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ABSTRACT

Stage Two of the Title IV Quality Control Project is an integrated study of quality in five related Federal financial aid programs for postsecondary students. Section 1 of the paper establishes a framework for defining quality improvements, in order to identify the types of changes that would tend to improve quality across all facets of the delivery process. Section 2 looks at the shortcomings in quality, categorized by a taxonomy of features for all the student aid programs. The corrective action themes of simplification, integration, and decentralization are used to address systematic issues contributing to an error-prone system. This analysis sets the objectives for delivery system quality improvements. The objectives derived are: improved built-in accuracy; improved timeliness; reduced burden; less confusion; improved controls; improved accountability; and less cost outlay to the government. In Section 3, five key structural changes to the delivery of Title IV assistance are recommended. These are: a reduced core of data elements; an integrated needs analysis structure; a central database; a central disburser that would eventually become joined with a central database; and expansion of the Institutional Quality Control Program. A phased approach to implementing the quality improvements is described in Section 4. (JDD)

U.S. DEPARTMENT OF EDUCATION

TITLE IV QUALITY CONTROL PROJECT

CONTRACT NO: 300-84-0020

STAGE TWO
MANAGEMENT OPTION 2:
DELIVERY SYSTEM QUALITY IMPROVEMENTS

AUGUST 1987

Advanced Technology

TITLE IV QUALITY CONTROL PROJECT
STAGE II

MANAGEMENT OPTION II:
DELIVERY SYSTEM QUALITY IMPROVEMENTS

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ADVANCED TECHNOLOGY, INC.

12001 Sunrise Valley Drive
Reston, Virginia 22091

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SUMMARY

Despite an excellent record of identifying, quantifying, and making management improvements to diminish error, the Department of Education (ED) and postsecondary institutions are still observing considerable discrepancies in the awarding of student financial assistance. Since the first nationwide study of error in the Basic Grant (now Pell Grant) Program in 1978-79, considerable attention has been placed on lowering the rate and magnitude of error. Increased validation of student application data, forms and procedural redesigns, institutional quality control (QC) programs, among other activities have been shown to be effective in removing some error.

The Congress has also moved to improve quality through the legislative process. The recent re-authorization of the Higher Education Act (HEA) has provided, among other things, for a simplified Pell Grant needs analysis for low income students, redefinition of dependency status, a Congressional needs analysis system, and a simplified eligibility form.

The Department is now faced with a critical choice; continue the current technical improvements to the student aid delivery process and live with high residual error or embark on major, structural, changes to the delivery in an attempt to reduce error. The latter is not without risk. The current delivery process exists because of the complexities of providing billions of dollars to students with varying amounts and types

of need. Making structural changes to that delivery process risks impediments to the achievement of the intent of the student aid programs.

However, without structural change the Department will not be able to overcome some serious obstacles to quality in the delivery of its student aid programs. These obstacles include numerous, partial, and conflicting sources of information, application data elements that are highly error-prone and difficult to verify, complex eligibility and award procedures, no integrated management information system across the Title IV programs, no ongoing knowledge of who is receiving financial aid, and difficult and burdensome reconciliation procedures.

Structural change to the delivery system is not a new idea. Prior work in this area includes the Integrated Student Aid Delivery System (ISADS) initiative sponsored by ED and Project Transaction sponsored by the College Board among others. The costs relating to initial outlays as well as possible disruption to current aid delivery and a lack of consensus on the final shape of a restructured delivery system kept these earlier initiatives from fruition.

In this paper we recognize the dilemma faced by the Department, institutions, and all members of the financial aid community. Should the student aid programs be restructured so that error can be dramatically reduced? If so, how?

Section 1 of this paper establishes a framework for defining quality improvements. This is done so that we can be fairly comprehensive in identifying the types of changes that would tend to improve quality (lower error, reduce unnecessary redundancy and burden, improve administrative efficiency) across all facets of the delivery process. Fortunately, the Title IV student aid programs are more alike than dissimilar so that a taxonomy of program and system delivery features for all programs can be constructed.

In Section 2 we look at the shortcomings in quality, categorized by this taxonomy of features. We use the corrective action themes of simplification, integration, and decentralization which have been emerging from the Quality Control studies to address systematic issues contributing to an error-prone system. The purpose of this analysis is to set the objectives for delivery system quality improvements. The objectives derived are:

- Improved accuracy built in;
- Improved timeliness;
- Reduced burden;
- Less confusion;
- Improved controls;
- Improved accountability; and
- Less cost outlay to the government.

A synthesis of the results of Section 2 leads us to recommend, in

Section 3, five key structural changes to the delivery of Title IV assistance. These are:

- A reduced core of data elements;
- An integrated needs analysis structure;
- A central data base;
- A central disburser which would eventually become joined with a central data base; and
- Expansion of the Institutional Quality Control Program.

These recommendations are incorporated into a "target" delivery system. This proposed delivery system, if implemented, is shown to help overcome most of the negative delivery system and program features described in Section 2 and repeatedly documented as error-prone features in Quality Control studies dating back to the 1978-79 academic year.

An important aspect of the "target" system is its integrated perspective for student aid. The current delivery systems have severe inefficiencies built into their structure. This is because many of the delivery system steps, such as the applications for assistance, eligibility determination, award calculation, and fund disbursement and reconciliation are performed relatively independently for each of the Title IV programs. This results in costly duplication of work, confusion caused by multiple sources of information and data, and the increased likelihood of the introduction of error.

By contrast, the "target" system views the delivery of student aid as the process to deliver integrated financial assistance packages in a

controlled and cost efficient manner to needy students. The delivery system functions of each of the Title IV programs are similar enough that an integrated approach to aid delivery is not only feasible, but essential in reducing waste and error.

A phased approach to implementing the quality improvements is described in Section 4. Each phase represents a progressively higher level of change. The first phase, design and development of a Central Data Base and the full-scale implementation of an institutional QC initiative, is intended to establish the basic controls that would allow more dramatic changes to the delivery process without risking a loss of quality.

Phase II, establishment of integrated needs analysis processing and the implementation of a central disbursement function, provide further progress toward the "target" system. The delivery systems for the programs will have become greatly integrated and simplified.

In Phase III, we recommend a structural change aimed at the major cause of error, student misreporting of application data. This quality improvement is application data element reduction. Finally, we examine a potential structural change beyond the target system, distributed, integrated application processing.

In summary, this paper establishes a comprehensive framework of analyzing and recommending quality improvements to the delivery of Title IV assistance. It then proceeds to recommend a set of these improvements

in a manner that minimizes the disruptive impact of change, provides adequate controls to permit the proper delegation of responsibility for error control, and allows ED and institutions the opportunity to realize short term gains in quality as they methodically move towards full-scale implementation of a "target" system. This system will ensure that scarce student aid dollars are being delivered in an accurate, timely and cost-effective manner to the students who need those dollars most.

1.0 DESIGNING A QUALITY IMPROVEMENT FRAMEWORK

1.1 Introduction

Over the last 10 years the Department of Education has taken an increasingly proactive approach to controlling quality in the delivery of its student aid programs. Initiatives such as increased verification of student data, forms redesign, and institutional quality control programs, have had important effects on the way ED, states, institutions, and students think about quality in the student aid programs. These and other actions have had an impact on improving quality in their programs.

Despite these initiatives, however, error remains high. For example, during the 1985-86 academic year, an estimated 54 percent of all Pell Grant recipients received incorrect awards. (This compares with an estimated 59 percent in 1978-79). "Absolute" Pell program-wide payment error (adding overawards and underawards) total an estimated $763 million or about 21 percent of all funds awarded. Similarly, an estimated 77 percent of Campus-Based aid recipients had an incorrect "need" determination. In fact, an estimated $265 million in Campus-Based awards were given in excess of students' need for these awards. Finally, in the GSL program, certification error for 1985-86 (amount certified in excess of need) is estimated to cost the government more than $250 million over the life of these loans.

Clearly, there is a large core of error remaining in each of the student aid programs that has not been remedied by the quality control

initiatives to date. Much of this error is attributable to the delivery system itself rather than poor performance by institutions. Options for additional mechanical, short-term fixes have, for all practical purposes, been exhausted. Thus, the Department of Education is faced with a choice; make some significant structural changes to the way aid is delivered and quality is controlled, or continue to see hundreds of millions of dollars misspent annually.

Fortunately, the findings, analyses and management actions comprising ED's quality improvement program have fostered an awareness and consensus about how quality can be improved in the future. This has been demonstrated by recent analyses by interested associations, Congressional direction in the reauthorization of the HEA, and ED's own quality initiatives. Many of the ideas are not new and have been the topic of debate and discussion for years. For the first time, however, a broad consensus is emerging that makes possible the development of a quality improvement framework for identifying, evaluating, and linking alternatives to improve the programs. For the first time, corrective actions that constitute a shift in the approach to quality and that may involve major, structural changes in the delivery of student aid are being considered and pursued.

The purpose of this paper is to describe the emerging consensus about quality, translate that consensus into a quality improvement framework, and identify a broad approach to quality improvement for the next 5 years. The intent is not to be prescriptive, but to create a framework in which alternative proposals and issues can be discussed and analyzed objectively. The most important advantage of such a framework will be to focus on Title IV programs as a whole rather than on specific changes to

individual programs. The most important product will be an assessment of the tactical and developmental considerations involved in implementing an integrated, coordinated set of quality improvements.

1.2 Consensus on Quality

While debate continues about specific features of individual Title IV programs, there is a growing recognition and general acceptance of the directions that program improvement might take over the next 5 years:

- Simplification. There is agreement that removal of duplication and complexity in forms, procedures, and algorithms enhances quality in Title IV programs. Complexity itself creates errors which undercuts the equity objectives of the programs.

- Integration. Similarly, most observers believe that integrating intent, procedures, and data across programs will further increase quality by reducing redundancy and providing cross-checking data among programs without altering Congressional intent.

