. After finding an opening, the applicant is interviewed and referred to the job, if appropriate.

Most ES job referrals occur while the applicants are visiting the local offices, and are served by one of the above methods.

Another placement technique is file search, whereby local office staff manually screen the applicants in the file on behalf of a specific job opening. File search is used primarily to find applicants for openings not already filled by persons visiting the office. The search is often inefficient and time consuming, given the large numbers of applications on file, the demands on local office staff's time, and the difficulty in contacting applicants. Labor officials told us that file search is generally not done.

Computerized job matching was developed to eliminate the need for manual file search. The computer can be used to match certain applicant characteristics—such as skills, education, and desired wages—with specific job requirements, once they have been coded and entered into the computer. Currently two systems are being funded by Labor for widespread use: (1) opening-oriented batch matching, done overnight or at set times during the day, to search the

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applicant file on behalf of a specific job opening, and
(2) applicant-oriented real-time matching, done instanta-
neously via a computer terminal while the applicant is
present, to search the file of job openings on behalf of an
applicant.

EFFECTIVENESS OF COMPUTERIZED
JOB MATCHING IS QUESTIONABLE

We visited Oregon and Texas to observe computerized job
matching operations and to discuss them with State ES offi-
cials. We obtained information on referrals and placements
by source--whether through Job Bank, Job Information Service,
computerized job matching, or other means. We also obtained
similar statistics from Missouri for those offices which used
computerized job matching. All three of these States have
been involved with computerized job matching since the experi-
mental days. A Labor official had told us that Oregon and
Texas were among the better matching sites.

An analysis of the performance statistics shows that
the largest share of referrals and placements is from
methods other than computerized job matching. Appendix I
shows these data by State and time period. For 3-month
periods, the following results were achieved through the
use of computerized job matching.

  --Portland, Oregon, 7 percent of referrals and 4 percent
    of placements.

  --Corpus Christi, Dallas, and Fort Worth, Texas, 28 per-
    cent of referrals and 15 percent of placements.

  --The Missouri system, 10 percent of referrals and
    5 percent of placements.

Although the data we gathered were for relatively short
periods, State agency officials told us that these perfor-
mance statistics were typical. Texas did caution us that,
because of a lack of a uniform coding definition, some
placements could have been incorrectly identified and coded
by local office staff.

Oregon officials were not optimistic about the success
of computerized job matching and, at the time of our visit,
had temporarily halted plans to expand computerized job
matching beyond the Portland area. One official stated that
Oregon's policy is to discourage the use of real-time computer
matching--done while the applicant is present in the local
office--because of the demands this placed on the computer.

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The use of batch matching, on the other hand, which is normally done after the applicant has left the local office, is hampered by the difficulty in contacting the applicants to refer them to the job openings. A Missouri official cited problems in contacting applicants who have been identified through batch matching. He estimated that only 50 percent of the applicants could be reached; of these, many either were no longer looking for work or were unwilling to accept a referral to the opening with which they had been matched.

Labor held two conferences in February 1978 to bring together State officials with experience in using computerized job matching systems, to review and discuss problems. In addition to the difficulty in contacting applicants matched with job openings, some of the other problems involved

--the need for extensive training of local office staff;

--the increased time needed to properly code applications and openings, and enter them into the system; and

--the lack of criteria as to which applications and openings should be entered into the system.

We found reason to question the need for computerized job matching. A State ES official told us that local office interviewers are most productive when working directly with applicants and, further, that the more recent a job opening is, the more likely it is to be filled. The data we gathered bear out these statements. For both Portland and the Texas cities, almost half of the placements for the periods we analyzed came from interviewers referring applicants to jobs on the same day as the job openings were called in by employers. For Portland, these first-day job openings accounted for 15 percent of all referrals, but 47 percent of placements. For the three Texas cities, first-day openings accounted for 16 percent of referrals, but 44 percent of placements. A separate breakdown of first-day openings was not available for Missouri.

Labor officials told us that these first-day placements are usually low-skill casual jobs of short duration, which are easily filled and do not require being entered into computer matching. On the other hand, officials at one Labor region told us that when a good job opening--that is, one with high pay/skill level or long duration--is called in by an employer, interviewers try extra hard to fill it immediately. We found

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no conclusive evidence to support either position. Although one of Labor's stated objectives for computerized job matching is to make better placements, no studies have been made to determine whether or not this is occurring.

COMPUTERIZED JOB MATCHING EXPERIMENTS: LABOR'S EVALUATION HAS BEEN DEFICIENT

The first efforts to develop computerized job matching systems within ES began in the late 1960s to determine the feasibility of matching people and jobs by computer. Four Labor-funded and State-developed systems became operational in 1969-70, in Utah, Wisconsin, New York, and California.

In 1972, Labor expanded the experiments to six other States--Texas, Oregon, Kansas, Missouri, Pennsylvania, and Nevada. Sites in these States became operational in 1973. By 1975, Labor had decided to make computerized job matching systems available nationwide, and plans were announced for a National Computerized Job Matching System--a 5-year effort to be completed by 1980 at a cost of $100 million. These plans for a separate program were later modified, and computerized job matching was incorporated into ESAP. We noted, however, that of the 10 States which participated in the computerized job matching experiments, only 5 have approved ESAP proposals for ES automation.

