

**WORKING PAPER**

**INFORMATION FEDERALISM**

**HISTORY OF  
WELFARE INFORMATION SYSTEMS**

**TERRENCE MAXWELL**



The  
Nelson A.  
Rockefeller  
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Government



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## **GLOSSARY OF ACRONYMS**

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ACF	Administration for Children and Families
AFDC	Aid for Families of Dependent Children
APD	Advance Planning Document
APWA	American Public Welfare Association
CFR	Code of Federal Regulations
CSE	Child Support Enforcement
DSS	Department of Social Services
EBT	Electronic Benefits Transfer
FAMIS	Family Assistance Management Information System
FFP	Federal Financial Participation
FNS	Food and Nutrition Service
GAO	General Accounting Office
GUI	Graphic User Interface
HCFA	Health Care Financing Administration
HHS	Department of Health and Human Services
IRS	Internal Revenue Service
IT	Information Technology
JOBS	Jobs Opportunity and Basic Skills
MAGIC	Merced Automated Global Information Control
MIS	Management Information System

MMIS	Medicaid Management Information Systems
NASIRE	National Association of State Information Resource Executives
NCSI	National Center for Service Integration
NCSL	National Conference of State Legislatures
NDNH	National Directory of New Hires
NGA	National Governors Association
NPR	National Performance Review
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act of 1996
SPAN	Statewide Public Assistance Network
SSN	Social Security Number
TANF	Temporary Assistance to Needy Families
USDA	United States Department of Agriculture
WMS	Welfare Management System

## I. Introduction

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**B**etween 1984 and 1992, state and federal government agencies spent more than \$6 billion to develop human service information technology systems. This Working Paper is a history of a portion of that development, focusing on state systems to support Aid to Families with Dependent Children (AFDC) and Job Opportunity and Basic Skills (JOBS) programs. These are the systems currently most affected by the implementation of national and state welfare reform, and under the greatest pressure to change as government moves toward fundamental change and, hopefully, important advances in how information for social programs is collected, stored, and used. The subjects examined here include service integration across federal, state, local governments and nonprofit organizations; intergovernmental authority and responsibilities for information system design, development, and implementation; and performance management through the measurement of client outcomes.

In developing social service information systems, each level of government is faced with these and related issues, and most react in ways that reflect their separate needs, responsibilities, and authority. So this is a very complicated environment. Challenges of information federalism are not limited in the human services arena to information systems for cash assistance and employment programs. This report also considers other human service systems where these can help readers better understand the history of information systems development and operations for the AFDC and JOBS programs. This includes the Medicaid Management Information Systems (MMIS), Child Support Enforcement Systems (CSE), and the Electronic Benefit Transfer (EBT) effort underway to electronically dispense Food Stamps to low-income families.

I rely heavily on documents produced over the years by the U.S. General Accounting Office (GAO). This is fortunate, since the Rockefeller Institute is working with GAO to co-sponsor a broadly representative "Working Seminar on Human Service Information Systems." It brings together practitioners, policy makers, and researchers to explore the problems and opportunities of welfare reform from an information systems perspective. This reliance on GAO documents also reflects the fact that analyses provided over the years by GAO are the most comprehensive materials available. In some cases where GAO reports focus on the federal perspective on welfare system development, this report emphasizes and adds state and local perspectives.

In addition to providing historical background, the paper includes preliminary findings about welfare information systems in the early period after passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA or PL104-193). These findings are based on two surveys that provide an understanding of the concerns people in the field had about system modification and development at the beginning of welfare reform.

This report is organized into four sections. The first reviews significant milestones in the development of welfare information systems between the early 1970s and 1996. For this analysis, case studies and surveys highlight major implementation issues such as the challenge of cross-program integration for client information, accountability for project costs, system design and implementation, and the rising interest in performance and outcome-based management. Case studies from New York, California, and from a number of community organizations are presented.

The second section discusses information requirements included in the Personal Responsibility Act of 1996. This legislation places significant new information demands on states, localities, and private organizations, and fundamentally changes the structure of many social programs.

The third section examines how federal, state, and local governments have or have not responded to challenges of new information needs for welfare reforms.

The last section looks at lessons from developments over the last decades. The goal is to suggest ways to deal with barriers using past historical experience as a guide.

## II. Challenges of Two Decades

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“Progress is not an illusion, it happens, but it is slow and invariably disappointing.”

George Orwell, 1940

**L**ooking back over the pattern of welfare information systems during the past twenty years, we see a pattern – conforming to Orwell’s observation – of widespread development and partial success, coupled with conflicts, failures, dashed hopes, human and organizational misunderstandings, and divergent goals. Following is a summary of high and low points of efforts to improve welfare information systems, up to the passage of national welfare reform in 1996.

### **The 1970s and 1980s – Growth and Codification**

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In the early 1970s, the first major effort of state-level welfare system development focused on MMIS, designed for billing and payment of Medicaid claims to providers. Medicaid, enacted in 1965 as Title XIX of the Social Security Act, is a jointly funded (federal and state) program created to reimburse medical practitioners serving eligible low-income families. Effective management of the system requires a great deal of information on claims and payments, as well as the ability to track these claims and payments for auditing and accounting purposes.

Computers, which by 1970 were handling large amounts of data for a variety of management purposes both in the private and public sectors, were rightly viewed as an appropriate tool to

meet the new demands for Medicaid information storage, management, and retrieval. Accordingly, larger states with greater numbers of recipients and claims began computerizing their data. To support this trend, in October 1973 Congress passed and President Nixon signed Public Law 92-603, which contained a section (235) providing for 90 percent Federal Financial Participation (FFP) for design, development, and installation of MMIS, as well as 75 percent FFP for ongoing operational costs. This legislation was in turn followed by 45 CFR 250.90, published on May 20, 1974, which detailed requirements states must meet in order to receive enhanced FFP for Medicaid systems. These 1974 regulations, which included requirements for federal review of state technology plans and system designs, served as the foundation for subsequent federal oversight of information system development.

The availability of 90 percent federal funding for MMIS information system development spurred the development of other welfare management systems at the state level. In 1977, for instance, legislation authorizing funds to automate the food stamp program was included in the Food Stamp Act of 1977. In addition to MMIS and Food Stamps, half a dozen states implemented systems to carry out one or more management functions of the system for AFDC, while several other states began design and planning activities. For the most part, AFDC computer applications developed during the period focused almost exclusively on eligibility determination and related functions, with little or no integration across program boundaries to other welfare-related operations, such as Food Stamps, Medicaid, or employment support.

The early successes of MMIS and welfare information systems prompted further Congressional support for technology as a tool to assist welfare management. During 1980, Congress passed and President Reagan signed into law PL 96-265 providing 90 percent FFP toward the development of state-operated information systems to support welfare program management. The law specified that to qualify for 90 percent participation, states would be required to develop systems that:

1. Controlled for all aspects of eligibility determination, including establishment of identifiers based on Social Security numbers (SSN), names, date of birth, home addresses, and/or mailing addresses.
2. Cross-checked applicants and recipients with other in- and out-of-state agencies to determine eligibility and eliminate fraud.
3. Tracked costs, quality, and delivery of funds and services to applicants and recipients.
4. Notified child support, food stamp, social service, and medical assistance programs of changes or termination of AFDC benefits.
5. Provided security against unauthorized access and use.

In addition, the law initiated a process of federal information systems approval, independent of program planning, that centered on Advanced Planning Documents (APDs). At the same time, PL 96-265 provided similar funding and requirements for child support systems, and cleared the way for the ability of the Internal Revenue Service (IRS) to collect child support for non-AFDC families. By July 1980, HHS had published design specifications for the new systems, called Family Assistance Management Information Systems, or FAMIS. The conceptual design for FAMIS included three subsystems:

1. Client certification, including eligibility determination.
2. Financial information and control.
3. Management information and control.

Within a year, however, the General Accounting Office published a report,<sup>1</sup> addressed to Secretary Richard Schweiker of the Department of Health and Human Services (HHS), faulting HHS for their FAMIS design specifications. The report's authors

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1 United State General Accounting Office, "Concerns about HHS' Ability to Effectively Implement Incentive Funding for State Information Systems in the Aid to Families with Dependent Children Program" (HRD-81-119), Washington, D.C., 1981.

complained that the specifications had not been pilot-tested before implementation and did not require an analysis to determine if automation would be beneficial to states considering FAMIS implementation. In addition, GAO indicated that the design specifications did not establish specific performance standards for evaluating state systems, did not adequately address internal controls and security, and did not facilitate compatibility of FAMIS systems with other management information systems used to administer welfare programs.

Commenting on the lack of integration between state and local systems, GAO focused specifically on New York's difficulties developing their information system, called the Welfare Management System (WMS), which had many, and in some cases more, functions than those envisioned for FAMIS. However, it was not the presence or lack of functional or technological capacity that troubled GAO, but rather the effect organizational difficulties such as those New York experienced might have on state system developments. The main challenge GAO foresaw was not system design as an isolated activity, but the problems states could experience negotiating and coordinating statewide implementation in an environment where local welfare bureaucracies (some with their own information management systems) administered welfare benefits and services. For this eventuality, the design specifications included in the HHS regulations would provide no solace.