- Decentralization with Accountability. Lastly, there is growing support for the idea that some functions that are now centralized in Title IV delivery could be decentralized in a controlled manner to increase the flexibility, efficiency and responsiveness (i.e., quality) of the Title IV programs. Recent activities in decentralizing quality control to the institutions have proved successful in the pilot phase.

These three areas of improvement - simplification, integration, and decentralization with accountability - can be viewed as the basic components or design parameters of an emerging quality improvement strategy. These corrective action thrusts are well supported by the data and analyses of the quality control studies. A few examples will help to clarify these parameters and demonstrate that a broad strategy is both feasible and desirable.

1.2.1 Simplicity

It is easy to be in favor of simplicity. In the past, however, proposals to simplify program features were often viewed as a threat to sensitivity, equity, and flexibility. Several developments are causing the apparent tradeoff to be re-evaluated. First, and most important, there is growing recognition that complexity does not always mean sensitivity. The findings that complex program eligibility and needs tests are error prone, that verification is burdensome and only partially effective, and that residual error after verification is high have cast a new light on this tradeoff. Second, while the importance of simplicity to low income applicants has never been questioned, the Congress formally recognized this by mandating a simplified eligibility form for such students. Third, the willingness to consider decentralizing some Pell processes could improve the environment for consideration of broader proposals to simplify other processes in the other Title IV programs.

In summary, it is being recognized that it is counterproductive to have delivery systems designed to accommodate exceptions to the rules. Rather a more simplified process should be in place to deal with the majority of aid applicants, while exceptions are dealt with in a separate process.

1.2.2 Integration

The less one knows about the specific features of the individual Title IV programs, the more redundant, unsynchronized, and complicated

the delivery system can appear. Each of the system's idiosyncracies has important antecedents in the nature of the programs and their legislative and regulatory evolution. However, even the most ardent supporters of diversity in the programs admit that there are significant advantages to integrating program features - forms, data, procedures, and perhaps even eligibility determination - across programs. In addition, Congress recently formally showed its interest in integrating the programs by linking Pell and GSL at the application stage. Many other opportunities exist that deserve analysis and consideration.

1.2.3 Decentralization

While no one favors decentralization for its own sake, there is increasing interest in examining whether certain, centralized delivery system functions might be performed by states and institutions with more flexibility and responsiveness to students. For example, ED has found that decentralizing quality control at the institution level is both feasible and effective in identifying program wide payment error. Another example of the desire to decentralize is the interest Congress has shown in allowing MDE's and institutions more latitude in processing SAR's and recalculating SAI's. Additional opportunities to capitalize on the professional judgements of financial aid administrators and to decentralize other functions exist. Each needs to be examined in light of its potential for quality improvement versus a loss of centralized quality control.

1.3 Designing the Framework

The examples show that it is feasible, desirable, and indeed necessary to construct a quality improvement strategy for the Title IV programs as a whole. Such a strategy would link individual ideas and proposals in a coherent scheme that would allow simultaneous consideration of objectives, resources, and milestones. To develop the strategy, it is necessary to review the current Title IV Programs - their program and delivery system features - to identify instances where quality could be improved through simplification, integration and/or decentralization. These specific opportunities can then be interrelated to form a broad approach to quality improvement. The tactical and developmental considerations underpinning this approach can then be carefully specified. The broad approach that results should be one that stimulates discussion and is flexible enough to allow addition or elimination of specific improvements without invalidating the overall approach.

1.3.1 Program vs. Delivery System Features

Generally, a feature can be considered a program feature if it implements or relates directly to the purpose or legislative intent of the program, (e.g., an eligibility test in the Pell Program). Alternatively, a feature can be considered a delivery system feature if it represents but one of several ways that program purpose or intent can be implemented (e.g., MDE or central contractor processing of Pell applications). However, distinguishing between program and delivery

system features becomes quite difficult in cases where what would otherwise be considered a delivery system feature has been made part of the law (e.g., the required minimum number of MDE processors in Pell).

While difficult, isolating program features from delivery system features in developing the quality improvement strategy is critical for several reasons. First, quality improvements in program delivery need not, and in fact should not, overturn the fundamental purpose or intent of the Title IV programs. Thus, some program features must be regarded as constants in any improvement strategy. Second, program features are typically stated in the law or represent the foundation of a regulation. Changing program features requires a political process in addition to system modifications. Third, while some program features must be held constant, others that have major impacts on the quality of the delivery system can be regarded as targets for change and improvement.

1.3.2 Program Features

Without prejudging the diversity of the Title IV programs, it is possible to identify several important categories of program features:

- Information amount, type, and timing about eligibility, etc. to students;
- Data required to determine financial eligibility or need;
- Models (algorithms) that determine financial eligibility or need;
- Rules/procedures/algorithms that determine categorical eligibility, award amounts, and the interrelationship among Title IV awards (packages); and
- Data required for monitoring, reconciling, analyzing, and evaluating program delivery.

Using these categories it is possible to identify quality improvements in program features that can be achieved through simplification, integration, and/or decentralization. This identificaton is the central theme of Section 2 of this report.

1.3.3 Current System Delivery Features

To complete the framework it is necessary to examine the impact of quality improvements on the current delivery system. To accomplish this objective, this paper will use the following functional breakdown:

- Pre-application;
- Student application;
- Student eligibility determination;
- Student award calculation;
- Funds disbursement; and
- Account reconciliatcn.

These are the six stages in student aid delivery identified in previous studies and they are common to all Title IV programs.

1.3.4 Summary

This section has suggested that a broad consensus is emerging on how to improve quality in the Title IV programs. The primary components of the consensus - simplification, integration, and decentralization - can serve as design parameters in the quality improvement framework. Section 2 will expand this framework by identifying a comprehensive set of

quality improvement opportunities in each program feature area. The completed framework will facilitate the choice of a quality improvement strategy that will be described in Section 3. The implementation plan for this strategy will be presented in Section 4.

2.0 DEVELOPING THE QUALITY IMPROVEMENT FRAMEWORK

The framework outlined in Section 1 can be used together with knowledge of the Title IV programs and delivery system to identify quality improvement opportunities. The character and specific features of each program have been described in detail in previous studies and need not be repeated here. This section will focus rather on the simplification, integration, and decentralization opportunities in each area of the program feature framework presented in Section 1.

2.1 Amount, Type and Timing of Consumer Information

In order for the Title IV programs to accomplish their objectives, potentially eligible students must learn about them in a timely fashion. However, the current Title IV program information dissemination system is characterized by the following features:

- Numerous, partial, and conflicting sources of information; and
- Suboptimal quality and timing of information on the potential drawing power against the Title IV programs.

These factors suggest that quality improvement opportunities may exist in the following areas:

- Simplify information by redesigning information dissemination emphasizing Title IV as the focus.
- Integrate information dissemination efforts by stressing the interdependency of Title IV programs and processes.

- Decentralize eligibility information so that students can have the capability to perform early need analyses/program eligibility on Title IV programs.

2.2 Data Required for Eligibility/Need

Ideally, a simple, concise, commonly defined data set would drive the determination of eligibility and need for Title IV Programs. This data set could be acquired either by means of one short form or from a common section embedded in all forms. In addition, it would be helpful if data were entered, adjusted and maintained in a common student data base. Current Title IV programs and delivery fall short of this ideal in several important respects:

- Different data sets exist for each of the Title IV programs;
- Each data set is large and complex; and
- Many data elements are difficult if not impossible to verify.

The discussion above suggests the following quality improvement opportunities:

- Simplify by reducing the number of data elements to those that are easily verified without distorting the distribution of benefits.
- Integrate data by using a limited, common, verifiable data set to drive all Title IV programs.
- Decentralize the capability to perform eligibility/need determination.

2.3 Models or Algorithms to Determine Eligibility or Need

In addition to the multiplicity of data required, there are serious issues concerning how the data are used to determine eligibility or need for financial assistance. Ideally, potential aid recipients would be able to get a good sense of the amount and type of assistance they could expect to get. This would help them make initial decisions about which, if any, schools they would apply to. This capacity is very limited due to the current program features:

- The models for determining eligibility and need are different for the various programs.
- Individual institutions have considerable discretion in making assumptions about an applicant's need for aid. For example, varying levels of summer savings or minimum contributions are assumed by different schools.
- Even given identical expected family contributions, varying costs of attendance may be applied across the programs thus generating varying "needs" for aid.
- Different algorithms using different data are used for "independent" versus "dependent" applicants.

These limitations on a potential student's ability to estimate his or her eligibility, need for assistance, and amount of expected award under the various Title IV programs suggest the following quality improvements:

- Simplify eligibility by using a small set of data elements.
- Integrate eligibility and need determination by using a common model for all Title IV programs.
- Decentralize the capability to perform eligibility/need determination.

2.4 Rules/Procedures/Algorithms for Categorical Eligibility, Award Amounts, and Packages

As we discussed above, the determination of need, as reflected in the models for determining cost of attendance and expected family contribution, have difficulties associated with data complexity, a multitude of algorithms, and a high-level of institutional discretion. These shortcomings make it difficult for a potential aid recipient to estimate his or her likely financial assistance. Complicating this problem is the fact that the rules and procedures for determining award amounts allow for considerable variation even when "need" is held constant. Specifically:

- The rules that determine categorical eligibility vary significantly across programs.
- Institutional allocations under the Campus-Based programs are based on state allocation formulas and historical patterns of assistance rather than aggregate "need" at the institution.
- Hence, the amount of aid available for "similar" students at "similar" schools is not the same.
- The "cost of attendance" determination varies considerably within schools and across schools.
- The package of loan, grant and work-study assistance is primarily left to the discretion of the institution. Potential aid recipients have little knowledge of how the package is constructed.
- The timing sequence of a student's application for Campus-Based assistance and GSL may impact the amount and type of aid received.