Labor's computerized job matching experiments have been examined several times. A report issued in May 1974 by a Labor-appointed panel of experts from outside the Government concluded that adequate data were not available to justify widespread implementation of computerized job matching systems. Further experimentation was recommended to identify potential benefits other than placements, as well as a basis to establish operating costs.

Labor conducted its own evaluation of the various matching experiments and published the results in April 1976. Its study established the following criteria:

> "As the primary purpose of the computer-assisted matching is to increase the capability of interviewers to make placements the general capabilities of a computer offer the potential for evaluating a matching system in terms of three factors--more, faster, and better. * * * One additional criterion was needed to consider a matching system successful, and that was whether the system was cost effective."

The evaluation study did not identify the placement productivity at the experimental sites to a particular source of placement--that is, whether from computerized job matching or other means. As the data we collected from Oregon, Texas, and Missouri show, computerized job matching accounts for only a small percentage of total placements. Since the study did not separate computerized job matching placements from all others, any observations regarding the value of computerized job matching must be considered inconclusive.

The evaluation study showed an increase in average placements for the test sites in comparison with a pretest period. The study pointed out, however, that computerized job matching was not the sole reason for improved performance. Major changes in the economy were a contributing factor. The control period used for comparison purposes was 1971, a period with the lowest placement rates for ES. Other factors which contributed to the improved performance included major readjustments on the part of local office staff in their methods of work, significant changes in the operation and procedures within local offices, and policy changes refocusing on the labor exchange mission of ES.

Another Labor evaluation was a limited review in Portland, Oregon, and Corpus Christi, Texas, after both those cities had been using an approved version of computerized job matching for more than 1 year. The two sites were reviewed by Labor officials during a 1-week period in mid-1977. The evaluation report showed that the two cities were above the national average in several productivity categories, and this fact was attributed to computer matching. This argument is specious. Since there were only a few computerized job matching sites operational during 1977, there were obviously many other cities without the computer system whose performance was also above the national average. As with the April 1976 study, Labor did not specifically identify the number or percentage of placements that resulted from computerized job matching.

The evaluation report also attempted to show improvement over the past year's performance. Such an improvement, in Portland, was credited to computerized job matching. However, in the case of Corpus Christi, where performance declined, other factors were cited as the cause, such as bad weather and the fact that Texas was concentrating its efforts to implement computerized job matching in other cities.

Plans for future evaluation

At the outset of ESAP, Labor established a Program Monitoring System to evaluate the effects of automation on program quality and cost. For ES activities, before and after performance data is to be collected and used to test certain hypotheses, such as increase in placements and increase in job openings received and filled. The stated objective was to assess the impact of computerized job matching on local office operations in quantifiable terms.

There are several problems with Labor's plans for evaluation. As with the previous evaluations, Labor does not differentiate between improvements due to computerized job matching and improvements due to other factors.

In view of the many factors, both ES related and external, which can affect performance, the value of comparing one year's performance with a previous year's without controlling for these factors is questionable. For example, one of the performance factor increases credited to computerized job matching is the increase in the number of job openings received, the assumption being that as service improves, employers will be more willing to call in their openings. Labor statistics show that the number of Job Bank openings nationally increased 35 percent from 1976 to 1977. The same statistics show that the number of openings in Dallas and Ft. Worth increased at least 50 percent. These cities, however, did not implement computerized job matching until September and July 1977, respectively. Further, most of the other areas in the country which experienced 50 percent or greater increases in job openings were not using computerized job matching.

Another performance factor which was used in measuring the success of computerized job matching was the increase in the number of individuals placed per staff year. Yet Labor statistics show that, from fiscal year 1976 to fiscal year 1977, the number of individuals placed per staff year increased 15 percent nationally. Since there were only 14 operational matching sites during this period, the increase would appear to be due to general economic trends or other improvements in ES operations. The increases in performance factors being used to show the success of computerized job matching may be due to other causes and should not be relied upon so heavily in evaluating the system.

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As part of this same evaluation process, Labor does plan to collect data on the source of placements, such as those we gathered from Oregon, Texas, and Missouri. Officials have been testing an information system which will be used to collect these data. However, at the time of our review, this system was not operational, and Labor could not provide us with information on the number of placements resulting from computerized job matching as opposed to other means.

As of August 1978, Labor had not made any evaluations using its proposed methodology under the Program Monitoring System.

BENEFITS OF AUTOMATION ARE UNCERTAIN

Labor anticipates that many benefits will be gained through the automation of ES activities. In addition to improved services to the public, Labor believes that this automation will increase the overall efficiency of ES operations, resulting in savings which will offset the ongoing costs. Labor expects that, after 2 years of Federal funding, States will be able to absorb the continuing costs of automation into their regular ES budgets. We found this concept, cost absorption, very vague. It is unclear exactly how Labor expects savings to be realized, and the States have not demonstrated the ability to do this. States are also having difficulty with the concept, as evidenced by the fact that many of those participating in ESAP have yet to receive Labor approval for their required cost absorption plans. There is no evidence that States will be able to adequately absorb the costs of automation and at the same time improve services to the public.