In the early 1980s, GAO was not alone in its concern about this issue. In 1986, for instance, the Rockefeller Institute published a study by Sharon Dawes, entitled "New York's Welfare Management System: The Politics of Information."<sup>2</sup> Dawes, then a senior manager at the New York Department of Social Services on a fellowship loan at the Institute, tracked the effect the new Welfare Management Systems (WMS) had on administrative structures, intergovernmental relations, and processes related to welfare program management. Her information was gathered through

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2 Sharon Dawes, "New York's Welfare Management System: The Politics of Information." Rockefeller Institute Special Report, No. 11. Albany: The Nelson A. Rockefeller Institute of Government, 1986.

surveys and interviews with more than 200 state and local welfare professionals.

Dawes found that WMS, while generally successful, was considered less useful by smaller districts, who experienced an increase in administrative burden without a concurrent increase in productivity. The largest districts, who had their own Information Technology (IT) capacity, were also less satisfied than the norm, but for different reasons. Unlike the smallest counties, who had previously been successful using paper records to manage their welfare systems, the rise of WMS cost largest state districts the flexibility to develop information systems to support local structures. In effect, both the largest and smallest counties sacrificed local autonomy and flexibility for statewide uniformity.

Another study by the Rockefeller Institute during this period underscored the large county dissatisfaction with a statewide welfare system.<sup>3</sup> This case study noted that a large percentage of the total local information system staffing, hardware, and software capacity had been financed by social service cost reimbursements. Therefore, a move from local and state systems operation meant a relative diminution of county-based resources to develop information technology capabilities and expertise. This, in turn, reduced other local efforts at automation not directly related to welfare administration.

Local IT capacity was one dimension of the problem, but what about the ability to perform the daily work of welfare system management? Apart from small district general dissatisfaction with automation, WMS was considered to be generally effective in supporting a variety of administrative functions. The system's most positive impact (and administrative emphasis) was in the areas of eligibility processing and payment accuracy, where the system supported improved uniformity in policy implementation.

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3 James J. Heaphey and Robert H. Crowley, "Standardizing Welfare Management: The State Versus the Counties." *New York Case Studies in Public Management*, No. 8. (Albany: The Nelson A. Rockefeller Institute of Government, 1984).

The system was considered less effective in supporting client-focused case work. In addition, WMS was viewed as having below-average ability to help local Department of Social Services (DSS) administrators deal with information requests from other county officials and departments. The dissatisfaction with WMS as an intra-county communications tool was voiced most regularly by small districts, who tended to use more informal communications channels. Other negative impacts on line staff included enhanced requirements for training, and a narrowing of the level of discretion and potential for error in eligibility and service determinations.

From the state perspective, the major effect of WMS development on the DSS was to swell both the number of technology employees – from 126 positions in 1974 (14 percent of department staff) to 1,116 positions in 1984 (44 percent of all DSS employees) – as well as the departmental administrative budget. By 1984, Dawes reported that two-thirds of the department's administrative budget (\$127 million) were information systems expenses. Accompanying the increase in budget and staffing came a relative elevation of IT in the NYS/DSS organizational hierarchy.

The system, however, seems not to have had an agency-wide benefit within the state Department of Social Services, since 41 percent of bureau directors expressed no opinion about the usefulness of WMS management reports, while an additional 14 percent felt the reports were not useful in administration. Three-quarters of program bureau chiefs felt the technology organization within DSS, rather than users, exercised effective control over information systems, and worse, distorted general agency priorities. One director was quoted as saying,

It is the 'intersection set' of systems and program objectives that, in reality, determine priorities. Program goals that fall outside this common ground will find a series of obstacles in the path to accomplishment.<sup>4</sup>

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<sup>4</sup> Dawes, p. 21.

In fact, 54 percent of respondents felt that the system stifled innovation.

Among state program staff, the perceived usefulness of the system varied according to functional area. While the majority of respondents felt the system was somewhat useful in supporting state agency activities, they regarded WMS as a tool more geared to program evaluation and research than program development.

State and local welfare professionals were not unanimous in either praising or condemning features of WMS. There was general agreement between the two groups that WMS met system-wide eligibility goals but did not support increased attention to clients. However, they disagreed over the system's effect on error control, with state officials far more sanguine about WMS capacities in this area.

Perceptions between the two groups diverged widely about the system's impact on state-local relations. Local officials viewed the system as a tool to meet state needs first, feeling the state had poor knowledge of local responsibilities and constraints. Local commissioners also were more likely to believe WMS removed technical barriers in preparation for state-level administration of welfare. Both sides agreed, however, that without structural changes in welfare financing in the state — which in New York split nonfederal costs equally between the state and localities — the technology system would do little to change the political will to support a move from a locally to a state-administered system.

Generally, local administrators saw WMS as a tool reducing local autonomy, though not as drastically as federal and state legal requirements and court decisions. Ironically, however, given local governments' view of the system as a tool for central control, Dawes found local governments, rather than the state, had a more complete understanding of the system's capacities, and used the system more frequently for management reports.

The third group of players in the information federalism landscape had different expectations. Federal officials interviewed

during the study were hopeful WMS would reduce program costs, decrease error and fraud, improve the perception of the welfare system by Congress, and lead to discussions about program quality based on performance indicators, rather than error rates and fraud prevention. Finally, federal officials interviewed hoped, contrary to state and local expectations, WMS would provide, at minimum, the technological means to support change from a locally administered to state-administered welfare system.

How these findings matched the experience of other state welfare bureaucracies is a matter of speculation, though one can expect the effects noted to be more dramatic in large, state-administered, locally operated systems than in smaller states with unitary command over welfare system administration and operation. From a broader perspective, however, what New York experienced, in the implementation of WMS, can be viewed as a preview of some of the organizational and cultural issues we can expect from current and anticipated changes in the structures of both organizations and information systems supporting welfare services. The challenges experienced by the developers of WMS and of greatest concern to the authors of the 1981 GAO report involved the interplay between centralization and decentralization, and the effect of centralized information systems on decentralized organizational structures. In the 1970s and 1980s, computerization was generally regarded as a means to centralized decision making and control at the state and federal levels. However, in the current environment of “second order” devolution, where decision-making management is moved back down toward localities, it must now be reconceived as a tool to support decentralized decision making, management, and accountability.

The long-term impact of the concerns outlined in the GAO report and the experiences of state like New York generated among state information system developers are difficult to track after nearly 20 years. We do know, however, that general system development continued to be widespread and expensive. States expended approximately \$542 million for AFDC-related systems in the period between 1984 and 1992 – including Jobs

Opportunity and Basic Skills (JOBS) after 1988 — of which \$356 million was federally funded. (This was dwarfed by Medicaid system expenditures, which totaled \$3,757 million during the same period.)

In fact, by 1989, 37 states had some variation of an AFDC or FAMIS system. Of this total, more than a third (13) had developed AFDC management systems with 50 percent federal participation because their system did not meet the FAMIS requirements for 90 percent federal funding. Of the 37 states with welfare systems, 35 had achieved at least some level of integration between AFDC and other information systems.

The 1988 passage of the Family Support Act, which established the JOBS program, added new information challenges. Unlike the traditional welfare system, which emphasized categorical eligibility for welfare benefits, the intention of JOBS was to focus welfare activities on job training and placement, requiring new types of information for system management. This reorientation occurred in response to increased dissatisfaction with the welfare system among many policy makers, who were particularly disturbed by the perception that receipt of welfare benefits had led to lifetime, even a multi-generational, dependency among many poor families. To support the information requirements embodied in JOBS, the new law included 50 percent federal funding for the development of JOBS information systems, with 90 percent funding available for activities integrating the JOBS system with FAMIS.

An emphasis on cross-system development is evident in the elevated level of Federal Financial Participation accorded integration activities. However, over the next five years, only half of the states who developed JOBS systems opted to integrate these new systems with FAMIS/AFDC. This was particularly true of states whose AFDC/FAMIS system had little or no integration with other welfare Management Information Systems (MIS) such as Medicaid and Food Stamps.

The Family Support Act legislation also expanded the federal mandate to establish Child Support automation systems with the capability to control, account for, and monitor processes related to paternity determination and child support collection. Alarmed by the escalating problem of nonsupport for children by noncustodial parents, Congress provided 90 percent FFP to states to develop comprehensive certified systems by October 1, 1995, after which federal funding would be discontinued.

### **The 1990s – Progress, Recriminations, and Retreat**

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By the beginning of the 1990s, welfare information systems had become well established in a majority of states,<sup>5</sup> and by the middle of the decade were ubiquitous. However, several fault lines had become evident in the system of welfare system information development, stresses that would eventually lead to decreased federal financial participation and a retreat from federal oversight of state welfare information systems development. This shift in emphasis was evident in legislative decisions about technology financing and oversight included in both the Budget Reconciliation Act of 1993 and the 1996 passage of the Personal Responsibility Act of 1996. The three areas of stress included:

- ❖ Difficulties using current systems as a tool for systems integration
- ❖ Disagreement about accountability mechanisms for system development and federal-state roles in system development
- ❖ Rise in the popularity of outcome and performance measures for program management and oversight.