These factors suggest the following quality improvement opportunities:

- Simplify the estimation of the determinants of award amounts for students such as cost of attendance and aid packaging, perhaps by using Federal guidelines.

- Integrate the rules that determine categorical eligibility across all programs.

- Decentralize need analysis to qualifying institutions to improve the timing of awards by minimizing the time needed to determine a student's eligibliity for aid.

2.5 Data for Monitoring, Reconciling, Analyzing, and Evaluating Program Delivery

Ideally, the data required for application eligibility determination, and back end Federal processes like program monitoring, reconciliation, and evaluation would reside in a single data base for all Title IV programs. This is not the case:

- Central Pell applicant and recipient data bases are separate;

- A central student level data base does not exist for the Campus-Based or GSL Programs;

- Data for evaluating program quality in most cases do not exist-- at least not in an integrated, accessible form;

- Beyond Pell, there is no ongoing monitoring of disbursements; and

- There is no student level reconciliation of Campus-Based awards except during audit or program review.

These deficiencies suggest that the following quality improvement opportunities exist and should be considered:

- Simplify the reporting and reconciliation functions by having institutions produce student level data on an ongoing basis, rather than aggregated data.

- Integrate data across Title IV programs by using common data, data definitions, etc. and a central repository of data.

- Decentralize the mechanisms for collecting data for analysis and evaluation by eliminating the need for duplicate Federal data collection of the characteristics of aid applicants and recipients.

The results of this section are displayed in Figures 2-1 and 2-2. In Figure 2-1 we summarize possible improvements as they relate to each of the five program features. The Department's ability to implement any of these changes is a function of the estimated benefits they would achieve in improving the quality of the student aid programs. It is also a function of any additional costs and other disadvantages that implementing these actions would engender. In Figure 2-2 we abstract the themes of Section 2 relating to potential benefits that we would hope to realize from implementing any or all of the quality improvement.

In the next section we synthesize the generalized statements of quality improvements in Figure 2-1 into a concrete proposal for a "target" or "goal" delivery system and show how this system helps to achieve the benefits of Figure 2-2. The key features are integration of activities across programs, simplification of data and processes, and decentralization and delegation of responsibilities with accountability to appropriate levels. This is intended to be achieved with proper centralized control mechanisms in place.

Program Features:	QUALITY IMPROVEMENT OPPORTUNITIES		
	SIMPLIFICATION	INTEGRATION	DECENTRALIZATION
Amount, type & timing of consumer information	Redesign information dissemination emphasizing Title IV	Stress interdependency of programs	Decentralize capability to perform early need analysis
Data required to determine eligibility/need	Reduce data elements to a "core"	Integrate across programs with a limited common data set	Decentralize collection and use of data for special circumstances
Models (algorithms) that determine eligibility/need	Simplify need analysis model through a reduced data set	Use a common need analysis across all programs	Allow decentralized capability to calculate SAI and EFC
Rules/procedures that determine award amounts and packages	Simplify the estimation of the determinants of award amounts and packages	Use common rules for determining categorial eligibility	Allow qualifying institutions to perform official need analysis
Data for monitoring, reconciling, analyzing, and evaluating program delivery	Institute reporting on student-level data on an ongoing basis	Use a central repository of across-program information	Eliminate the need for separate Federal data collection efforts to determine characteristics of applicants and recipients

FIGURE 2-1. SUMMARY OF QUALITY IMPROVEMENT OPPORTUNITIES

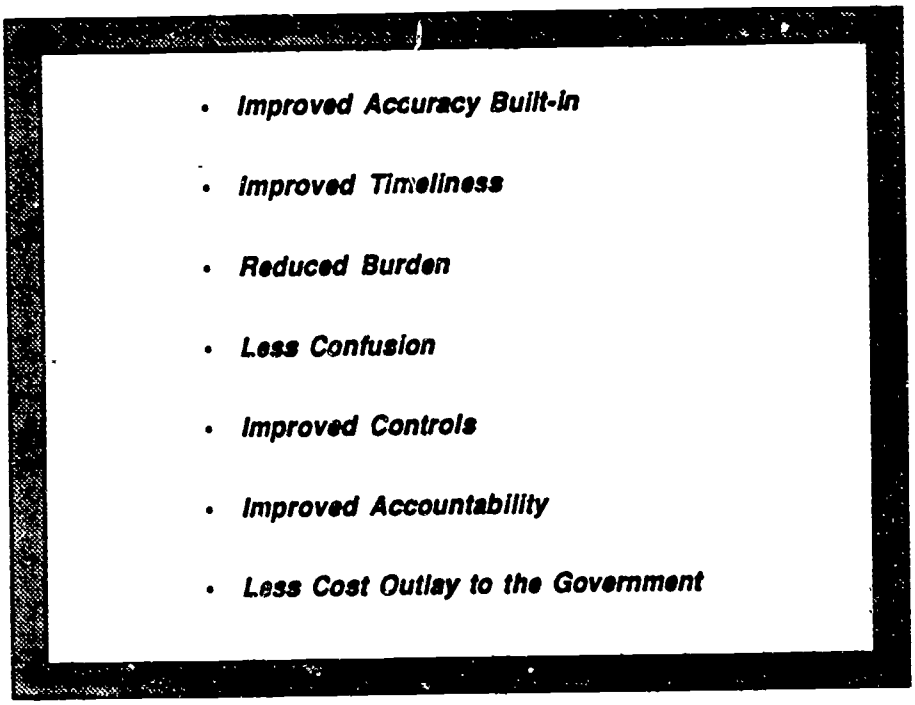

FIGURE 2-2. SUMMARY OF DESIRABLE OUTCOMES TO OVERCOME CURRENT NEGATIVE DELIVERY SYSTEM AND PROGRAM FEATURES

3.0 SELECTION OF A QUALITY IMPROVEMENT STRATEGY

We have suggested that the basic components of a quality improvement strategy are simplification, integration, and decentralization. These components, when meshed with Title IV program features, led to a list of quality improvements. Not all of these improvements may be immediately feasible. However, one can construct a phased implementation approach to select a quality improvement strategy that:

- Appears to be politically and financially feasible in the short term;
- Does not eliminate the possibility of implementing all of the improvements in the long term;
- Helps achieve the seven benefits of Figure 2-2.

In this section, we have constructed a delivery process that incorporates the proposed set of quality improvements. One can look at this process as the target system. That is, it is the goal toward which a phased approach is headed. The key structural changes selected and their quality improvement classification are shown below:

	Simplification	Integration	Decentralization
1. A reduced core of data elements	X	X	X
2. An integrated needs analysis structure	X	X	
3. A central database		X	
4. A central disburser		X	

In addition, we recommend the continuation and expansion of the institutional QC initiative. This initiative properly places responsibility for error management and procedural corrective actions where institutions have the most control. at the institutional level.

3.1 Proposed Improvements

In Figure 3-1, we have flow charted the target delivery system process that incorporates the quality improvements of Section 2. In Figure 3-2 we summarize features of the proposal, especially those that differ from the current systems. The document/data flows are numbered, roughly chronologically, and are described in this section. These are high level descriptions aimed at ease of understanding the process and omit details we presume can be included at a later date without compromising the goals of the overall process -- simplification, integration, and decentralization.

1. Processors distribute Title IV student aid application forms. These forms would be comprised of at least the "core" data elements necessary to calculate the SAI. They could also be used to determine EFC for Campus-Based aid at an institution's discretion. A processor may wish to add additional data elements used in guaranteeing GSL's and later provide these data to Guaranty Agencies. The QC studies have shown that there exists a core set of easily verifiable data items that more accurately reflect "best value" SAI and EFC than does the current collection of data items. It is further suggested that the form(s) promote an applicant's ability to estimate his or her Pell Grant eligibility by providing a simple step-by-step process for converting the reduced data elements to SAI and then providing a simple reference table of approximate Pell award as a function of broad SAI and cost of attendance ranges. A free Federal form to be processed by the central processor would continue to be available.