Many Labor and State officials felt that the benefits of ES automation would be realized through the use of computer terminals for entering data, inquiring into the files of applications and openings, and performing other routine functions, and not through computerized job matching. They told us that this automation of routine functions would result in the streamlining of local office operations and the shift toward a "paperless" environment. Some of these officials said that computerized job matching does not necessarily contribute to this. Most of the clerical functions, where Labor suggests potential efficiencies lie, can be automated without computerized job matching. Yet despite the tremendously high cost of computerized job matching in terms of equipment, programming, and training, Labor continues to emphasize it and considers the other, more basic, automation techniques as less significant.

Definition of cost absorption

Under ESAP, Labor established a funding policy for ES automation as follows

--"one-time" (capital investment) costs to purchase computer terminals and office equipment and to prepare sites would be funded for either the first or second year of implementation and

--"continuing" costs for equipment rental, maintenance, and staffing would be funded for 2 years.

After 2 full years of funding, the continuing costs must be absorbed by the State in its normal ES budget. Labor anticipates that automation will achieve sufficient savings to allow the States to operate their automated systems without further special funding.

Labor believes that the automation of routine clerical activities offers the States an opportunity to achieve the required savings. Examples of clerical activities where savings can be achieved include:

--Manual file maintenance, recording of transactions, and error correction: these functions may be performed through computer terminals.

--Duplicate application taking: in an automated operation, local offices will be able to quickly check whether an applicant is already registered, thus eliminating the need to take a second application.

--Referral control: usually, employers specify the number of referrals they are willing to accept on a particular job opening; under automation, the manual function of controlling referrals may be eliminated.

Under ESAP, each State must submit a cost absorption plan to Labor as part of its funding agreement. This plan is to be submitted within 90 days of the effective date of the signed agreement and should contain specific information on how the State expects to achieve savings in either personnel costs or other resources. As of August 1978, only 14 of the 23 States with approved ES automation proposals have approved cost absorption plans. The problem in obtaining approved cost absorption plans can be attributed, in part, to varying interpretations of cost absorption, and the difficulty States have in determining how to achieve it.

A Labor official told us that some of the States, and even some Labor regional staff, do not take cost absorption seriously.

Uncertainty of cost absorption

Cost absorption is not very well defined and is subject to various interpretations. To date, Labor has not evaluated States' ability to absorb costs; several States were scheduled to enter the cost absorption period starting in October 1978, but none has yet demonstrated an ability to absorb costs.

In April 1978, Labor developed guidelines to assist the States in formulating cost absorption plans. The guidelines state:

> "Most savings can be expressed in terms of staff positions saved thus allowing for the monetary savings to be expressed in terms of position salaries and fringe benefits. * * * Further, anticipated productivity increases are not acceptable as a means of absorbing costs."

However, after the Senate Appropriations Committee hearings on the fiscal year 1979 budget request, the Committee asked Labor when it would begin to see the payoff from automation in terms of reduced staffing needs. The written response Labor provided us was:

> "Insofar as automation in the employment service is concerned, automation does not relate to reduced staffing requirements, nor has such a claim ever been made. Automation will permit the maintenance of current service standards, and expectedly an increase in quality of service, to an ever increasing population of clients while staffing is held relatively stable. Automation also provides the means by which staff can be shifted from non-service directed activities to direct services related activities."

This response, however, was not submitted to the Committee. The answer that was submitted addressed reductions in staffing for UI only, and did not mention ES.

The same sentiment--that ES automation might not result in reduced staffing--was reiterated by the Assistant Secretary of Labor for Employment and Training at the House Appropriations Committee hearings in February 1978, during

which he said that ES automation "would not necessarily
involve fewer people." 1/

These statements exemplify the confusion and contradic-
tions within Labor as to the exact meaning of cost absorption.

Labor allocates grant funds to the States for their
normal ES operations primarily by using a performance-based
formula. In part, the formula serves as an incentive for
the States to make more placements.

Although Labor's guidance on cost absorption specifically
precludes using anticipated increases in placements as a
means of absorbing costs, some State plans which included
such expected increases were approved in the early days of
ESAP. A Labor official told us that these plans will have
to be renegotiated. At the same time, Labor has included a
"hold harmless" provision under which States may seek relief
from their cost absorption plans if they experience drops in
productivity during or after implementation of computerized
job matching, which would affect the allocation of funds
through the above formula. Given that computerized job
matching is supposed to improve the quality and quantity of
placements, we question Labor's rationale for making pro-
visions for drops in productivity 2 years after a State has
implemented the system.

An Urban Institute report on ES in 1977 noted that State
officials were concerned about cost absorption.

> "Their independent analyses * * * indicated
> that Federal provisions * * * were inadequate
> and fuzzy. From their perspective [States]
> could be left holding the bag on unplanned
> cost over-runs and productivity difficulties."