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<sup>5</sup> In 1992, GAO noted that Massachusetts, Oregon, Washington, and California had all experienced difficulties in establishing FAMIS systems.

### *The Dream of Service Integration*

An ongoing goal of welfare system management has been to coordinate services to families in order to maximize scarce resources and improve family outcomes. By the beginning of the nineties, information technology was viewed as a means to achieve this goal. The increase of computer processing capacity, a significant increase in the number and decrease in costs of personal computers, the rise of telecommunications networks and electronic information exchange, and a greater degree of acceptance of information technology by the general public all contributed to this perception.

In the welfare system, however, enthusiasm for integration via new technology was counterbalanced by another reality, the existence of myriad social service programs and initiatives that were neither integrated nor coordinated. In fact, the negative effects of duplicative, confusing, and often contradictory federal program regulations governing information systems were widely acknowledged. A 1995, a GAO report entitled "Welfare Programs: Opportunities to Consolidate and Increase Program Efficiencies," written in response to a request for information by the House Subcommittee on Department Operations, Nutrition and Foreign Agriculture, noted:

The complexity of the welfare system has . . . made it difficult for states to develop integrated, streamlined automated information systems. Advances in technology have made greater systems integration, data sharing, and consolidation more feasible, but program barriers have hindered states' ability to re-engineer their welfare information systems. Faced with diverse and sometimes contradictory program requirements, separate funding provisions, statutory deadlines, and inadequate federal monitoring, states have developed essentially separate automated systems for each program.<sup>6</sup>

While the report noted movement toward systems consolidation by funding computerized integration efforts — most

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6 United States General Accounting Office. "Welfare Programs: Opportunities to Consolidate and Increase Program Efficiencies." GAO/HEHS-95-139, (Washington, D.C., 1995), pp.19-20.

notably the attempt to consolidate AFDC, Medicaid, and Food Stamp eligibility determination in FAMIS – there were still significant barriers to success.

Faced with this federal government complexity, state and local governments had two choices: to integrate service offices for families at a single physical location or continue to divide responsibilities along programmatic lines. Some governments unsuccessfully attempted the former, as acknowledged in the 1995 GAO report. The common response, however, was to maintain the organization of service along programmatic and regulatory lines. At the local level, integration was even more difficult, because federal regulations were overlaid by state-level regulations and programs.

An extensive study of local human service information system capacity, entitled “Information Systems to Support Comprehensive Human Services Delivery: Emerging Approaches, Issues, and Opportunities,” was published in 1994 by the National Center for Service Integration (NCSI, 1994).<sup>7</sup> The survey, funded by the Ford Foundation, the U.S. Department of Agriculture’s Food and Nutrition Service, and the U.S. Department of Health and Human Services, sought to “provide information to facilitate the application of information technology to support the frontline delivery of more effective services to children and families.” To achieve this goal, NCSI conducted a preliminary screening survey, and identified and analyzed four statewide, three countywide, one citywide, and two consortia sponsored projects. They found:

Efforts to apply information technology to meet the needs of comprehensive services are relatively scarce, and most projects are still in the early stages of development. The current state of the field is attributed to complexity, cost, and organizational challenges associated with the simultaneous re-engineering of service delivery processes and information systems. Important initiatives are underway, however, from which a framework for discussion will be constructed and, from which early lessons can

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<sup>7</sup> Carolyn Marzke, Deborah Both and James Focht. “Information Systems to Support Comprehensive Human Services Delivery: Emerging Approaches, Issues, and Opportunities.” Washington, D.C.: National Center for Service Integration, 1994.

be drawn. Moreover, interest in applying information technology is growing among comprehensive service initiatives at the local, state and federal level. Several factors fueled this interest, including the need to manage increasing complexity, a desire to improve service effectiveness, address costs and efficiency, and an interest in implementing accountability strategies.<sup>8</sup>

Systemic problems identified in the NCSI report included a wide variability in information systems across welfare, health care, education, juvenile justice, employment/training, and child care programs and organizations, coupled with limited ability to link information among systems. Some agencies had no electronic information collection capacity, while systems that did exist focused on individual rather than family services, and on service inputs rather than outcomes.

The report identified a wide range of components necessary for integrated community level information systems. At the case level, these included tools for assessment, registration, case planning, client tracking, and interagency communication. In addition, the report recognized a variety of fiscal and planning capacity requirements, including cross-agency billing capacity, management and fiscal reports to multiple funding streams, and communitywide tools for analysis of service gaps and resource requirements.

By focusing primarily on local-level system integration, system development trends, and data sharing, rather than state-local relations, the NCSI report highlighted a different dimension of problems related to information federalism than those identified in the Dawes report. Where Dawes stressed organizational and intergovernmental changes in functioning, structure, and attitudes due to computerization, the NCSI report took a closer look at technology tools, and the technological, organizational, managerial, and policy factors that promoted or constrained their adoption.

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<sup>8</sup> Ibid, p.v.

With respect to service integration, they found most efforts focused on integration of pre-service functions, such as information and referral, registration, and eligibility determination. They noted that, "While most states have developed combined automated eligibility determination systems for a limited set of federal welfare-related programs, few have developed or expanded these systems within a human services delivery reform context."<sup>9</sup>

NCSI found similar trends with integrated case management systems, stating that most of these "are still essentially closed systems that store case information for a particular demonstration initiative. They are not yet linked to other agency systems or incorporated into mainstream service delivery settings."<sup>10</sup>

Similarly, they found while many organizations had mechanisms for financial and service tracking and reporting, they had yet to develop adequate systems for making strategic budgeting decisions in a multi-agency funding environment.

Findings about the capacity of local service providers to institute technology-supported performance accountability based on outcome tracking were perhaps the most revealing of the report. Researchers noted that the desire to track outcomes was a prime motivating factor in many of the attempts to integrate human services information system. By 1994, however, the state of the art was still "data matching," involving post-hoc database integration and analysis across programs. "To date," they stated, "rhetoric on the subject of outcome-tracking is more plentiful than are instances of automated (or even paper-based) systems that actually support outcomes tracking."<sup>11</sup>

Obviously, there were serious deficiencies with regard to integrated local information systems for human services. The report noted, however, that development of integrated systems would not now move forward merely because the need for them was becoming clear. First, the NCSI researchers found that system

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9 Ibid, p. viii.

10 Ibid, p. viii.

11 Ibid, p. viii.

developers faced a daunting challenge of simultaneously re-engineering service delivery and information systems. Secondly, they reported that the behavior of IT planners would be constrained by uncertain program and political environments, and would cope with that uncertainty partly by taking a “modular” approach to systems design. “They move deliberately,” the reported stated, “selecting specific pieces of the services delivery process for redesign and automation.”<sup>12</sup>

A third difficulty highlighted in the NCSI report was lack of funding to support interagency coordination and service delivery. This was exacerbated by a lack of evidence about the cost-effectiveness of human services information systems, and over-reliance on cost/benefit analyses that emphasized efficiency rather than outcome measures. On the other hand, they speculated, “If the rhetorical commitment to outcomes-driven accountability in the human services persists . . . and leads to operational strategies, it is reasonable to expect that the case for investing in information systems that track outcomes will become more attractive.”<sup>13</sup>

To overcome the constraints identified, the NCSI researchers noted that strong leadership, partnerships between business and information professionals, staff participation, and leverage of existing infrastructure were critical components for successful pilots. This coalition approach was not, however, common. They found that “A few study sites have formed productive partnerships with administrators of state-level information technology systems, but other sites have found it difficult to gain commitment from individuals with authority over these technology resources.”<sup>14</sup>

The last, equally critical, and perhaps most daunting challenge identified in the NCSI report concerned data issues. Data sharing across organizations, a fundamental requirement for service integration in a federal environment, required a reassessment

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12 Ibid, p. ix.

13 Ibid, p. ix.

14 Ibid, p. x.

of confidentiality and security policies, and the establishment of common definitions and meanings for data as the information traveled from one system to another. As stated in the report, “variations in data definitions and data formats among different programs, agencies, and other funding sources pose a significant barrier to interagency data exchange as well as to the meaningful aggregation of client and service data across programs.”<sup>15</sup>

The NCSI report provided a catalog of issues to be faced not only by local information systems, but also by state and federal agencies struggling with service integration in a federal environment.<sup>16</sup> At all level of governments, barriers such as “stovepipe” financing,<sup>17</sup> differing regulations, organizational balkanization, data inconsistencies, differential organizational capacities, and inconsistent goals needed to be overcome before success could be achieved. As it stood, the individual and combined structures of federal, state, and local governments, rather than the technology, mitigated against the dream of integrated service by providing information at a worker’s desktop.

### ***Counting the Cost: Federal-State Roles in Welfare System Development Oversight***

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For two decades, beginning in 1973 with the passage of Public Law 92-063, governments operated under the assumption that enhanced federal funding was appropriate as a tool to encourage information system developments in the human service arena. Along with enhanced financial commitment came the assumption that federal government agencies, as providers of billions of dollars of funding for technology, should also have responsibility for seeing that taxpayers funds were properly and efficiently spent.