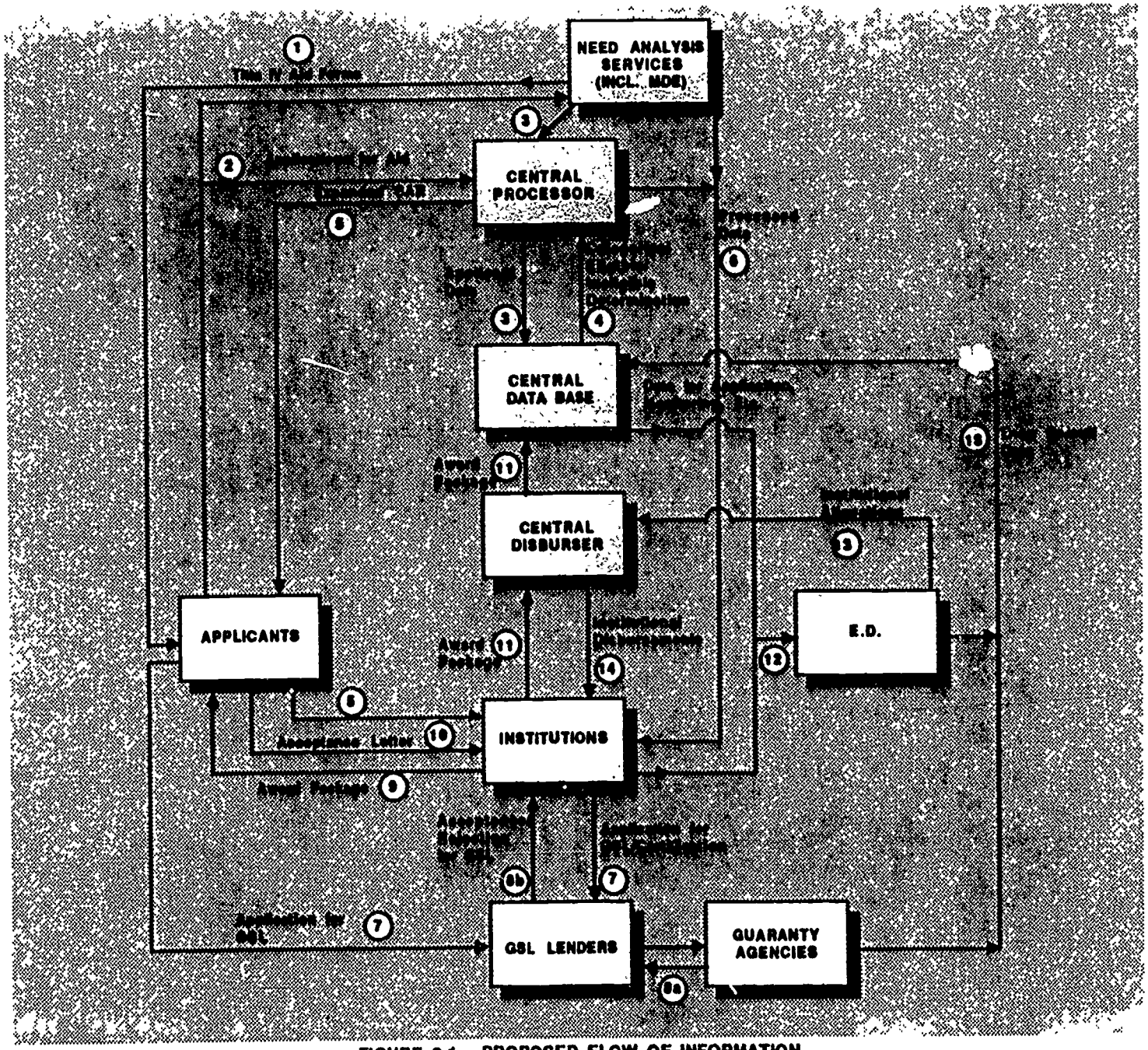

FIGURE 3-1. PROPOSED FLOW OF INFORMATION

	Pre-Application	Application	Eligibility	Award	Disbursement	Reconciliation
Applicant	• Hand calculation of approximate Pell Award*	• Fills out single Title IV aid application*	N/A	• Accepts all or part of aid package	N/A	N/A
Processor	• Constructs and distributes Title IV Aid applications using "core" data elements as a base*	• Processes Title IV applications	• Calculates official SAI and EFC	N/A	N/A	N/A
Institution	N/A	• Campus-Based Aid application reduced with much data residing in Central Data Base* • Handles GSL applications	• Verifies categorical eligibility rules	• Maintains discretion over C-B package	• Maintains direct disbursement interface with the student	• Provides Central D.B. with updates of award package by student on an on-going basis*
ED	• Determines "core" elements • Determines model for Pell need • Determines Pell award schedule	• Determines allocation formula for C-B aid	• Establishes categorical eligibility rules	• Establishes award rules	• Establishes disbursement rules	• Verifies funds reconciliation through analysis of Central D.B. and program reviews*
Central D.B./ Disburser	• Provides ED with data to model financial and distributional impacts of proposed models and award schedules*	• Provides data for institutional C-B application*	• Checks for categorical ineligibility in student applications*	• Receives award data by student from institutions* • Checks for within-year or cross year violation of program limits*	• Provides Pell and C-B allocations to institutions*	• Reconciliation focus for all Title IV programs at the student and institutional level*
Lenders/ Agencies	• Derives procedures and relationships with institutions	• Accepts or rejects GSL application	N/A	N/A	• Disburses GSL through the institution	• GSL reconciliation established through the Central D.B.*

*Change from existing delivery systems

FIGURE 3-2. SUMMARY OF TARGET DELIVERY SYSTEM FEATURES

2. The student would send the application form to one or more processors indicating to what institutions he or she would like to apply for aid.

3. The processor(s) would calculate the SAI and EFC and all would download the application data to a central processor and then to a Central Data Base. As the technology permits, on-line interfaces would be preferable to batch down loading of data. On-line interaction would be less time consuming and error-prone but likely more expensive.

4. The Central Data Base could check the processors' SAI calculations and also check for categorical eligibility (e.g., prior default of a GSL) and report back to the central processor. The check on SAI or EFC calculation is an optional step that would provide a quality check on the accuracy of the processors' edit and calculation procedures. It could be done on a sample or universe basis, as desired by ED. At this point ED could also initiate flags for validation on the basis of a static or continually updated error-prone profiling algorithms.

5. The central processor would then send an expanded SAR back to the applicant giving SAI, approximate Pell award assuming ranges of cost of attendance, and other relevant information and instructions. The student would also examine the data for accuracy and send corrections back to the central processor. The student would take his or her most recent expanded SAR to an institution of choice to initiate the award process.

6. The processor(s) would send the same information to the applicant's selected institutions. In addition, the information could be sent to appropriate state and private agencies directly, if this is deemed a desirable enhancement to the proposed delivery system.

7. If appropriate, the institution would arrange a GSL with a lender and guaranty agency. Students could still go directly to the lender of their choice to begin the loan application process. By taking some of the application for GSL out of the student's hands, institutions can uniformly package aid without having the uncertainty about whether the student would apply for and receive a loan. Schools will know the amount of loan applied for and received.

8. Agencies would guarantee loans and confirm enrollment status as they do now.

9. The institution would notify the applicant of his or her potential aid package. All awards would be contingent upon receipt of a valid SAR.

10. The applicant would then accept or reject all or part of the aid package and notify his or her institutions.

11. Information on the amount and types of aid accepted would be forwarded by the institution to the Central Disburser and updated as appropriate. As soon as a student received aid from one school, it would be clear to other institutions not to award aid to that student.

12. The information from the Central Data Base could later be used for reconciliation and analysis. An interesting side benefit would be the potential to use the data relating to an institution's applicants and recipients in the application for the subsequent year's Campus-Based aid allocations. Much of the data currently being requested from institutions on the "FISAP" financial reporting and application form would exist in the Central Data Base. Thus the institutions could receive pre-printed applications, much of it filled in with accurate, verifiable data. This would reduce institutional reporting burden and lessen the potential for erroneous reporting of FISAP application information.

13. Information from the Central Disburser would also be used to derive the subsequent year's institutional allocations of Title IV funds. This is similar to the current Pell disbursement process which uses prior year expenditures to determine initial allocations and on-going reconciliation to determine subsequent allocations.

14. Those funds could then be provided to institutions in a manner identical to current procedures. ED might wish to expand the Pell disbursement concept to the Campus-Based programs to reduce the government's initial outlays and increase control of expenditures.

15. Loan default information would be sent to the Central Data Base from Guaranty Agencies (GSL) and ED (FISL and NDSL). Presence of a defaulted loan would trigger ineligibility for new Title IV assistance.

3.2 Impact on Current Negative Program Features

In the preceding section we described a feasible set of quality improvements and its impact on current negative delivery system features. In this section, we discuss the proposals' impact on the current negative program features described in Chapter 2.

1. Amount, Type and Timing of Consumer Information

- Numerous, partial and conflicting sources of information - The selected set of quality improvements does not alleviate this shortcoming.

- Suboptimal quality and timing of information on potential drawing power on Title IV programs - The introduction of a reduced data element, simple formula helps address this issue. We have suggested that the processors who distribute the Title IV aid application (Step 1 above) include with it a single step-by-step process for the applicant to convert the reduced data elements into an SAI and also provide a table of approximate Pell award as a function of broad SAI and cost of attendance ranges. The form might also include instructions and information on the applicants likely drawing power from other Title IV programs given his or her SAI and potential cost of attendance.

2. Data Required for Eligibility/Need

- Different data set required for each of the Title IV programs - While not eliminating this problem, we propose a "core" set of data that could also be used to determine EFC for the other aid programs.

- Each data set is large and complex - We have proposed a reduced Pell data set which, again, could be sufficient for other need analysis determinations.

- Many data elements are difficult if not impossible to verify - The "core" data elements are verifiable and generally, very accurate according to the Quality Control Projects' research.

3. Models or Algorithms to Determine Eligibility or Need

The set of quality improvements we have selected do not address the range of problems associated with the determination of eligibility or need except by simplifying the data set as discussed above. We have explicitly not attempted to limit institutional discretion to override a rigid needs analysis determination for individual students.

4. Rules/Procedures that Determine Award Amount

Similarly we have not selected the quality improvements that remove discretion related to the size and composition of a student's aid package. We believe this overall change in the philosophy of student aid delivery is not politically feasible at the current time and should be the subject of continuing discussions between ED and the student aid community.

5. Data Required for Monitoring, Reconciling, Analyzing, and Evaluating Program Delivery

- **Central Pell applicant and recipient data bases are separate** - The central data base would combine the applicant and recipient data bases into a "whole person" data base.

- **A central student level data base does not exist for the Campus-Based and GSL Programs** - As above, the proposal includes a "whole person" data base that would require less reporting burden on institutions while maximizing ED's ability to monitor and reconcile program funds and analyze and evaluate the delivery of Federal financial aid.

- **Data for evaluating program quality in most cases does not exist** - Program quality measures relating to the processors, institutions, and students could be regularly monitored through quality control checks through the central data base at all six delivery systems stages, as indicated in Figure 3-2.

- **Beyond Pell, there is no on-going monitoring of disbursements** - While not being explicitly proposed here, it is possible to establish an on-going monitoring of disbursements in the Campus-Based aid programs in a fashion similar to the Pell disbursement process. In addition to providing added control on overall expenditures, on-going reporting to the central data base of Campus-Based awards would allow for checking against the student records to determine if there have been any violations of within-year or cross-year program award limits.

- **There is no student level reconciliation on Campus-Based awards** - Whether ED chooses on-going or end of year reporting of Campus-Based awards, student level data would be available through a central data base for the first time.