Other possible benefits of automation

In addition to its computerized job matching systems,
Labor has devised other automated systems which it refers to
as on-line "enhancements." These systems facilitate the per-
formance of certain routine functions at the local offices,
through the use of computer terminals tied to the central
computer. The "enhancements" include

1/U.S. Congress, House Committee on Appropriations, Sub-
  committee on the Departments of Labor and Health, Educa-
  tion, and Welfare. Appropriations hearings for fiscal
  year 1979, 95th Congress, 2d. session. Part 1, p. 157.

--data entry, which allows for immediate entry of applications and openings into the computer files, saving cardpunching and card-processing time;

--automated locator, which allows the local office receptionist to check whether or not an applicant is registered at any local office, thus eliminating the problem of duplicate registrations;

--automated referral control, which allows the computer to keep track of referral limits for job openings, giving or denying permission to the interviewers to refer applicants;

--order inquiry, which offers the capability of displaying any job opening in the file on a computer terminal; and

--applicant inquiry, which offers the capability of displaying any application in the file on a computer terminal.

These systems can be used with or without computerized job matching. Many State agency officials told us that the real benefits of automation lie in the use of these systems to eliminate manual recordkeeping and filing, and not with computerized job matching. In fact, most of the areas where Labor has suggested that efficiencies can be realized involve the routine clerical functions which the "enhancements" are designed to automate. Despite this, Labor's policy has been not to fund States for only the "enhancements." At least one State proposed installing only these systems; Labor informed the State that batch matching would have to be installed in at least one location, before it could be funded for the "enhancements." Labor has never evaluated the use of "enhancements" only, as opposed to the combination of these systems and computerized job matching. Labor now plans to perform such an evaluation although the results are not expected until June 1979.

CONCLUSIONS

Labor has not demonstrated that computerized job matching is an effective way to improve the quality or quantity of placements. Further, Labor needs to improve its evaluation methodology to obtain reliable information for analyzing the benefits of computerized job matching.

The concept of cost absorption has not been demonstrated, and there is reason to believe that the States might not be able to absorb the continuing costs of automation as Labor expects.

Although the real benefits for ES may lie in the automation of routine activities, and not with computerized job matching, Labor has placed less emphasis on automating routine functions.

RECOMMENDATIONS

In chapter 2, we recommended that the Secretary of Labor suspend the expansion of ESAP and do a comprehensive study of the project. In conjunction with this study, we further recommend that the Secretary of Labor:

--Reevaluate the benefits that can be achieved from computerized job matching to determine whether it is cost effective and will result in more effective ES operations.

--Review plans for such a reevaluation of computerized job matching to assure that other factors--such as changes in the economy and local office organizational and procedural changes--which affect performance are identified and taken into account.

--Review the concept of cost absorption to determine whether it is feasible. If it is not, then the additional costs incurred should be considered in deciding whether or not to proceed with computerized job matching.

--Evaluate the automation of routine ES operations, other than job matching, for cost and benefits.

CHAPTER 4

POOR JUSTIFICATION FOR UI AUTOMATION

Labor's goal for UI automation is for States to install computer systems which include computer terminals in all local offices for on-line benefit determination inquiries and data entry. The costs of installing and maintaining these systems are expected to be recovered through reduced funding by Labor to the States in future years.

Labor has not adequately evaluated the costs and benefits of on-line UI systems. Although four "pilot" States were funded in 1975 to experiment with on-line systems, these experiments were not properly evaluated. While they were still in progress, Labor decided to proceed with ESAP on a nationwide basis. Consequently, there is no assurance that the projected level of automation is either necessary or cost effective in all cases.

Labor has not properly guided the States' efforts nor provided them adequate assistance in the complex task of installing such computer systems.

Labor expects to accomplish UI automation under ESAP at no additional cost over the long run. Participating States receive ESAP funding over a period of 5 to 6 years. The efficiencies brought about by automation are expected to result in reduced personnel costs and, therefore, in reduced grant funding by Labor during the same period. Labor expects that the total savings through reduced grant funding will equal the funds provided for UI automation within 5 to 6 years. While this concept--called cost recovery--has appeal, the methodology involved and limited experience to date raise serious questions about States' abilities to reduce personnel costs sufficiently to cover the costs of automation while maintaining satisfactory levels of program quality control and service to claimants.

UNEMPLOYMENT INSURANCE
FUNCTIONS AND AUTOMATION

There are several basic functions which States perform in administering UI programs. These are

--recording and maintaining information on wages paid to employees covered by the various unemployment compensation laws, based on reports furnished by employers,

--determining workers' eligibility for unemployment
    benefits,

--paying unemployment benefits to eligible unemployed
    workers, and

--collecting UI taxes from employers.

These functions can generally be considered clerical or
accounting operations and are often characterized by high-
volume workloads. Recognizing that such situations can
benefit from automation, States began automating UI opera-
tions over 30 years ago, and most States now use computers
to some degree.