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15 Ibid, p. x.

16 Ibid, p. xi.

17 Stovepipe financing is funding allocated to system developments based on narrow programmatic categories. An alternative structure would consolidate different programmatic funding streams to support a coordinated system at the point of client service.

With the passage of PL96-265 in 1980, the federal government's role in development of information systems supporting family assistance welfare activities became codified, leading to federal oversight and approval of information system spending. This was a significant milestone in the evolution of decision making for information system development, and applied to more than \$6 billion in funding by 1992, as the GAO reported in 1994 in a document entitled "Automated Welfare Systems: Historical Costs and Projection."<sup>18</sup>

Accountability mechanisms to provide oversight were many. When developing information systems, states were required to submit APDs to accompany any requests for federal financial participation, independent of state programmatic plans. APDs detailed the information architecture to be deployed, system size, connections to other systems, and cost-benefit analyses illustrating expected improvements in efficiency and effectiveness. Guidelines for minimum requirements of state information systems were issued by the federal government, and states were encouraged – often even directed – to import information systems dedicated to similar functions from other states, in lieu of building their own. This "transfer requirement" was intended to eliminate duplicate applications. In addition, procurement procedures were audited, and costs detailed by states in requests for federal financial reimbursement. On the operational side, state costs for information systems operations were regularly reported when reimbursement was requested.

When viewed on paper, this accountability system seemed comprehensive. However, in actuality many problems existed. At the beginning of the 1990s, federal oversight of state welfare system development was troubled. In December 1991, the Department of Health and Human Services (HHS) named federal oversight of state-developed systems as a "material weakness" in an annual Federal Managers Financial Integrity Report. It also

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<sup>18</sup> U.S. General Accounting Office, *Automated Welfare Systems: Historical Costs and Projections*. GAO/AIMD-94-52FS, Washington, D. C., 1994.

stated that HHS needed to monitor state ADP systems development more closely. A subsequent May 1992 report by GAO<sup>19</sup> sharply criticized both HHS and the United States Department of Agriculture (USDA) for their regulatory oversight of welfare systems development.

Requirements for federal oversight, irrespective of perceived quality, also served to exacerbate tensions between governmental levels in the American federal system, and across agencies at each governmental level. This was evident in a report released by GAO in 1992, entitled "Welfare Programs: Ineffective Federal Oversight Permits Costly Automated System Problems."<sup>20</sup> The report examined, among other topics, federal agency staff views of their roles vis-à-vis state and local government concerning the issue of welfare information systems development. In the document, developed in response to a request by Senators Bentsen, Moynihan, and Riegle, GAO sharply criticized HHS and USDA handling of state FAMIS projects in the wake of four system development failures.

In the report, the GAO recommended HHS and USDA consolidate review of state APDs to avoid contradictory responses to the states, and suggested federal agencies consider penalizing states for non-performance in systems development. In response, HHS argued that proposed consolidation of federal agency operations in the IT sphere was impractical, because:

While there is common ground among the agencies in their mutual concerns about overall system structure and project execution, their individual system interests are inextricably tied to specific program goals and objectives, functional requirements, unique State program needs, and funding considerations. The areas in which overlapping review occurs (e.g., system architecture, project management) are high-level and more universal in nature.<sup>21</sup>

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19 US General Accounting Office, "Welfare Programs: Ineffective Federal Oversight Permits Costly Automated System Problems." GAO/IMTEC-92-29, (Washington, D. C., 1992)

20 Op. Cit.

21 Ibid, p. 44.

HHS's response clearly delineated the difference between oversight based on standard information infrastructures and management practices, in which disagreement was deemed to be less critical and less common, and oversight to insure conformance with statutory regulations, agency-level funding requirements, and individual program business needs. These latter areas, HHS argued, really drove system development and caused most serious disagreements across federal agency lines. The extent to which HHS's response also revealed a knee-jerk bureaucratic response to external threats — based on an organizational reluctance to merge programmatic prerogatives, goals, and objectives for the sake of an integrated federal response — can only be guessed. The presence of such reluctance, however, underscored the fact that federal goals, as interpreted by the agencies with responsibility for their implementation, were neither consistent nor easily integrated.

HHS's response to GAO contained other revealing comments about the organizational problems of coordinating federal oversight. It stated that the "internal delegation of responsibilities . . . is closely tied to each agency's overall organizational structure."<sup>22</sup> At HHS, the document noted, IT system reviews were managed centrally, while seven regional offices at USDA had primary responsibility for APD review, "with management oversight provided from the central office only at key points in large projects."<sup>23</sup> The HHS comments revealed that decision integration was not only a "vertical" management problem (from federal to state to local government), but also a "horizontal" concern, across federal agencies.

Another dialogue between the federal agencies and GAO sheds light on other difficulties in managing federalism in information projects. In response to GAO's recommendation that federal agencies have more direct monitoring of state projects, the HHS argued:

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<sup>22</sup> Ibid, p. 45.

<sup>23</sup> Ibid, p. 45.

Project management and control of these complex, multi-million dollar projects rest with the State and requires extensive interaction with the system users, most often county and local entities. Although technical assistance is provided to the States as needed, we do not believe that the federal agencies can or should be the primary source of either technological expertise or direct project management for the administering State agencies.<sup>24</sup>

FDA's comments on the subject went even further, stating:

Federal funds are already contributing toward the maintenance of an extensive amount of technical and management experience that is being brought to these projects by the State. As indicated by the GAO report, most States rely on contractors to develop these systems, and such contractual arrangements are with the State and must be managed by the State.<sup>25</sup>

Federal agency protests about the relationship between state governments and vendors of FAMIS software system contractors tended to over-simplify a complex set of relationships, of which the federal agencies played a critical – some say a predominate – role. As discussed above, part of the structure of FAMIS system development included a transfer requirement, whereby a state was required to import existing FAMIS systems from other states, where feasible, rather than “starting from scratch” with a new system. In addition, regulations required that all ownership rights to software developed with Federal Financial Participation be ceded to the states. Regulations also mandated that HHS be granted a “royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use and authorize others to use”<sup>26</sup> software developed with federal assistance.

These regulations benefited contractors who developed the first FAMIS-certified systems, because their marginal costs for expansion to other states would be far lower than competitors in the software development arena. The clear mandate for states to transfer established systems rather than seek federal financial participation for new software developments also worked in their

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<sup>24</sup> Ibid, p. 39.

<sup>25</sup> Ibid, p. 48.

<sup>26</sup> 45 CFR Part 95; Section 95.617.

favor, by limiting the size of the marketplace to established vendors. In reality, federal requirements centralized software development for FAMIS systems with a few software vendors who first came into the FAMIS environment and were large enough to undertake extensive projects to develop statewide systems in support of welfare departments.

An indication of the state welfare community's unhappiness with the federal-state-vendor relationship can be found in documents of the period. While the GAO, as an arm of the legislative branch, suggested federal agencies were too lax in their oversight, state welfare information professionals felt federal agency oversight was too intrusive. A document published by the American Public Welfare Association (APWA) in 1994 illustrates this conflict. In "State-Federal Information Technology Partnership,"<sup>27</sup> APWA, the leading advocate organization for state welfare professionals, recommended that federal government and agencies:

- ❖ Eliminate transfer requirements, since transferred systems were often outdated, burdened donor states to support others, and made cross-system integration more difficult.
- ❖ Re-direct efforts to support uniform functional program and performance standards and rather than focusing on advance approval of information technology via the APD. States felt the federal APD process caused unnecessary and expensive delays in system development.
- ❖ Encourage innovation, rather than biasing decision makers toward less risky, potentially outdated, system architectures.
- ❖ Retrain federal staff and enable them to provide technology leadership and technology research.

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<sup>27</sup> American Public Welfare Association, *State-Federal Information Technology Partnership*, W-Memo. Washington, D. C., June 1994.

- ❖ Develop interstate data exchange standards.

In closing, the document noted:

APWA sought the formation of a collaborative working relationships with the federal government to review current policy and recommend new ways for streamlining procedures, reducing red tape, and conducting business more intelligently – an idea legitimized by the Vice President’s National Performance Review (NPR).<sup>28</sup>

Short-term goals recommended included an increase in the federal prior approval threshold to exempt more technology development for the APD process, automatic APD approval if no federal response to an application was received within 60 days of submission, and a change in the transfer policy to make it optional rather than mandatory.

In the long term, the APWA document called for a complete overhaul of the means of and rationale for federal approval of information technology purchases. APWA argued that IT purchases should no longer be separated from programmatic strategic planning processes at the state level, but rather flow directly from programmatic needs. Rather than reliance on cost/benefit analyses, the document also called for a simpler calculation of reimbursement based on per case formulas. Finally, APWA called for greater integration of the approval process across federal agencies and cooperative purchasing among state and federal entities.