3.3 Summary

In this section we have selected a "target" delivery system that incorporates the quality improvements of Section 2. We have shown that target system to be helpful in overcoming the current negative delivery system and program features. It involves structural changes to the

current delivery system. These changes were deemed to be necessary to overcome the continued high level of program error that has been immune to less drastic changes. Insofar as some of the proposed changes are major, a phased implementation approach is the most desirable.

In Section 4 we look at how ED could implement, in phases, the set of quality improvements we have selected. As Figure 3-3 indicates, we classify the improvements into five areas. A summary of the relative advantages and disadvantages is also shown and indicates the predominant overall benefit to implementing these improvements. Alone and in combination, they offer the Department the opportunity to make major gains in improving the quality of student aid delivery.

	OBJECTIVES						
	IMPROVED ACCURACY BUILT-IN	IMPROVED TIMELINESS	REDUCED BURDEN	LESS CONFUSION	IMPROVED CONTROLS	IMPROVED ACCOUNTABILITY	LESS COST OUTLAY TO GOVT
Phase I							
CENTRAL DATA BASE	+	0	0	0	+	+	–
INSTITUTIONAL QC	+	0	–	0	+	+	+
Phase II							
INTEGRATED NEEDS ANALYSIS	+	+	+	+	+	0	0
CENTRAL DISBURSEMENT	+	0	–	0	+	+	+
Phase III							
REDUCED DATA ELEMENTS	+	0	+	+	0	0	+

+ = *Advantage*

0 = *Neutral*

– = *Disadvantage*

FIGURE 3-3. HOW EACH QUALITY IMPROVEMENT HELPS OVERCOME CURRENT NEGATIVE PROGRAM AND DELIVERY FEATURES

4.0 IMPLEMENTATION OF THE PROPOSED TARGET SYSTEM

The Department of Education and participating institutions have taken significant steps to improve quality in the student aid programs. Institutional QC programs, the QC pilot initiative, validation, and forms redesign are examples of actions taken to reduce error and improve quality. Short term, mechanical fixes are well in place and all participants have stepped up to their responsibilities. However, error continues to remain high in all of the Title IV programs.

It is now necessary to establish a long-term, strategic plan for quality improvement. A strategic plan allows the Department to move away from the high error and other negative program and delivery system features described in Section 2 in a manner that:

- Maintains control of the quality of the programs;
- Minimizes potential disruptive impacts on students and institutions;
- Allows ED to achieve short term benefits with minimal risk; and
- Provides check points that allow ED to redirect its approach.

To make further meaningful improvements in quality it is necessary to re-examine aspects of the delivery system itself and, where appropriate, change its structure. In Section 3 we proposed a "target" system that would improve quality through certain structural changes. The predominant structural changes, a reduced core of data elements, integrated processing, and a central data base and disburser were selected as ways of improving quality without sacrificing program intent.

Structural changes are generally more difficult to make than mechanical changes. They often involve a more difficult consensus, have greater transitional impact on participants, and involve more risk of disruption. To minimize the problems associated with making these needed structural changes, a phased implementation approach is being recommended in this Section.

Three phases to reaching the "target" system are being proposed. They represent a logical progression of increasing complexity and effectiveness. That is, each phase represents a progressively higher order of difficulty of consensus, transitional impact, and risk of disruption. The advantage of this progression is that it allows ED and institutions to begin moving toward the "target" system in a logical manner with relatively little early difficulty. As phases are absorbed, subsequent phases can be re-examined and then entered into with fewer problems. Most importantly, a phased implementation approach with relatively easy first steps will create a momentum for quality improvement by demonstrating the benefits of the participants' efforts.

In selecting which improvements should go into which phase, the following criteria were used:

- Phase I
  - Does not introduce new errors through loosening previously established controls.
  - Does not require legislative or major regulatory changes.
  - Has minimal transitional impact on schools and students.
  - Has minimal risk of disrupting the flow of funds to students.

- Phase II
  - Does not introduce new errors through loosened controls.
  - Does not require legislative changes.
  - Does not have a major transitional impact on schools and students.
  - Does not have a major risk of disrupting the flow of funds to students.
- Phase III - The remaining quality improvements.

On the basis of these criteria the quality improvements were sorted by phase as follows:

Phase I	Phase II	Phase III
Central Data Base Institutional QC	Integrated Need Analysis Central Disbursement	Reduced, "Core" Data Elements

Conceptually, Phase I establishes the basis for providing momentum toward the target program. It has no real disruptive impacts and provides tangible benefits in a relatively short time. Phase II begins implementing parts of the new structure that are minimally disruptive during transition and provide more significant improvements to quality. Phase III completes the implementation and in itself has a major impact on quality improvement.

The final advantage to implementing quality improvements in the proposed phased manner is that it allows ED to reconsider and redirect the implementation as desired. For example, if ED wishes to not implement Phase II and Phase III, the positive results of Phase I will still be attained. The government can, and should, re-evaluate its position and transition strategy in a concurrent phased manner.

4.1 Phase I Implementation

Phase I quality improvement activities, the establishment of a central data base and the implementation of institution-based QC, lay the foundation for the subsequent phases of implementation of the "target" system. The establishment of a central data base is a critical element of the proposed system. Without a central data base ED runs a high risk of a deterioration in quality as more and more functions are decentralized. The Central Data Base is intended to act as a quality check-point on the activities of processors, institutions, and students.

It is also intended to reduce burden on institutions, provide information to improve management of the programs, and provide central control while increasing decentralized discretion and efficiency. Institutional QC, on the other hand, recognizes that responsibility for quality should be placed at the organizational level most suited to affect quality.

In this subsection we discuss the implementation of both improvements. Exhibit 4-1 is a summary of the action items needed to be completed for both Phase I quality improvements. In Section 4.1.1, Central Data Base, we follow a format of:

- Definition - What is meant by a Central Data Base?
- Advantages - What benefits are gained during Phase I?
  - What benefits are attainable when all phases are implemented?
- Disadvantages - What are the risks and costs associated with establishment of a Central Data Base?

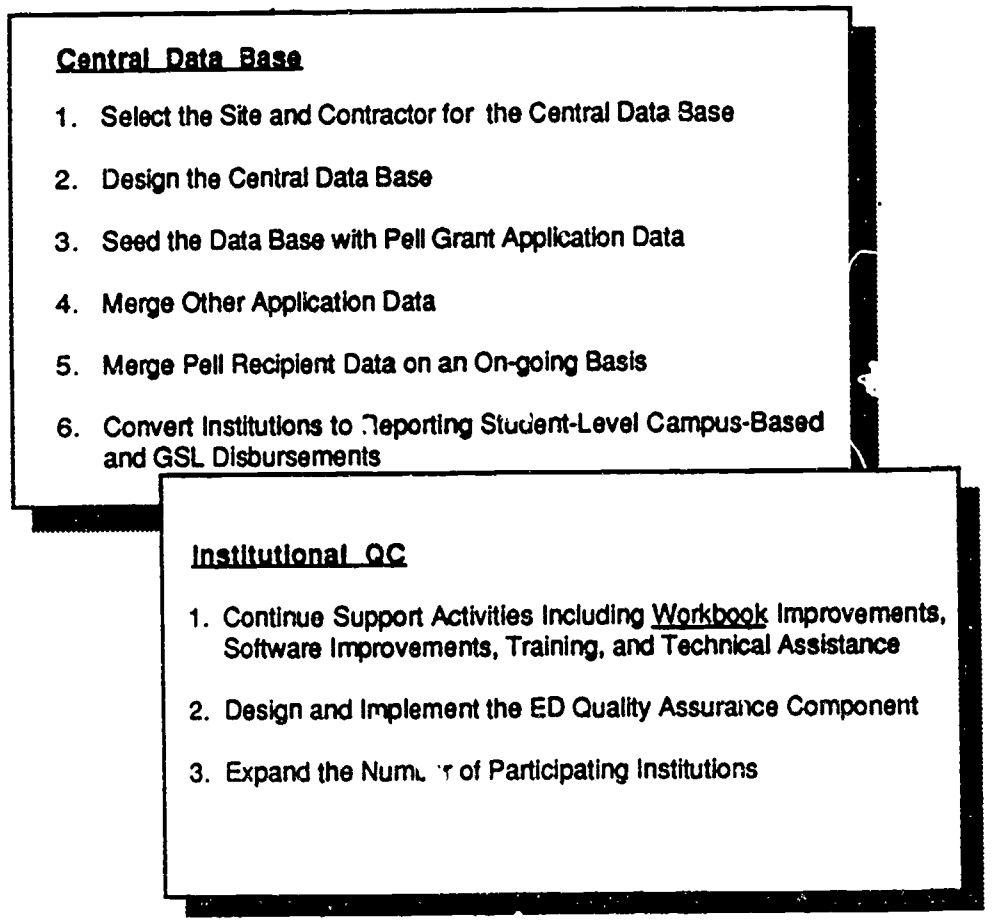

EXHIBIT 4-1. PHASE I ACTION ITEM SUMMARY

- Implementation Overview - What is the general approach to implementation?
- Action Items - What are the tasks that need to be completed?

In Section 4.1.2, Institutional QC, and in subsequent sections dealing with Phases II and III, we repeat this format.

4.1.1 Central Data Base

Definition. The Central Data Base is intended to be the repository for student level data on demographic characteristics, school(s) attendance, need analysis, program eligibility, and student aid awards. It is intended to be current and used interactively throughout the delivery process (see Exhibit 3-1 for inputs and outputs).

Advantages. The Central Data Base, when operational after Phase I, will provide a check point to prevent such errors as eligibility errors due to former loan default, overextensions of lifetime or annual limits for each of the programs, combined awards in excess of need, incorrect Pell award determination, and FISAP reporting errors. It also provides, for the first time, student level recipient data to aid in planning, budgeting, monitoring, and financial reconciliation of the programs, both separately and in combination.