In announcing ESAP, Labor stated that automated UI
systems can provide better service to UI claimants at little
or no increase in operating costs and, further, that reduc-
tion or elimination of manual or clerical operations can lead
to substantial savings. Labor expected that, by having im-
mediate access to wage and benefit information on computer
master files at the State's central office, local UI offices
could enter data and make inquiries from terminals linked to
the State's main computer. Local office personnel could then

--advise claimants of their eligibility and amount of
    benefits by accessing the wage record file when ini-
    tial UI claims are filed,

--enter all weekly claims and related information into
    the computer,

--make inquiries about claims while claimants are in
    the office, thus eliminating the need for written
    inquiries, and

--eliminate the maintenance of manual claim record cards
    in local offices.

According to Labor, the expected efficiencies of using
on-line systems should be directly associated with staff time
savings in performing those functions affected by automation,
and thus result in reduced staffing levels and lower costs.

QUESTIONABLE NEED FOR
STATEWIDE UI AUTOMATION

Labor's goal of installing computer terminals in all UI
local offices is not supported by adequate information about

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the benefits and costs of automating UI processes. The
effort, projected to cost about $134 million, has been charac-
terized by a lack of information needed for sound decision-
making. Specifically, Labor

> --did not adequately monitor and guide the efforts of
> four "pilot" States selected to demonstrate the bene-
> fits of on-line systems and

> --has not performed in-depth evaluations in the States
> which have operational systems.

The "pilot" States'
efforts were not evaluated

Labor provided four States--Arkansas, Louisiana,
Mississippi, and Missouri--an estimated $3 million 1/ in UI
grant funds in May 1975 to develop, test, and implement on-
line benefit systems with computer terminals in UI local
offices. Labor established several categories for which data
should be obtained by the States to measure the "before and
after" effects of automation, including

> --correct identification of the type of claim to be
> filed,

> --percentages of claims returned to local offices for
> error correction,

> --percentage of initial benefit checks issued within
> established time frames, and

> --changes in organization and procedures, with asso-
> ciated time savings.

Three States never performed the contemplated evalua-
tions, and the fourth State conducted only a partial study
of its system before it was fully implemented. A Labor
official explained that the Employment and Training Admin-
istration established a committee in late 1975 to prepare
a plan for automating employment security operations and
approved that plan (ESAP) in January 1976. As a result, the
experimental work underway in the pilot States was incor-
porated into ESAP. Labor officials agreed that they did not
control the experiments as closely as they should have for
evaluation purposes.

1/In addition, Mississippi later received about $500,000
of ESAP funding to purchase terminals initially leased
during the pilot project.

The partial evaluation performed in one State was very limited and inconclusive. The study's major limitations were:

--Its scope was limited, involving only four local offices (one without a computer terminal for comparison purposes) for 1 week each, during December 1975 and January 1976.

--The data reported for most categories was not identified in such a way to compare the performance of the offices using computer terminals with the office which did not have that capability.

--The data presented did not demonstrate conclusively that an on-line system significantly improved operations. For example, the staff at the local office which did not have a terminal correctly identified the type of claim that should be filed in 97.5 percent of the cases; although the study did not present data for this category for the offices which did have terminals, they could not have performed significantly better.

--Using data from two local offices, the State agency also attempted to determine how much staff time could be saved by using terminals for inquiries to computerized files rather than using manual methods. The State projected sizable savings, but for the most part, savings were based on only one or two cases each of a particular type of inquiry. There is no assurance that such a limited number of cases is representative of normal operations.

The information obtained from the study indicated potential benefits of using on-line UI systems. More intensive testing should have been done before deciding to embark on a course of automating UI functions nationwide.

Subsequent attempts at evaluation also have been inadequate

In 1977, the Office of Management and Budget requested that Labor furnish specific information on the improvements achieved by the use of on-line UI systems. Labor did not have the data readily available. In what was described by a Labor official as a "quick and dirty" survey using a mail questionnaire, Labor asked States with operational systems to provide information for gauging the progress in achieving the objectives of automation. These objectives included

--notifying UI claimants promptly of their eligibility
  for benefits (on-line monetary determination inquiries),

--advising people, when they file an unemployment claim,
  about the proper type of UI benefit for which they are
  eligible,

--reducing the time needed to issue the first benefit
  payment,

--reducing or eliminating the maintenance of claim
  record cards in local offices, and

--providing more local office staff time for problem
  cases.

According to Labor, the responses from eight States
(including three of the pilot States) showed positively
that the objectives were being realized. Again, however,
the data were very limited. We analyzed the responses from
seven of the eight States; Labor could not locate the other
response, although summary information was available for all
eight. In four cases, the response covered only a 1-week
period (and only one or two offices in three of those cases);
a fifth response involved about 500 claims from an unspecified
number of offices during an unspecified period. There is no
assurance that the data are representative. Further, we
could not conclude from the data that the above objectives
were being realized. For example:

--The ESAP plan envisions using computer terminals for
  immediate on-line monetary determination inquiries
  for all claimants. Only two States were doing so;
  the other six varied, with three performing on-line
  determinations in only about 50 percent of their
  cases.

--Although Labor expects on-line systems to eliminate the
  need for claim record cards, five of the eight States
  surveyed were still maintaining these cards.

--Several States reported that automation allowed them
  to shift some staff into other functions. However,
  the cost recovery concept under ESAP requires States
  to reduce staff, not merely shift people from one
  function to another.