The impetus for APWA’s recommendation grew from tensions between state and federal governments regarding welfare information technology spending in the mid-1990s. Much of the stress resulted from a lack of progress states experienced in implementing child support and other information systems to support welfare. GAO reported in 1989 that 39 states had made some progress toward implementation of CSE systems. However, by October 1, 1995 (the date 90 percent FFP was due to expire), only one state had met the deadline for a certified system,

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<sup>28</sup> Ibid, p. 35.

even though \$2 billion had been spent on the project.<sup>29</sup> As a result, Congress was forced to pass legislation extending the deadline two years until 1997.

## **Issues Identified in HHS Inspector General's Report**

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According to a 1997 HHS Inspector General's report, states attributed failure to meet the 1995 Child Support Enforcement system deadline to three key factors. The issues identified by a survey of state welfare agencies and comments from HHS's Administration for Children and Families (ACF) and private systems vendors included the following.

- 1. The "transfer requirement" established by regulation did not work.**

Respondents noted that cross-state transfer of information systems was not practical — even though theoretically effective — as a cost-minimization tool. First, since no state had a certified CSE system in place before the deadline, there were no completed systems to transfer. Secondly, the transfer requirement assumed business processes and organizational structures of child support agencies across states were similar enough to allow for replication. However, structures in different states were different and required extensive system redesigns from state to state. Third, the transfer requirement assumed stability across time in computer capacity and design. In reality, computer hardware and software systems were evolving at such a rate that a system designed and implemented for one state would contain out-of-date technology by the time it was deployed, let alone transferred to another state. Finally, transfer requirements pulled state information professionals away from internal system development to act as system consultants and support staff for other states implementing the same platform.

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<sup>29</sup> U.S. Department of Health and Human Services, *Implementation of State Child Support Certified Data Systems*. OEI-04-96-00010, Washington, D. C., April 1997.

**2. The deadline set by Congress for completion was unrealistic.**

First, the report noted that HHS's Administration for Children and Families did not issue final certification requirements until June 1993. Several states began system developments based on interim regulations promulgated in 1992, but were subsequently forced to incorporate expensive changes when final regulations were developed. A second delay — reminiscent of earlier FAMIS experiences — occurred at the state level, where extensive political consensus was needed among many state and local governmental agencies, as well as local courts and court administrators. This consensus building effort, necessary for effective system design, slowed implementation. Other delays occurred because of extensive certification testing, cross-agency interface development, and drawn-out procurements necessary for this complex, large system development.

**3. Contractors did not have sufficient capacity to overtake simultaneous development of several large-scale state systems.**

As noted above, the pool of computer contractors with welfare experience was limited, making staff resources a constant problem. Shortage in experienced staff led to overdue projects, several quality problems, and lack of applicability to business needs. States and contractors reported instances where key staff were hired away, thus disrupting management. In addition, states were also presented with “cookie cutter” computer system designs unresponsive to individual state business requirements — a vendor effort to minimize state-specific computer system customization that would further increase costs and strain vendor resources.

A final problem with child support enforcement system designs and regulations, not noted in the inspector general's report but highlighted in subsequent APWA documents, concerned the definition, under federal regulation, of a “statewide” system. In

testimony before the House Ways and Means Human Resources Subcommittee,<sup>30</sup> Robert Doar, director of New York State's Office of Child Support Enforcement, argued HHS's insistence on defining "statewideness" as a single state computer system for child support – rather than a network of linked systems with compatible data definitions and exchange requirements – increased the size, and hence risk of failure, of system developments. In addition, he asserted that the federal definition of a single statewide system – based on 1980's notions of information technology centralization – did not allow for variations necessary between small and large localities. Nor did it allow for the flexibility necessary to develop systems efficiently and effectively in an open networked environment, where computer components could be grafted together as resources, business needs, and new initiatives evolved.

The issue of risk management for new and complex systems raised in Doar's testimony was one in which more attention was being focused in all government circles as the 1990s progressed. This focus was occasioned both by a large number of expensive IT project failures in the government sector, and a maturation of models for managing projects as the IT industry gained experience. For instance, a 1997 document by the federal Information Technology Resources Board, entitled "Project Management for Mission Critical Systems: A Handbook for Government Executives,"<sup>31</sup> laid out a series of "best practices" for project management, including emphasis on an agency's mission and customers; definition of realistic objectives, architecture, and project plan; assignment of appropriate staff; strong project leadership; and well defined planning and management practices. Key among the management practices were admonitions to accurately assess risks to project success based on overall costs, compressed time frames, technology maturity, public visibility, project and program

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30 Robert Doar, "Child Support Information Systems: Written Testimony before the House Ways and Means Human Resources Subcommittee." Washington, D.C., September 10, 1997.

31 Information Technology Resources Board. "Project Management for Mission Critical Systems: A Handbook for Government Executives." Washington, D.C., 1997, [www.itrb.fed.gov](http://www.itrb.fed.gov).

complexity, and the degree to which the proposed system impacted the core functions of an agency. The issues of flexibility and size Doar alluded to in his presentation had direct impact on the inherent risk related to any welfare system development.

In sum, delays in ambitious welfare system project implementations were traced to a series of interlocking variables. Dynamics between variables led to tension among federal, state, and local governments, and between government and vendors, which escalated as deadlines were missed and expenditures rose.

### **Federal and State Implementation and Oversight: A Case Study in California**

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The state of California illustrates potential difficulties inherent in the state-federal relationship regarding system development approval. Since the mid-1960s, California had attempted to implement an automated information system to support AFDC, Food Stamps, Medi-Cal (California's version of Medicaid), aid for adoption, and special adult programs. The project, which sported a variety of acronyms during its lifetime, has, over the course of its development, been a political football involving California's counties, private vendors, the state executive and legislature, and federal agencies.

An independent audit, conducted by Ernst & Young in 1994 for the California state legislature,<sup>32</sup> indicated several problems with the California project. This audit focused on the issues of bureaucratic turf wars, a philosophical disagreement over centralization versus decentralization of welfare administrative functions, and an inability on the part of the key actors to effectively plan and implement this comprehensive undertaking.

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32 California Bureau of State Audits, Department of Social Services, *The Department's Approach to Welfare Automation Is Too Costly and Unlikely to Succeed*. Sacramento, CA, April 1995.

The report noted that a first round of negotiations over scope and structure of the California welfare system occurred from 1966 through 1974. They were thwarted by, in the words of the report, "poor planning, county opposition, conflict among vendors, and legislative criticism."<sup>33</sup> In a second round of efforts, from 1979 to 1983, DSS attempted to develop a centralized welfare delivery system, named the Statewide Public Assistance Network (SPAN). A request for proposals was developed, and a contract awarded. However, major vendors who unsuccessfully bid for the project disputed the decision. In response, the legislature commissioned an independent review of DSS's effort, resulting in a proposal to develop another system taking advantage of 14 extant county mainframe computer centers. This proposal was presented in 1984 to HHS with a request for enhanced funding, but was rejected on the grounds that a decentralized approach could potentially lead to as many as 58 separate county systems. Instead, HHS recommended development of a single statewide system, but suggested California pursue no more than four or five software systems statewide. After resubmission of the required Advanced Planning Document in 1986, California was informed HHS would support only three software systems operating at three state-operated sites. This was amended in 1987, when California was informed by HHS, the Food and Nutrition Service (FNS), and the Health Care Financing Administration (HCFA) that enhanced funding was only available for a single statewide system. This requirement was rejected by the state on the grounds it was contrary to state administrative policy of local control of welfare services, and did not make use of previous hardware and software investments.

Subsequently, in 1988, HHS revised its stance on a single statewide system for California. The new recommendation supported a single statewide system and a separate system for Los Angeles. Los Angeles then submitted a request (receiving approval in 1992) for enhanced funding for its own system. FNS subsequently revised requirements for a single statewide system as eligible for

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<sup>33</sup> Ibid, p. A-1.

enhanced funding, to allow for two statewide systems, plus a system for Los Angeles.

Early in 1991, HHS responded to the latest California proposal for enhanced funding for a statewide system with a list of conditions, later rejected by the state as not viable. Before the parties could renegotiate, however, the U. S. Congress passed the Omnibus Budget Reconciliation Act of 1993, terminating enhanced funding for FAMIS systems effective April 1, 1994. The federal government agencies subsequently dropped their requirements for a single, centralized state-run technology architecture.

The chronology of federal-state bureaucratic negotiations showed a clear pattern of tension between California's legislatively mandated organizational decentralization and the federal government's bias toward single, statewide implementation of information systems. This bias was based on the notion that economies of scale with respect to system development and maintenance could be achieved by designing one software and hardware platform, rather than separate locally based systems.

Another factor was the impact the negotiations had on timetables and processes for state-level system procurement. Typically, a state is required to submit the APD to federal agencies for approval prior to development and publishing of bid specifications to vendors. In most states, the bid process on large procurements like welfare systems is cumbersome, time and resource consuming, and requires a great deal of detail regarding system hardware and software specification. Once bids have been received from vendors, the process for bid review and notification to the winning vendor is followed by contract review and approval by state auditors. Even without federal APD approval, this state procurement process often takes in excess of one year.