If ED decides to implement through Phase III, including integrated needs analysis and central disbursement, the Central Data Base will further provide the benefits of a pre-printed FISAP application for

Campus-based aid, on-going financial reconciliation for the Campus-based programs, and control of the quality of possibly multiple sources of need determination.

Disadvantages. Possible disadvantages relate to cost and burden. First, implementation of a Central Data Base would require an expenditure of funds not currently being made. A data base would have to be created and maintained requiring initial increases in the current use of hardware and telecommunications, new software development and on-going maintenance. Counteracting these costs is the ability of the Central Data Base to replace the current Pell central reconciliation functions with its related hardware, telecommunications, and software costs.

The implementation of a Central Data Base, as envisioned for Phase I, would also increase the reporting burden on institutions. In addition to reporting Pell on a student-level basis as is currently the case, schools woul need to report Campus-based and GSL disbursements on a student-level basis. However, roughly 1,900 institutions currently repo Pell disbursements electronically or via tape exchange (about one-third of the 6,500 Pell schools), representing about one half of all Pell recipients. For these schools there should be only minimal increased burden during the transition stage. Further counteracting any potential increase in burden is a reduced reporting responsibility regarding Campus-based funds reconciliation. The Central Data Base could generate most of the reconciliation data currently reported annually in the FISAP.

Implementation Overview. Briefly stated a Pell Grant applicant file could be used as the starting point for the Central Data Base. As Pell Payment documents are received, disbursement data (e.g., cost of attendance, enrollment status, award schedule) would be merged with the application data. This is the current process used by the Pell Disbursement System to create a merged applicant-recipient file. Thus either the current Pell Processor or Disbursement contractor could be used to develop and maintain the data base.

Action Items. The six major action items required are:

1. Select the site and contractor for the Central Data Base;
2. Prepare design for the Central Data Base;
3. Seed the data base with Pell applicant file data;
4. Merge other application data with the Pell applicant data;
5. Run Pell recipient data into the file using the current SAR Part 3 (Payment Documents); and
6. Convert institutions to reporting student-level Campus-Based and GSL disbursements on Payment Documents similar to the Pell Payment Documents (perhaps end-of-year reporting only at first, and then later on integrated Title IV Payment Documents, on an on-going basis)

1. The options available to ED regarding the selection of site and contractor are to use the existing Pell Processor, use the existing Pell Disbursement contractor, or procure the site and contractor through a new competitive procurement. ED should explore these options by weighing contractual feasibility, desired implementation time frame, and life cycle costs.

2. Whether through modification of an existing contract or through procurement of a new one, the data base would next need to be designed.

ED might seek general design architectures in response to a solicitation or after contract award. Full life cycle methodology should be used to ensure a useful implementation, including:

- A formal requirements analysis;
- A conceptual design, including analysis of alternatives;
- A general systems design;
- A detailed systems design including data base and program specifications; and
- Implementation including formal acceptance testing.

3. The Central Data Base would first be seeded with data from the Pell applicant file. These data could include some or all of the application data and the SAI. Depending on the desirability of storing transaction information, the data base could contain only the most recent application and SAI data or track data changes.

4. Currently, students may obtain federal student aid without their application data being captured in a central location. A student may submit an application to one of the Multiple Date Entry (MDE) contractors and indicate that he or she is not interested in applying for Federal aid. The student may then decide later to seek a Campus-Based or GSL award and his or her application data would not go to the Central Pell Processor. Similarly, Campus-Based and GSL awards may be based on applications submitted to several needs analysis services. These application data also do not go to the Central Pell Processor.

To make the Central Data Base comprehensive, ED may wish to mandate the submission of application data from the non-Federal MDE applicants

who subsequently want Federal aid and from the needs analysis services applicants. This could be done by mandating that the school submit a hardcopy Federal form or an electronic application to the Central Processor or the school request the MDE or needs analysis services to transmit the applicant data to the Central Processor.

5. As Payment Documents are received by the Pell disbursement system, institutional and award data would be merged with the application data.

6. Initially, an end-of-year payment document could be used to merge Campus-based and GSL payment data with the data base. Eventually, the Pell Payment Document would be expanded to an integrated Title IV Payment Document that would include Campus-based and GSL payment data on an on-going basis (similar to the way Pell is now reported). Congress has already mandated a Title IV-wide document that would provide award data to each student (currently nicknamed FEDSAR). The design of this document should be such that a copy would serve as the input document of Title IV disbursements to the Central Data Base and the Central Disburser.

Loan default data would also eventually be transmitted to the Central Data Base. The amount and type of loan defaulted, identified by student, would be sent from the GSL/NDSL processing contractor to be merged with the Central Data Base. These data would be used to flag defaults prior to the student being made eligible for additional financial assistance.

Either end-of-year or on-going reporting of Campus-based recipient data will alleviate the current requirements on institutions to provide

most of the aggregate data they now report on the FISAP. If, after Phase II, Campus-based applicant data as well as Pell applicant data seed the Central Data Base via an integrated needs analysis process, then the onerous and error-prone eligible applicant matrix of the FISAP could also be eliminated.

4.1.2 Institutional QC

Definition. Institutional QC is defined as a management process intended to identify the rate and causes of error and derive and implement corrective actions to reduce their future occurrence. It is aimed at controlling those errors that the institutions have power to correct. It is intended to supplement the efficiencies and error reductions realized through the structural changes recommended in this paper.

Advantages. Institutional QC allows schools, within broad guidelines, to decide the best ways to manage their programs. It allows institutions to implement the corrective actions most appropriate for their student mix, resource availability, and operating environment. The Title IV QC Study has shown much lower error in schools who have implemented institutional QC versus institutions who have not.

Disadvantages. Institutional QC represents an increased burden on institutions if it is implemented in addition to currently mandated prescriptive actions, such as verification. ED has decided to risk some of the quality improvement attained through the prescriptive actions by

waiving certain regulatory requirements in exchange for the implementation of institutional QC in a set of "pilot" institutions.

Implementation Overview. The implementation of a formal institutional QC program has already begun. In early 1985 ED designed a multi-phase approach to implementation. The first phase focused mainly on testing the feasibility of institutional quality control. This phase ran from January 1985 through June 1986 and involved achieving consensus on an approach to institutional QC and working with a small group of institutions to test the approach in an institutional environment. First phase activities included:

- Formation of an expert steering committee;
- Development of an Institutional Quality Control Workbook;
- Training the financial aid staff at 42 institutions;
- Implementation of the first year Workbook activities at those institutions;
- Technical assistance to those institutions; and
- A preliminary evaluation of the success of the first phase implementation.

As a result of the evaluation, a second phase, currently in process, was undertaken. The second phase includes improvements to the Workbook, microcomputer software to reduce institutional burden, and an expanded set of institutions. The remaining phases are planned to be used to evolve to a full-scale implementation of an institutional QC system.

Action Items. The major action items are:

1. Continuation of support activities such as Workbook improvements, software improvements, and training and technical assistance for institutions;

2. Design and implementation of the ED quality assurance component; and

3. Expansion of the number of participating institutions.

1. The Department has recently procured contracted support for the institutional QC initiative. This support would entail improvements to the Workbook, training and technical assistance to participating institutions, annual evaluations of initiatives, and improvements to the supporting microcomputer software. With this support, the first major action item will be completed.

2. ED should have formal procedures in place to monitor the performance and assure the quality of the institutional QC process. Without a formal quality assurance component, the Department runs the risk of a degradation in quality due to inadequate institutional QC resulting from poorly designed or executed procedures. It is recommended that ED initiate the design of a quality assurance program that would include:

- Establishment of roles and responsibilities for quality assurance;
- Procedures for periodic independent verification of institutional compliance with QC guidelines; and
- Procedures for the periodic collection of error-rate data sufficient to monitor the overall success of the program.

3. Results from the first evaluation of the Institutional Quality Control Pilot Project have been encouraging and suggest that the effort should be expanded. Participation has been voluntary. In the fall of

1986, ED published regulations exempting Pilot institutions from integrated verification requirements. This was done as an incentive to encourage participation by additional schools. ED should continue to examine the choice between voluntary participation (perhaps with additional incentives) and mandatory participation.

4.2 Phase II Implementation

Phase II represents a further integration of the Title IV programs and moves ED one step closer to the "target" system. Specifically, Phase II represents the implementation of integrated needs analysis and a central, integrated disburser of funds. Under Phase II, the current student aid application processors would use an integrated aid form to calculate an SAI and FC and send the data to a central processor for an official, expanded SAR. The integrated aid form would represent the source of the applicant data portion of the Phase I Central Data Base and allow central disbursement and student-level verification. Required action items for both Phase II initiatives are summarized in Exhibit 4-2.