--Two States reported that they had experienced no
  time savings.

Labor has established another mechanism, the Program Monitoring System, to allow the States to assess their progress in implementing the automated systems described in their ESAP agreements. According to Labor, the purpose of monitoring is

"* * * to provide information for management. Any managerial decisions regarding the advisability of continuing, slowing, or stopping the progress of ESAP must be based on current knowledge as to whether ESAP is proceeding as scheduled."

With specific regard to the UI portion of ESAP, the monitoring system provides two major methods to evaluate the effects of automation--"before and after" studies and operations reviews. Both evaluations are to be done by the States, with little participation by Labor. Labor officials told us that they do not have sufficient staff to properly monitor the States.

The purpose of a "before and after" study is to display, as graphically as possible, UI operations during the quarter before installing an on-line system and then to show operations in the same State 3 to 6 months after the system becomes operational. Although several States have had on-line systems operational for some time now, none of the required "after" studies had been completed as of August 1978; some were as much as 9 months overdue.

Labor did not have specific guidelines for conducting operations reviews until early 1978. As of August 1978, Labor and the States had not established schedules for the States to conduct operations reviews; only one review had been performed, and it was primarily a test of the guidelines.

LABOR HAS EXERCISED LITTLE
CONTROL OVER STATES' UI AUTOMATION

Designing and implementing automated systems are often large-scale, complex tasks; on-line systems using computer terminals at many remote sites are even more complicated. Labor is advocating such systems without

--knowing the status of States' levels of automation or

--providing guidance and direction to the States in designing UI systems, although Labor planned to develop a "model" system for UI benefits.

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It is extremely difficult to effectively control an automation effort of such magnitude without this essential management information and guidance.

Lack of awareness of States' automation efforts

Except for limited standards established by Federal laws, the States have developed their own UI programs and have wide latitude in administering them. Thus, for example, one State may require employers to regularly report wages paid to their employees while another State may request wage information from employers for only those workers applying for unemployment benefits. The States also have automated their UI operations independently. Recognizing that the differences among State UI laws and procedures make it difficult to implement uniform systems, Labor has in the past exercised little control over their efforts. However, when ESAP was conceived, Labor envisioned developing exportable systems to be used by all States. Such a goal requires more control and guidance than Labor has exhibited to date.

Labor admitted, when announcing the ESAP project, that it needed to obtain information on the current status of UI automation in all the States for current and future planning purposes. Labor attempted at the time to get a current State-by-State inventory of UI automation efforts, but the information was not available at the national office or at the regional offices.

Even after a State's ESAP proposal has been reviewed and approved, Labor still does not know specifically what the State plans to automate or how it will be accomplished. According to Labor, this is because ESAP proposals usually contain only "general concepts to be built into the on-line systems * * *." Labor attempts to determine what a State's current processes are and what they will be in the new system, in the course of a 2- to 3-day preimplementation visit.

Labor has provided little assistance

According to Labor and State officials, many States lack the expertise to develop and implement on-line systems. However, Labor has provided very little assistance.

Labor established the Unemployment Insurance System Design Center in 1972 within the Louisiana Department of Employment Security, to develop and maintain automated UI systems and provide assistance to the States. In mid-1975,

Labor expected the Design Center, with Labor's National
office and the four "pilot" States, to develop "model" auto-
mated systems for UI benefits and employer tax accounting
which would be transferrable to other States. Labor also
planned to develop a system by the end of fiscal year 1976
for an "interstate data network" to provide the means for
faster processing of unemployment compensation claims
between States and for more effective detection and preven-
tion of benefit fraud and overpayment.

The Design Center expected to have the model employer
tax accounting system available for transfer to interested
States in early fiscal year 1979. Plans for the benefits
system and for an interstate data network are now uncertain.
Labor has undertaken a survey to determine the States'
existing UI benefits systems, and their capabilities and
desires for model systems. Labor is unsure whether to
develop a model UI benefits system and, if so, how to
develop it. It is also uncertain about the development
of interstate data networks.

Labor also has not provided the States with guidance or
criteria on the need for or number of terminals local offices
should have to handle their UI workloads (other than Labor's
general assumption that every local office should have com-
puter terminal capability). We contacted several States to
learn what criteria they used to determine their terminal
requirements. All the States told us that they tried to
relate terminal needs to workload, but in some cases, the
decisions were based on rough estimates or guesswork. In
addition, several Labor and State program officials have
told us that many local offices cannot cost-justify computer
terminals. Some added that terminals in all local offices
could not be justified because of their small workloads or
remote locations. The costs involved are significant.
According to a Labor official, computer terminals of the
kind used by the States can cost from $3,000 to $5,000 each.
Labor expects the UI portions of ESAP to require about 7,500
to 8,000 terminals overall, ranging from about 25 in a small
State to several hundred in a large State.

Labor's lack of involvement-- what effect does it have?

Our review showed that the resources required for the
project have been seriously underestimated by both Federal
and State officials, resulting in critical shortages of
computer capacity and implementation delays. (See p. 7.)
The expected cost of the UI portion of ESAP for all States

has escalated in 2 years from about $70 million to $134 million. This is largely attributable to Labor's lack of information on the States' automation status and capabilities and its inability to accurately predict the needed resources.