To manage this time constraint, state agencies often develop parallel processes, whereby bid specifications are developed while federal approval is pending. However, in cases like California, where multiple disapprovals and changes to APD authorizations occurred, further delays in bid publishing, and expensive

and time-consuming bid changes to conform with federal objections, are common.

This cumbersome process is a historical outgrowth of decades of citizen concern about government favoritism in the award of contracts, layered on top of federal insistence on oversight over high-priced information technology purchases. While philosophically defensible, it could lead both to an increase in bid size — as states seek to decrease the overhead costs associated with multiple APD approvals and bid preparation — and situations where the information technologies specified have been superseded by newer generation hardware and software prior to contract approval and award.

Another dynamic, which is not clear in the chronology, was a parallel movement of information technology system design away from centralized mainframe-based systems to decentralized client-server architecture, which split information tasks between a central server (usually a mainframe acting as a database server), second-tier servers containing business rules, local information, and/or cached information for access by local offices, and clients, which provided graphic user interfaces (GUIs) and local applications like expert systems to support eligibility determination.

This change in industry “best practice” information architecture occurred at a critical moment in negotiations over California’s welfare system. A pilot of one of the systems tentatively approved for California (Merced Automated Global Information Control or MAGIC) was designed and implemented quickly using new client-server technology and new advances in relational database design. MAGIC was more flexible, responded more quickly and was developed less expensively than a statewide application designed during the 1980s using centralized mainframe technology and older design tools.

Critics of federal insistence on a single statewide system used the results of this advance in architecture development to support California’s contention that system design should parallel the state’s traditional organizational decentralization. However,

California's insistence on decentralization occurred six years prior to the industry introduction of a functional client/server technology architecture.

Finally, Ernst and Young faulted both state and federal governments for poor project management. This included failure to develop strategic plans, set interim objectives and schedules, and track project expenditures. The study also noted that state DSS experienced frequent staff and project management turnover, did not give system development and project leadership high priority, and did not undertake ongoing project risk assessment in order to manage potential problems/roadblocks in the development process. This caused several false starts, abandoned efforts, and additions to the project scope that were costly and not strategic to the project's success.

While extremely instructive about the potential pitfalls of welfare information system development in a federalist environment, one should not forget that California's example represented the extreme among FAMIS and FAMIS-like projects. In contrast, the majority of states successfully implemented FAMIS, JOBS, and related systems during the period. Among our state capacity study respondents states like Arizona, Kansas, Rhode Island, Tennessee, Washington, and Wisconsin all reported the existence of system with a capacity to meet the majority of requirements envisioned for FAMIS systems and several of the requirements of welfare reform.

In fact, by the mid-1990s nearly half the states surveyed by GAO were either planning, or beginning to develop, second-generation family assistance systems on the FAMIS model. The majority of other states were actively engaged in system upgrades and replacements throughout the 1990s in order to support changes in welfare organizations, rules, and technological capacity. This is a critical point. Welfare management systems should not be viewed as a one-time allocation of funds and resources, but rather as an ongoing process of modification, enhancement, and integration.

### *Managing to Outcomes*

The final significant governmental trend influencing the capacity and utility of the FAMIS information system was less obvious since it does not directly relate to the approval and purchase of information system hardware and software. Nevertheless, the impact of performance management concepts on information technology is significant.

The birth date of federal performance management is March 3, 1993, when President Clinton announced the beginning of a National Performance Review (NPR). Vice President Gore and a specially selected group would conduct a thorough review of operations of federal government. Later, they would develop recommendations to radically change the way the government served its citizens.

The interest in this effort and report the NPR generated originated in several movements, the most significant being a general dissatisfaction among the electorate of government bureaucracy. In addition, the review included several "hot button" ideas, popular during the early part of the decade in books such as *Reinventing Government* by Osborne and Gaebler (Perseus Press, 1992). In these texts, which received wide circulation and acceptance in a business community actively working to meet the growing challenge of Asian capitalism and to refocus the American economy, certain ideas were paramount:

1. In order to succeed, businesses and governments needed to clearly define their missions and core competencies, and identify the functions and services at which they excelled and could expect to achieve market leadership. All other non-"value-added" functions should either be jettisoned or farmed out to other organizations with more direct expertise in the subject area.
2. Secondly, organizations needed to flatten, to redistribute power and decision making downward in order to place decision-making power as close to the customer as possible.

3. Thirdly, the gurus argued, the work of organizational units should be monitored and the units rewarded not based on their activities, but by their results or outcomes relative to clearly articulated goals.
4. Finally, all services and functions should be judged by value brought to the customer, not the administrative or bureaucratic purposes they served.

An indication of the impact the National Performance review had on the human services community can be found in the 1994 National Conference of State Legislatures (NCSI) report covered more extensively earlier in this document. In it, the authors noted:

The drive toward outcomes-based accountability, represented in the National Performance Review and echoed in state reform initiatives, has sparked renewed interest in the ability to link data across multiple federal programs and service domains. . . . In addition, the National Information Infrastructure initiative includes investments in innovative telecommunications and information systems in the human services. These activities, in combination, represent opportunities for coordinated movements toward the development of a more comprehensive and effective human services information infrastructure.<sup>34</sup>

From the perspective of FAMIS applications, movement toward performance management presented several difficulties. First, FAMIS systems were designed primarily to report input measures such as admissions data, and process measures such as services and payments received. They contained little or no capacity to measure and track outcomes. Secondly, the mandate to move decision making authority as far down the organization as possible – in welfare’s case to the case worker – could not be easily supported in this environment, since the system was conceived as a means of centralizing information and moving decision-making power upward. Thirdly, the way funds were designated for welfare programs prevented extensive data integration across organizations and programs, critical to providing coordinated customer

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<sup>34</sup> Ibid. p. xi.

service. Finally, FAMIS systems had been designed and implemented to support organizational separation of roles between eligibility and case workers, further fragmenting service.

Another fundamental difficulty existed, involving the choice of performance measures in a world with different organizational goals and objectives. Problems this issue generated can be found in the story of JOBS performance measurement.

On the federal level, JOBS legislation – the welfare reform initiative preceding government performance review by four years and Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) by eight – included outcomes for job training and job participation. The legislative intent was that state efforts be judged and states penalized for inability to achieve of systemwide goals. In practice, however, outcome measurement was difficult for all parties. A 1995 report by GAO for Senator Moynihan, Ranking Minority member of the Senate Committee on Finance, entitled “Welfare to Work: Measuring Outcomes for JOBS Participants,”<sup>35</sup> indicated problems HHS had transitioning from process to outcome measurement in JOBS.

First, the report found HHS had experienced consistent difficulties establishing outcome measures, and focused instead on process measures such as the number of participants enrolled in education and training. This bias toward process, in turn, accorded states little incentive to focus on moving participants out of AFDC and into jobs. In response to this criticism, “HHS reported that appropriate outcome indicators had proven difficult to design in part due to disagreements among key stakeholders, such as researchers; congressional staff; and federal, state, and local officials, regarding the primary objectives of the JOBS program. In addition, setting goals was complicated by possible unintended program effects, such as programs focusing on the most employment-ready individuals in order to meet goals.”<sup>36</sup>

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35 U.S. General Accounting Office. *Welfare to Work: Measuring Outcomes for JOBS Participants*. GAO/HEHS-95-86, Washington, D. C., 1995.

36 *Ibid*, p. 8.

Regarding states' support for outcome measurement, they reported a majority of states had established one or more forms of outcome measurement, as indicated in the table below:

<i>Indicator</i>	<i>Number of States Using Indicator</i>
Participants entering employment	49
Hourly wages at hire	42
Participants no longer receiving AFDC due to employment	33
Job retention rate	26
Participants with reductions in AFDC due to employment	24
Education/training achievement	24

The report noted that “many states have been active in developing outcome indicators to monitor JOBS participant outcomes. To a large extent, this activity has grown out of each state program’s effort to demonstrate its effectiveness and garner support for additional state funding. . . . Although many states use their own outcome goals and support establishing national goals, they have concerns about how these goals will be set and used. They maintain that HHS may not be able to adequately control for differences across states in local economic conditions and client characteristics that can affect how successful programs are in placing participants in jobs. They are also concerned that certain outcome indicators will automatically favor certain state programs and unduly influence program design decisions, which they believe should be maintained at the state level.”<sup>37</sup>

Here, the conflict states experienced over outcome measures and their relationship to federal program oversight becomes clear. While the survey found broad state support for outcome measurement, and indicated 82 percent of states felt HHS had not adequately supported establishment of national outcome

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<sup>37</sup> Ibid, p. 9.

measures, states were equally concerned about favoring one jurisdiction over another for comparability purposes. They were also concerned about the potential for federal clarification about outcomes affecting both state program design and flexibility.

The report noted similar dissonance between intention and practice with respect to after-program evaluation, stating:

While the survey results show that state officials believe that job retention rate and changes in AFDC benefits are particularly useful outcomes to monitor, tracking AFDC recipients after case closure is difficult, time-consuming, and expensive, according to several state officials. Staffing limitations and the inability to locate ex-AFDC clients were two reasons they cited for not pursuing these indicators more aggressively.<sup>38</sup>

The difficulty and cost of tracking welfare recipients after they left welfare was a particularly thorny issue, given the subsequent welfare reform emphasis on employment outcomes and transition of people off welfare. Another concern not expressed in the GAO report involved the ethical argument of whether acceptance of welfare benefits included a tacit approval by recipients of participation in post-welfare tracking studies and evaluations.