4.2.1 Integrated Needs Analysis

Definition. A student applying for aid under the Campus-Based and Pell programs must undergo two separate needs analyses. The processors that calculate need for Campus-Based aid are not currently allowed to determine an official SAI for Pell (although this is currently being contemplated by ED) and do not have the authority to send an official SAR

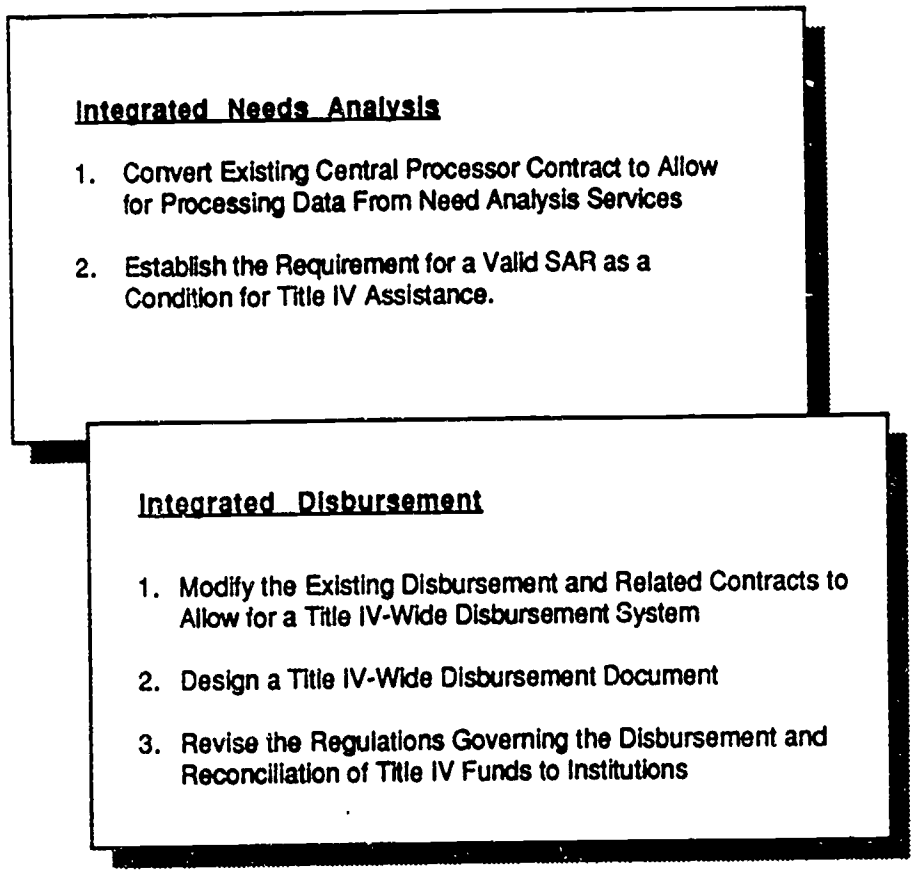

EXHIBIT 4-2. PHASE II ACTION ITEM SUMMARY

(including payment documents). Similarly GSL applicants must have a Campus-Based needs analysis and estimation of Pell Grant eligibility performed. Integrated needs analysis is the allowance of a controlled set of processors to determine SAI and EFC at one time off of one application and then have one report sent back to the applicant (an expanded SAR) that can be used by institutions to award Campus-based and Pell Grant funds.

Advantages. The major advantages of integrating the needs analysis computations are for the applicant and include a decrease in confusion caused by complexity, redundancy and time delay. Advantages accrue to institutions and students by simplifying the needs analysis process and eliminating multiple needs analysis documents arriving at their offices at different times. The expanded SAR also provides the opportunity for a single integrated disbursement document for driving central disbursement and reconciliation.

Disadvantages. The disadvantages of integrating the needs analysis process are for the independent need analysis services that do not currently send application information to the Pell central processor. To date, these services have been able to determine need using different algorithms than the Uniform Methodology. With the recent legislative mandate for one "Congressional Methodology", much of the independence of these services is gone. Under a system of integrated needs analysis and an expanded SAP that includes a disbursement document for the Title IV programs, these services would either have to send application data to

the central processor, like an MDE, or become extraneous steps in the delivery process.

Implementation Overview. To maintain management and quality control over the SAI determination process, it is first necessary to implement the Central Data Base, as described in Section 4.1. While the current four needs analysis services would continue to send application information to the central processor, processes to accommodate data transmitted between the other need analysis services and the central processor would need to be installed. Finally, the Department would have to mandate the fact that Title IV awards would be conditional on receipt of a valid expanded SAR.

Action Items. The two major action items are:

1. Converting the existing central processor contract to allow for processing integrated application data from all need analysis services; and
2. Establishing a requirement for a valid expanded SAR as a condition for award of Title IV funds.

1. Currently, students can receive Campus-based aid in one of two ways without their application data going through the central Pell processor. Students may have needs analysis performed by an MDE contractor and signify on their application that they are not interested in Federal aid. They may then change their mind once they have had their need determined. Alternatively, students may have needs analysis performed by an independent need analysis service and receive aid on the basis of that determination.

If a valid expanded SAR was required to disburse Title IV assistance to a student then all application data would, at some time, need to be passed through a central processor.

Thus, the data for those students who now by-pass the central processor would either have to be resubmitted through the current application procedures or be transmitted directly from the need analysis services to the central processor. The former procedures are already in place while the latter procedure would need to be implemented. This implementation would require expanding the contract of the current central Pell processor to receive and process data from the need analysis services. Additionally, methods to transmit and receive data between the central processor and the need analysis services would need to be devised and implemented.

2. ED would need to implement a regulatory change in order to require the existence of a valid expanded SAR as a condition for the award of any Title IV assistance. A full process of notifications and hearings would likely be required.

4.2.2 Integrated Disbursement

Definition. Currently the disbursement of Pell Grant funds to institutions can be allocated on an as-needed basis. An initial allocation of funds is made and then subsequent allocations are justified on the basis of documented need through the SAR-Part 3 Payment Document. This process allows for control of cash flows generally and can be used

to minimize potential financial exposure with potential "problem" institutions. Using the same disbursement mechanisms for Campus-Based aid would constitute the role of an integrated disburser.

Advantages. As stated above, the major advantage to integrating the disbursement process is the control it gives ED in managing cash flow. Assuming a Central Data Base, an advantage to institutions is that an integrated disbursement process would minimize end-of-year reconciliation paperwork and burden. Reconciliation would occur on an ongoing basis, just as it now does with Pell. Finally, integrated disbursement would provide an advantage to students in need of Campus-Based aid by providing early indications of maldistribution of Campus-Based funds across institutions. Funds initially allocated to schools that are not able to use all of the money (especially in College Work Study) can be readily re-allocated to schools who have students in need of the funds.

Disadvantages. An integrated disbursement system will represent an initial increase in institutional burden. This would be due to the schools having to convert their existing (often automated) reporting system for Campus-Based aid to the new, integrated approach. For schools reporting manually, there will be additional on-going reporting of Campus-Based aid receipt by students. This disadvantage would be partially negated by the discontinuation of the annual FISAP report.

Implementation Overview. A similar conversion to on-going reconciliation and disbursement for Pell was implemented for the 1984-85 program year. It is recommended that the implementation for an

integrated disbursement system proceed the same way as the Pell conversion. However, it is recommended that the time allowed for conversion be expanded. In Pell, the concept was announced to the community in the fall of 1983 for implementation less than a year later. This period should be expanded by 1 year.

Action Items. The major action items to be accomplished after a decision to proceed is reached are:

1. Modification of the existing disbursement and related contracts;
2. A redesign of the SAR Part 3 Payment Document to include other Title IV award information; and
3. A revision of the regulations governing the disbursement and reconciliation of Title IV funds to ihstitutions.

1. Minor modifications to the existing Pell disbursement and related data entry contracts would allow for the software development, operation, and maintenance of an integrated disbursement system. The system itself would logically reside contiguous with the Central Data Base due to the frequent interaction that would be desirable for such items as:

- Confirming the use of the most current SAI and EFC;
- Detecting disbursement above lifetime program limits; and
- Establishing the completed, centralized applicant-recipient data base.

Procedures governing the interaction between the Central Data Base and disburser would need to be designed and implemented through the respective contract vehicles.

2. Award data should come to the integrated disburser by a modified SAR Payment Document. The modified Payment Document would include information in the amount and timing of all Title IV awards. As with current processing, the Payment Document could be transmitted either electronically or in hardcopy format.

3. The procedures governing the interactions between the institutions and ED regarding disbursement and reconciliation of Campus-Based funds would change. This would require regulatory as well as administrative modification necessitating the proper lead time and consensus-forming activities.

4.3 Phase III Implementation

Phase III represents the culmination of the proposed structural improvements to the student aid delivery system. Phases I and II provided the integrated application and control mechanisms that permit Phase III improvements to proceed. Data element reduction is a major structural change aimed at the largest single source of error -- incorrect reporting of application data. This would be accomplished by eliminating highly error-prone data elements without sacrificing sensitivity to individual financial circumstances. In Exhibit 4-3 we summarize the action items for this Phase III delivery system quality improvement.

Data Element Reduction

1. Establish a Consensus on the Advantages of Data Element Reduction
2. Conduct Additional Simulations to Establish a Body of Research
3. Synthesize the Research into Concrete Proposals

EXHIBIT 4-3. PHASE III ACTION ITEM SUMMARY

4.3.1 Data Element Reduction

Definition. Student reporting error is the result of aid recipients providing inaccurate data on their applications. It is the more frequent type of error and accounts for more dollars in error than institutional error. Despite attempts to bring the rate and magnitude of student error down, quality improvements such as validation and application form redesign have not been able to achieve acceptable levels of error. For example, in the Pell program in 1985-86 an estimated 32 percent of the recipients had student errors, resulting in $439 million (12 percent of program funds) in program wide payment error. Data element reduction is designed to reduce student error while minimizing any decrease in the sensitivity of needs analysis to individual financial circumstances. This would be achieved by limiting the application data to a small set of verifiable items.

Advantages. Data element reduction and its concurrent simplicity of the needs analysis formulae will reduce the length and complexity of the needs analysis application forms. This would enhance applicant understanding and perhaps reduce inadvertent misreporting. It would also reduce applicant burden and could increase understanding of how programs distribute aid.

Simulations performed under the Title IV Quality Control Project indicate that for both the Pell and Campus-Based programs a reduced data element needs analysis improves "equity." An "equitable" position is

defined as the distribution of aid by verified income level that would result if verified data were used in determining an applicant's need under the current formula. With the high error rates now present, we are currently far from this equitable position. The use of a six element needs analysis brings the distribution of aid closer to the "equitable" position than the full formula with its inherent errors.

Disadvantages. Despite increases in "equity" at a high level, there are individual applicants who would receive less aid under data element reduction due to the elimination of allowances for special hardship conditions (e.g., unusually high medical expenses). Conversely, some applicants would receive more than their equitable share through the elimination of consideration of the value of applicants' family assets. Simulations indicate, for example, that for over 60 percent of dependent students, elimination of consideration of "assets" in the Uniform Methodology, would cause an increase in need for Campus-Based funds. This can be overcome by maintaining the ability of financial aid administrators to use professional discretion for exceptional hardship cases.