Further, although Labor's goals for UI automation require computer terminals in all local offices for on-line benefit determination inquiries and data entry, several States are not doing so. For example, a few have decided not to put terminals in small or remote offices. One State is making inquiries over the terminals on the amount of benefits payable only when requested by the claimant. Others are mailing initial claims to their central office rather than using local office terminals for data entry. In effect, each State appears to be doing what it believes is best, rather than implementing the standardized systems Labor originally envisioned. Labor has not monitored the States' efforts sufficiently to know whether the variations from the ESAP policy are efficient or cost effective.

PROBLEMS WITH COST RECOVERY

The theory behind Labor's plan for "recovering" the cost of installing and maintaining on-line UI systems is that the efficiencies associated with automation will enable the States to perform various tasks more quickly, handle comparable workloads with fewer people, and thus reduce their need for Labor funding. However, Labor's guidelines for preparing ESAP cost recovery schedules may be forcing States to make inappropriate decisions about UI automation. Labor does not have enough experience data yet to demonstrate the feasibility of cost recovery, nor is the impact of reduced staffing on pro ram quality control and service to claimants known.

The cost recovery concept

Under ESAP, Labor established a policy to fund UI automation for

--"one-time" (capital investment) costs of UI on-line systems, primarily to purchase computer terminals and office equipment, and for site preparation and

--"continuing" costs for additional computer systems or peripheral equipment and communication lines during the system implementation phase and during the 36-month cost recovery period after the system is operational.

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After a State's system becomes operational, the State's regular grant funding from Labor would be reduced by an amount equal to the one-time and continuing costs, through Labor's prescribed cost recovery process over a 3-year period. Labor expects to recover, through reduced funding to States in future years, an amount equal to the total cost of UI automation under ESAP.

Cost recovery schedules
"force" savings

Labor and the States express the time factors to perform various UI functions--such as taking an initial claim or processing employee wage records--in terms of the "minutes per unit" (MPUs) for each function. The MPUs for the various functions in each State are determined from time and motion studies conducted by the State, with Federal assistance, and updated periodically. MPUs and estimated workloads for each function are then used to determine a State's UI staffing level and its funding.

According to Labor, the expected efficiencies of using on-line systems should be directly associated with time savings (that is, lower MPUs) in performing those functions affected by automation, and thus result in reduced staffing levels and lower costs.

When submitting an ESAP proposal, a State is supposed to include a schedule showing how it plans to recover the costs of implementing an on-line UI system--primarily from staff reductions resulting from reduced MPU time factors. Although the concept of recovering the costs of automation has merit, Labor's guidelines for preparing cost recovery schedules may be forcing States to make inappropriate decisions about UI automation.

Labor's ESAP Proposal Preparation Guidelines, in discussing UI cost recovery plans, state:

> "Completed cost recovery worksheets * * * must
> be submitted with the proposals for implement-
> ing UI on-line systems. Briefly, [State]
> agencies are to sum start up cost and on-going
> cost; determine the number of manyears (converted
> to average position cost) needed to recover each
> of these component costs * * *; and reduce the
> affected MPU's accordingly."

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The State, in effect, has to work backwards and promise to reduce its MPU time factors sufficiently to pay back the costs, using fiscal year 1976 as the base period for comparison. The following provides an example of the fluctuations that occurred in one State's MPU computation for one UI function as changes were made to the ESAP proposal and the agreement.

The changes involved the ES portion of the agreement, specifically the number and distribution of terminals approved for performing ES functions. 1/ The initial agreement provided for UI terminals in all local offices across the State, but for ES terminals in only a few offices in one area. The State had also proposed installing terminals statewide for ES. Since this was not approved by Labor, the State UI agency had to recover the major share of the costs for computer terminals and telephone lines--about $3.3 million. Both the State and the responsible Labor regional office believed that the decision not to approve ES terminals statewide "critically" jeopardized cost recovery, and the cost effectiveness of the proposed UI systems.

For cost recovery purposes, the State calculated an MPU time factor of 38 minutes per transaction for the "initial claims" function--a reduction from the 45 minute time factor in fiscal year 1976. Labor subsequently approved the installation of terminals for ES statewide. This reduced the UI share of costs to be recovered to $2.7 million, so the State recalulated its cost recovery schedule, which resulted in raising the inital claims MPU time factor to 41 minutes. The State's plans for UI automation remained essentially unchanged throughout this period. Therefore, the changes to the time factor were merely computational, rather than being based on any expected efficiencies.

In our opinion, this process is nothing more than a mathematical exercise, which provides no assurance that the State can realistically expect to achieve the desired time reductions.

We do not believe the methodology is sound. A State considering the installation of an automated system should

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1/ESAP calls for the sharing of equipment and communication lines, and their cost. A State's ESAP agreement and cost absorption/recovery schedules specify how costs will be apportioned between ES and UI. Thus, a change to one part of the agreement will affect the cost absorption or recovery plans in the other part.