Finally, there was skepticism about outcome indicators in general as measures for determining program impact. The report noted,

Outcome indicators are useful to program managers and policymakers in assessing the status of program operations, identifying areas needing improvement, and ensuring accountability for end results. Indicators alone, however, do not show the extent to which the program accounts for an observed outcome. . . . Determining the extent to which the program contributed to the observed outcome involves studies that use experimental designs to estimate what would have happened without the program. . . . Because such evaluations are usually costly, they are done infrequently and often involve only select locations.<sup>39</sup>

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<sup>38</sup> Ibid, p. 11.

<sup>39</sup> Ibid, p. 5.

The issue of performance and outcome measurement proved a difficult concept to implement and integrate into FAMIS systems. First, there was disagreement over which measures to collect and manage. Secondly, proposed outcome measures fell outside standard territory of welfare information collection — they involved data from systems outside welfare office boundaries and computer systems. Finally, on the operational level, systems had not been designed to support active management of cases through tracking and cross-organizational referral — activities critical to effective performance-based management — but rather were biased toward management to support eligibility management, quality assurance, and financial accountability.

The potential for a significant effect on information systems in movement from process management to outcomes-based management is not a new issue. In fact, one has to look no further than shifts in the medical care environment from a fee-for-service model to managed health care, and the impacts on MMIS to find a current example of difficulties inherent in such a change.

As noted earlier, MMIS was originally intended to serve as a system managing provider claims and payments. Ancillary audit and research capacities grew out of core transactions, typically a single payment for a single identified service. In contrast, the structure of managed care payments and monitoring was radically different. States that, beginning early in the 1990s, enrolled Medicaid recipients in managed care services would typically make a lump-sum payment to managed care companies based on total enrollment of recipients in their plan. The managed care company was then responsible for paying providers, typically on a per-member per-month model, tracking service utilization and monitoring outcomes. The state, in turn, would oversee operations of these companies, using key performance indicators related to quality and consumer satisfaction.

Although many states had begun shifting toward Medicaid managed care at the beginning of the decade, a 1996 GAO report entitled “Medicaid Managed Care: Serving the Disabled Challenges State Programs,” noted:

Information about the services provided to disabled patients is essential for effective monitoring. Since services are no longer paid for on a fee-for-service basis, however, the reimbursement process no longer produces this information. Developing comprehensive, consistent data on services provided under prepaid care takes time and effort. To date, only Arizona has substantial experience in doing so.<sup>40</sup>

The report, a response to a request by Senator Chafee (Chair of the Senate Subcommittee on Medicaid and Health Care for Low-Income Families) and Senator Graham (Ranking Minority Member of the Subcommittee) revealed that modification, supplemental development, or replacement of Medicaid information systems to support managed care was both relevant to and critical for effective performance-based management.

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<sup>40</sup> U.S. General Accounting Office. *Medicaid Managed Care: Serving the Disabled Challenges State Programs*. GAO/HEHS-96-136, Washington, D.C., 1996, p. 6.

### III. 1996 – Welfare Reform Changes the Game

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**I**n 1996, Congress passed and President Clinton signed historic welfare reform legislation, entitled the Personal Responsibility and Work Rehabilitation Act (PRWORA). While denoting a major shift in federal policy concerning management and administration of welfare, passage of the Act was predated by waiver experiments involving a majority of states who had already begun to transform the landscape of welfare service delivery. Similarly, the impact of the passage of welfare reform legislation on FAMIS and other welfare management information systems built prior to the legislation was dramatic, though not revolutionary in all respects.

First, and most importantly, the Act established a new category of case benefits, entitled Temporary Assistance to Needy Families (TANF). This benefit category supplanted AFDC, and included different eligibility requirements and program rules. Information systems – like FAMIS and its counterparts – would either need to be supplanted or brought into line with new eligibility and management requirements.

In the area of service integration, the Act created an elaborate network of information exchange requirements to support monitoring of client behavior. Examples of the expanded view of information exchange include:

1. Requirements for cross-state systems for monitoring where a client stood with respect to a new five-year lifetime limit of receipt of TANF benefits.
2. Extensive background checks to determine alien, fugitive felon, and other conditions that would preclude eligibility for TANF.

3. Mandates to track school age participants' school attendance.
4. Extensive information exchange to support location of absentee parents and collection of required child support payments.

Requirements that states develop new information tracking systems were illustrative of an expanded vision of cross-organizational information exchange. To effect enhanced child support enforcement, a new "Directory of New Hires" was mandated, where employers would be required to notify states when new people were hired by their firm. This information (and subsequent quarterly wage reports) would then be transferred to a National Directory of New Hires (NDNH) within three days, where information would be matched against data in the Federal Case Register. The purpose of this initiative was to identify noncustodial parents required to provide child support. States were also required to match new hire information against their own case registries of child support orders, and where appropriate transmit wage withholding notices to employers.

Electronic funds exchange to support services was also supported by this legislation. PRWORA mandated states to develop Electronic Benefit Transfer (EBT) systems by October 1, 2002. EBT was designed to replace food stamps and other benefit checks with a debit card. The law also encouraged development of an EBT system capable of automatic operation across state boundaries, so beneficiaries could shop in any state for essentials.

Requirements for data exchange were, while significantly more extensive than previous, compatible with functions already present in state FAMIS systems. In fact, electronic information exchange was a regular feature of FAMIS and FAMIS-like systems across the nation, though not approaching the level of complexity and scope envisioned in PRWORA. As such, the law would require incremental, rather than fundamental, redesign in most cases.

From another information perspective, however, the federal legislation portended revolutionary changes. While not

mandating information integration at the case worker level, the combination of increased cross-agency information exchange and the requirement that local agents actively manage TANF cases toward self-sufficiency, led many observers to the conclusion that in order to be successful — and avoid costly performance penalties down the road — a new information environment, emphasizing the role of client-level comprehensive case management, was necessary. As indicated above, this role was not incorporated into FAMIS design, and not a function that the traditional system could be easily, or inexpensively, retrofitted to support.

The legislation provided a similar mixed message for federal oversight of state information systems development. While freeing states from constraints of the APD process for TANF improvements, APDs were still required for system developments viewed as important to service integration. These systems supported Medicaid, Food Stamps, child support and child welfare, and remained under the APD planning umbrella. Therefore, any attempt to build integrated systems would still require multiple federal agency approvals and involve complicated cost allocation strategies by states seeking to take maximum advantage of variations in information systems financing across programs.

In addition, legislation removed dedicated funding for information system development. States would have the option of using as many funds as necessary to upgrade or replace FAMIS systems to support welfare reform. Requests for technology expenditures would be required to compete with programmatic priorities, since funding for all activities was folded into block grants administered by the states. However, information system integration across programs like TANF, Medicaid, Food Stamps, and child support would still demand difficult financial negotiations and cost allocation methodologies to meet audit and fiscal accountability rules.

The legislation's impact on intergovernmental relations under PRWORA made welfare information system planners' tasks even more difficult.

First, devolution of programmatic design authority to states meant states could organize their own bureaucracies, determine unique eligibility requirements and other business rules, and establish networks of service among state and local government, the nonprofit sector, and the private sector as they wished. This meant that ideas like the transfer requirement, which presupposed a large degree of regularity in eligibility and other rules across states, as well as a certain degree of sameness with respect to organizational design, could no longer — if they ever could — be expected to represent a useful model of technology development.

Secondly, many states used PRWORA (as they did with waiver experiments preceding the legislation's passage) as an opportunity to reorganize, redirect, and in some cases break apart the traditional welfare bureaucracies. Consistent with notion of government reinvention, several states attempted to simplify bureaucracies and move decision making as close to the customer as possible. In addition, many states shifted responsibility for such functions as workforce development and placement from traditional welfare bureaucracies to state labor departments, where core competence in this arena was believed to reside.

This movement had dramatic impact on FAMIS system viability. Since the FAMIS system had as a core design feature regularization and centralization of information management upward to the state level, the countervailing movement of management authority downward and outward seriously strained its capacity to meet needs of locally based decision makers. In addition, the fact that information system design, management, and support had over time become concentrated at the state capitol meant local managers — who might otherwise wish to design their own information support systems to aid local management — now had to rely primarily on technical support from state technology workers. These workers, driven by state-level priorities for responding to the new federal mandates — focused instead on internal and federal requirements.

Movement of core support functions in many states, from welfare to other providers, created a more complex environment

for information systems planners. This difficulty is explained by the following table, which incorporates results of the Institute's field research study reported by Richard P. Nathan and Thomas Gais. The table details the order of procedural steps normally used to handle potential TANF clients in our study states.<sup>41</sup> In addition, I have added a final column indicating the potential requirement for communication outside traditional welfare office structure.