Implementation Overview. Recent re-authorization of the Higher Education Act requires ED to use a short form with a reduced set of data elements (six elements) for determining the need for families with income under $15,000. The re-authorization also specified a Congressional Methodology needs analysis formula, to be used by all institutions in determining need for Campus-Based aid. Thus two, relatively new, factors impact the approach to implementing data element reduction.

The legislative mandate to simplify the needs analysis for low-income applicants indicates Congress' acceptance of the general principles and advantages of data element reduction: simplicity and lack of re-distributional effects if properly constructed. The legislative determination of a Congressional Methodology means that it would take legislative action to implement data element reduction.

The action items for implementation must therefore involve continuing to build a consensus around data element reduction aimed at the next re-authorization cycle.

Action Items. The major action items surrounding the implementation of data element reduction across the Title IV programs are:

1. Establish a consensus on the advantages of data element reduction;
2. Conduct additional simulations to establish a body of research; and
3. Synthesize the research into concrete proposals.

1. Although most people in the student aid community would agree that simplification and burden reduction are worthy goals, the biggest obstacle to data element reduction is probably the perception that omitting many of the current financial variables will not treat many students fairly. Congress already agrees on the benefits of simplification for low income students. To gain consensus on the viability of data element reduction for higher income students will require additional simulations to quantify the degree of "unfair"

treatment. Specifically, ED needs to estimate the number of higher income students who would receive excessive Pell Grants under various constructs of a formula using a reduced data set. Presumably, an agreeably low frequency of this problem can be achieved in Pell through modifying the formula coefficients (tax rates) on the reduced data set for higher income students.

2. Consensus on data element reduction in needs analysis for the Campus-based programs should actually be easier to achieve. While Pell is an entitlement program, the Campus-based programs have fixed annual allocations. The research shows that the error inherent in the full Uniform Methodology as compared to a reduced data element Uniform Methodology, understates the relative need for aid by low income students. Therefore, the current needs analysis is erroneously causing funds to go to higher income students at the expense of the more needy. Additional simulations to quantify this point are critical to consensus building.

3. Concrete proposals that minimize the perceived decrease in sensitivity while also minimizing the current maldistributional effects of the error-prone current formula must then be synthesized. Given the long lead times in generating a consensus on this sensitive issue, there is a need to proceed quickly with the necessary analyses and discussion of results.

4.4 Beyond Phase III

The completion of Phase III implementation marks the end of the installation of the target system. It is a system designed to improve the quality and efficiency of the current student aid delivery systems. However, it need not be the end of the evolution of student aid delivery. The three areas of improvement described in Section 1 - simplification, integration and decentralization with accountability - will not necessarily have been fully achieved with the target system. One can conceive of simpler, more integrated, or more decentralized systems. The target system sought to bring improvement in each of these areas while achieving the benefits of improved accuracy built-in, improved timeliness, reduced burden, less confusion, improved controls, improved accountability, and less cost outlay to the government.

We actively considered an additional quality improvement, fully distributed, integrated application processing. The concept would be to allow a broad set of organizations to determine eligibility for all of the Title IV programs, calculate an official SAI and distribute official SAR's. This would clearly be a further movement toward decentralization and, if the Central Data Base were used to monitor the integrity and quality of the processing, would maintain accountability. However, we felt that on balance the loss of control and potential increase in cost of having many processors outweigh the potential improved timeliness of this change.

Due to current interest in this area we have analyzed the advantages, disadvantages, and implementation requirements for distributed processing. ED should consider implementing this concept only if adequate controls (e.g., a Central Data Base with appropriate interactions with the processors) are firmly in place.

Definition. The integrated needs analysis recommendation of Phase II would permit a limited set of needs analysis processors to determine eligibility and send that data to a central processor. This recommendation is to expand this concept to allow a fairly broad set of organizations, especially institutions, determine eligibility for the Title IV programs and, most importantly, also distribute official SAR's. This would eliminate the need for a central processor.

Advantages. Current processing puts significant time and distance between the applicant and the needs analysis determination. Misunderstandings about data definitions may significantly contribute to student reporting error. To the extent that applicants could work with professional financial aid staff at institutions during the application, edit, and corrections process, misunderstandings and abuses of the application system should be minimized.

Disadvantages. The disadvantages associated with decentralization relate to the dilution of control over the quality of multiple processors and to increased costs for processing. To maintain a high level of quality it is important to have first implemented the Central Data Base recommendation of Section 4.1 (Phase I). The Central Data base could

provide a quality checkpoint for the accuracy of SAI determination and multiple applications for a single student. With regard to cost, economies of scale would be lost as more and more organizations processed fewer applications each. Additionally, ED would incur increased costs in certifying and monitoring additional processors.

Implementation Overview. Introducing new processors into the delivery system should be an evolutionary process. As potential sites demonstrate their capacity and desire to participate, they would be encouraged to do so.

Action Items. There are two major steps in the continued decentralization of the application process:

1. Establish the procedures and conditions for becoming an application processor; and
2. Invite and encourage sites to participate and then evolve them into the delivery process.

1. In a fashion similar to the invitation of institutions to participate in the Institutional QC Project or the Income Contingent Loan Program, ED should seek additional sites (especially institutions for the advantages stated above) to become processors. This would be done by first establishing what the requirements for a processor should be. The model for these requirements is the Statements of Work governing the current Multiple Data Entry (MDE) contracts as modified to include the integrated needs analysis activities of Phase II.

2. ED should limit the number of new processors allowed to enter the system annually to control for quality. This could be based on a combination of technical competency and price competitiveness as relates to government compensation for activities that interface with the Central Data Base. Training and technical assistance should be provided to assure a consistent level of quality processing across the future multiple sites.

4.5 Summary

In this section we have introduced a phased approach to implementing the proposed set of quality improvements. Phasing allows ED to monitor and, as needed, redirect the implementation. The first phase of implementation has minimal disruptive effects on the current delivery process but lays the groundwork for more important structural changes. This is because Phase I activities establish quality controls -- a Central Data Base and Institutional QC.

These controls offset the potential disadvantages that would be a side effect of otherwise gaining the Phase II achievements. Phase II involves integrating several of the functions of what are now processes that differ by program -- needs analysis and disbursement. This integration provides decreased complexity and redundancy from current delivery processes.

Finally, the heart of the error problem, student reporting error, is tackled in Phase III. Here, data element reduction is introduced into an environment that has the previously installed Phase I and Phase II controls. This final improvement completes the implementation of structural changes to the delivery of Title IV assistance that were designed around the quality principles of simplicity, decentralization with accountability, and integration.

The target system was designed to meet the seven objectives of Section 3. These objectives were derived from the analysis of current negative program and delivery features:

- **Improved accuracy built in.** Each of the five quality improvements focus on the elimination of error before they happen by reducing complexity and providing internal data verification. The improvements are based on achieving accuracy rather than on enforcement processes.

- **Improved timeliness.** The quality improvements are neutral to slightly positive in this area, again by reducing complexity and the need for re-work.

- **Reduced burden.** In providing increased control and accuracy, two of the improvements, institutional QC and central disbursement, may appear to increase burden. The IQC pilot has shown that the negative QC burden impacts are mitigated by reductions in the burden of Federal regulatory oversight and in the ability to better target institutional resources toward problem areas. Additionally, integrated needs analysis and data element reduction reduce burden by reducing re-work, eliminating errors up front, and providing on-going reconciliation.

- **Less confusion.** The target system is intended to reduce complexity and confusion, especially through the integration of the needs analysis processes and the reduction in the number of data elements needed to determine eligibility.

- **Improved controls.** The introduction of a Central Data Base and Central Disburser are designed to improve controls by having a single point for the review of the quality of application and disbursement data and processes.

- **Improved accountability.** With an increase in control comes an increase in accountability for the accuracy of data and processes. Further, institutional QC is intended to put authority and accountability for quality at the institution for those data and processes that can be controlled by the institution.

- **Less cost outlay to the government.** The introduction of a Central Data Base, key to the maintenance of control and accountability, means the introduction of new processes and may appear to increase cost. However, any incremental costs should be easily offset by savings accrued from the integration of the disbursement processes; the reduction in regulatory oversight costs realized with institutional QC; on-going, rather than costly, after-the-fact reconciliation; and the maintenance of a single integrated data base rather than separate data bases and separate processes for each program.

As stated previously, ED is at a critical point. Either it proceeds with the status quo and accepts high residual error or it embarks on a planned process of structural changes to improve quality. We believe that ED needs to proceed with a long-term strategy of quality improvement through structural changes.

The complexity of the current student aid delivery systems mandates a long-term, strategic solution. The long lead times required to implement structural changes imply that long-term planning is needed to tie together the necessary changes to the various aspects of each of the categories of delivery system features--pre-application, student application, student eligibility determination, student award calculation, funds disbursement, and account reconciliation--detailed in Sections 1 and 2. Competitive procurements will need to be awarded or modified, legislation and regulations will need to change, and an education program for the community will need to be initiated. To fit

these pieces together, the Department must take a long-term, Title IV-wide view of student aid delivery.

To begin this process requires the development of a decision on what the target system will look like. We recommend that ED establish a task force involving internal staff and external interest groups to develop a full analysis of the advantages and disadvantages of the specific target system we have recommended and to examine alternatives. The analysis should focus on the objectives described in Section 3 and lead to a recommendation of one target system. This would be followed by a complete analysis, design, and implementation plan for that system. This latter plan would need to address contractual, legislative and regulatory changes as well as the process for educating the financial aid community on how they will be affected by the new delivery process.

This report has presented the framework, objectives, and one reasonable solution to the problem of quality improvement in the delivery of Federal student aid. The Department should now move forward to increase the quality of its services to students and institutions.