--try to realistically predict, through the use of such
   techniques as comparative time and motion studies or
   simulations, the savings that can be achieved by
   automating a function;

--determine the cost of automating that function; and

--use the results of this cost-benefit analysis to
   determine what function(s) to automate and to what
   extent (for example, all or selected areas, batch or
   real-time processing).

Labor's policy requires all cost recoveries to be accom-
plished using fiscal year 1976 time factors as the base year.
Although Labor initially expected all States to have on-line
systems implemented by 1979, many States now will not be
operational until 1980 or later. Over that period of time,
changes in workload, organization, or operational procedures,
not related to automation, can affect the time required to
perform tasks and should be taken into account when trying
to determine the benefits of automated systems. Midlevel
Labor officials agreed, but told us they were unsuccessful
in trying to convince the ESAP Executive Committee to change
the policy of using fiscal year 1976 time factors as the
basis for all comparisons. Further, a Labor official said
that if States are held to cost recovery and are forced to
lower staffing levels, then the quality of service may
deteriorate. This concern was also raised by a State ESAP
coordinator.

Insufficient data available
to demonstrate feasibility
of recovering costs

The limited evaluations of on-line UI systems made to
date have not provided assurance that the costs of UI auto-
mation can be recovered. Because of the lack of data, we
contacted 13 States to attempt to determine whether they
believe they can achieve cost recovery. We learned:

--Only one State was unequivocally sure it was re-
   covering costs successfully. That State's ESAP
   coordinator emphasized that ESAP was primarily a
   funding mechanism that enabled it to carry out a
   plan already conceived for UI automation; he felt
   that cost recovery "isn't necessarily workable"
   for all States.

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--Some of the other States commented that automation "makes us more efficient" or "helps do the job." But they were not certain that they would be able to recover costs according to their ESAP agreements. One official told us that his State has decreased the data entry staff at the central office, but the reduction was offset by staff increases at the local offices.

--Two States believe that they need computer terminals in all local offices, regardless of cost, to provide better service to claimants.

--One State chose not to participate in ESAP for UI. A State UI official explained that installing computer terminals in all UI local offices did not appear to be necessary or cost effective.

These comments indicate to us that most States perceive that some level of UI automation is necessary and beneficial; however, some are not sure that they can reduce staff and still maintain satisfactory levels of service.

CONCLUSIONS

The decision to install computer terminals for on-line processing in all UI local offices in every State is a major one and should be based on careful planning, testing, and management control. Labor has not evaluated the costs and benefits of statewide on-line UI systems sufficiently to demonstrate their cost effectiveness or need. The effort to date has been characterized by a serious lack of adequate management information for sound decisionmaking.

Although designing and implementing on-line systems are complex tasks requiring a level of expertise many States do not possess, Labor has not provided them with the assistance needed for the undertaking.

The concept of cost recovery requires that States reduce UI staff. While the concept is attractive, there is insufficient evidence to demonstrate that it is workable in all cases. Consequently, the impact of reduced staffing is unknown.

RECOMMENDATIONS

In chapter 2, we recommended that the Secretary of Labor suspend the expansion of ESAP and do a comprehensive study of the project. In conjunction with this study, we further recommend that the Secretary of Labor:

--Reevaluate the basic goal of installing computer terminals in all UI local offices, to determine whether, and under what circumstances, it is necessary and cost effective; obtain and evaluate information from several States which are now operational.

--Provide the States with appropriate technical assistance for design and implementation, if on-line unemployment benefits systems are determined to be cost effective.

--Evaluate the concept of cost recovery to determine whether staffing can be reduced while maintaining satisfactory levels of program quality control and service to claimants.

--Review the methodology for preparing cost recovery schedules, to insure that the resultant MPU time factors are reasonably achievable by the States.

REFERRAL AND PLACEMENT STATISTICS

BY SOURCE (note a)

State and time period	Referrals		Placements	
	Number	Percent of total (note b)	Number	Percent of total (note b)
Oregon **October-December 1977**				
Job Orders	5,595	15	3,339	47
Job Bank	22,541	60	2,861	40
Job Information Service	6,668	18	692	10
Computerized Job Matching	2,488	7	249	4
Texas **January-March 1978**				
Job Orders	12,135	16	8,765	44
Job Bank	16,373	21	3,785	19
Job Information Service	28,077	36	4,592	23
Computerized Job Matching	22,034	28	3,012	15
Missouri **March-May 1978**				
Job Orders and Job Bank (note c)	77,204	81	33,691	92
Job Information Service	9,282	10	1,369	4
Computerized Job Matching	9,421	10	1,684	5

a/See explanation on next page.

b/Percentages may not total 100 due to rounding.

c/Separate breakdown not available.

Explanation of Source of Referral

Job Orders	--Referral is made by the local office which received the opening from the employer, usually on the same day, and using applicants in the local office that day.
Job Bank	--Referral is made by interviewer from the districtwide inventory of job openings distributed to all local offices.
Job Information Service	--Referral is made after applicant has selected a job by screening a list of openings at the local office.
Computerized Job Matching	--Referral is made based on output received from computer matching.

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