<i>Stage of Process</i>	<i>Mean Order of Step</i>	<i># of Local Sites Indicating Step</i>	<i>Potential Need for Information Exchange With Nonwelfare Organization</i>
General program orientation	1.6	26	No
Work search #1 – independent search for work	1.8	15	No
Eligibility review for entitlement program	1.9	18	Yes
Diversion	2.0	20	Yes
Eligibility review for TANF	2.3	30	Yes
Child support/paternity determination	2.6	17	Yes
Personal responsibility plan	2.8	21	No
Support services assessment/referral	2.9	23	Yes
Employment assessment	3.0	26	Yes
Work search #2 – assisted job search	3.3	24	Yes
Job readiness skill building	4.0	23	Yes
Assignment to work experience/community service	4.3	15	Yes

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41 Richard Nathan and Thomas Gais. *Implementing the Personal Responsibility Act of 1996: A First Look*. Albany: The Nelson A. Rockefeller Institute of Government, 1998.

The difficulty in supporting the flow of clients summarized above, as opposed to basic information exchange requirements discussed previously, lies in the fact that activities listed above are *sequential*, *temporal*, and *cross-organizational*. As such, they are sensitive to the speed and order at which information travels among agencies or units. In contrast, traditional FAMIS systems were designed for static information management within the confines of a single bureaucracy.

The final mixed blessing incorporated in PRWORA relates to outcome and performance measurement. This was an area, like those above, in which FAMIS capacity was strained even before passage of welfare reform.

With respect to performance management, the Act contained several key goals, penalties, and rewards consistent with a focus on program outcomes. These included:

- ❖ Goals for Client self-sufficiency and family stability and responsibility.
- ❖ More stringent eligibility requirements for a narrower set of recipients.
- ❖ Rewards for “high performing” states.
- ❖ Data reporting requirements in place of federal program regulations.

The final item, data reporting requirements, deserves further explanation. Rather than regulating states by establishing specific nationwide regulations, the federal government gave states the option of designing their own service delivery systems. In order to monitor that system, however, states were required to report several pieces of information, at a level of detail down to clients and families, in order to receive funding. States that did not submit timely and accurate data reports would incur a penalty of up to four percent of the total state block grant, and could jeopardize receipt of the full amount after a period of time.

On the surface, the legislation represented a strong endorsement of performance measurement. Goals were clearly specified, with rewards and penalties attached to success and failure. The federal government would “steer more, and row less” (in the words of the National Performance Review) by allowing states to design their own programs, and would monitor them by collecting information. Communities were encouraged to solve their own problems, and states were given the option of devolving responsibility and authority further down the line than ever before.

In practice, however, the Act contained several flaws with respect to performance measurement.

The first issue concerned aggregation of information and filtering. The traditional role of FAMIS and other information systems was to provide progressive filtering and aggregation of information traveling up the pyramid from local agents to federal overseers. Before computers, local sites might collect information and develop monthly summary reports about activities, related costs, and admissions and discharges. With the advent of data systems and their centralized placement at state welfare offices, information collection occurred at the local level when caseworkers entered key pieces of data into the FAMIS statewide system. The statewide system was then programmed to generate “canned” aggregate reports for statewide system management and reporting to the federal government. Under this scheme, client-level data typically resided in computers located in state agencies and operated by state staff.

Requirements of disaggregated (by client, by month) reporting to the federal government under PRWORA moved more raw data further upstream without filtering. This meant the federal government could make its own conclusions about program success without filtering at the state level, assuming they had the capacity to do so. The disadvantage lay in the volume of information exchange required, and potential inability to interpret variations in outcomes based on contextual differences in the way program operated at the lower levels, both across states, and within states across counties or regions.

A more serious difficulty lay, however, in the choice of measures, and congruence of outcome measures with goals. Data required by the original legislation showed a clear pattern of bias toward traditional areas of collection, input, and process measures, with little or no focus on outcomes, impacts, or even outputs. In other words, the mandated performance measures were out of synchronization with legislative intent regarding outcomes.

Ironically, this represented a positive development when viewed strictly from the perspective of FAMIS capacity. The types of measures required by law closely matched many of the elements already captured in current systems. Again, legislation signaled an incremental, rather than fundamental, change.

However, as usual, information system development was not so simple. The legislation included a recognition that better outcome measures needed to be formulated. Accordingly, it established a process, to be completed over a period of months, for developing these measures. These were necessary both to support the goals of the legislation and determine state bonuses and penalties.

The delay in establishing clear outcome measures, combined with great specificity regarding input and process measures, would have serious impacts on subsequent regulation and system developments. On the positive side, emphasis on input and process measurement meant reporting (at least until the outcome measures issue could be worked out) would occur in the areas generally covered by existing information systems. While the impact of the changes in eligibility and information exchange on existing systems was significant – estimated at more than \$1 billion in a report by APWA based on a survey they did in conjunction with the National Conference of State Legislatures (NCSL), the National Governors Association (NGA), and the National Association of State Information Resource Executives (NASIRE)<sup>42</sup> – reporting requirements did not necessarily require wholesale scrapping of current systems. On the negative side, emphasis on

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<sup>42</sup> American Public Welfare Association. "A Shock to the Systems: Automating Welfare Reform in the States." Washington, D.C., 1997.

these measures and attendant penalties for nonreporting, meant state efforts needed, at least in the short run, to focus on meeting federal mandates for information. These measures were often not critical to the states' own performance management objectives and goals, and were often not required or even needed to develop effective coordinative management systems at the local service level.

The discrepancy between current and projected performance measures had another effect on the system. Where previous reporting and evaluation of welfare efforts utilized existing administrative data systems and their attendant reporting functions, governmental program and technology professionals realized an important fact. New requirements for active, cross-organizational management, including tracking client experience after departure from the welfare roles, would require new, significantly enhanced evaluation efforts. These efforts would include integration of more, hitherto unconnected administrative data systems, and development of an evaluation capacity that followed families into the community for periods after their stay in TANF. The FAMIS systems, designed for welfare office day-to-day management, were not equal, by themselves, to the new evaluation demands.

## **Reacting to Change**

Two data sets provide insight into areas of concern among state information and program professionals at the beginning of the period following federal welfare reform legislation. The first was developed in November and December 1996, based on survey responses from 51 states by HHS, APWA, NASPO, NGA, and NASIRE.<sup>43</sup> This survey, intended for use by HHS in a mandated report on information systems to Congress, included information such as the age and makeup of welfare information system, their degree of application and data centralization, and information professionals' perceptions of the challenges they faced implementing legislatively mandated changes.

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<sup>43</sup> Respondents included 49 states and 2 territories.

The second data set, collected the following year as part of the Rockefeller Institute's State Capacity Studies, included 15 state respondents, and focused primarily on systems' capacity to report different types of information critical welfare system management. A recent book by Richard Nathan and Tom Gais entitled *Implementing the Personal Responsibility Act of 1996: A First Look*<sup>44</sup> summarizes many of the important findings of this effort.

### ***Age, Centralization, and Capacity: The HHS Survey***

A factor analysis of the HHS data set identified four groups of variables affecting a state's reactions to information challenges of welfare reform. These four major areas of variability included:

1. Degree of application and data centralization in AFDC and JOBS systems.
2. Computer system age,
3. Degree of flexibility to change current systems, and
4. Concerns about organizational capacity to effect mandated changes.

Survey results indicated the newer a state's computer, and the more recently AFDC and JOBS systems became operational, the more likely for AFDC applications to be centralized. Also, the use of FAMIS, and FAMIS-like systems as a tool for centralization was advancing as the nation approached the time of welfare reform. However, centralization tended to occur more in smaller states with smaller caseloads and administrative overhead.

At the same time, the more centralized the JOBS application, and JOBS and AFDC data were, the greater were states' concern about a variety of issues, including the complexity of TANF's demands on information systems, local provider capacity, availability of resources to manage required changes, time required to make system changes, and uncertainties surrounding data exchange requirements of the new Act. This indicates systems with centralized applications and databases tended, within the confines

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44 Op. Cit.

of the pre-PRWORA world, to be simpler to operate, requiring fewer resources, local support, and complicated electronic data exchanges. However, with the advent of PRWORA and its tendency to decentralize information requirements, these systems' previous strengths might now be viewed as weaknesses.

Respondents were also concerned that the age of computers and the operational date of JOBS applications would affect their ability to modify the existing system, and increase costs and time involved in modification.

The connection between flexibility concerns and JOBS operational dates is especially suggestive. It indicates that states who waited to implement JOBS systems to support work activities tended to have greater alignment with requirements of new legislation. This is consistent with the fact that work participation requirements in PRWORA would have been designed in response to experiences – good and bad – in JOBS implementation, and that later adopters of JOBS systems would benefit from the experiences of earlier state experimentation.

***Information Reporting for State and Local  
Management Purposes: The Rockefeller Institute Survey***

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The second data set involved a subset of states<sup>45</sup> and was developed a year after the passage of PRWORA. As such, it should not be viewed as strictly contemporaneous with the results of the previous survey. However, given the slow pace of information systems development in general and uncertainties related to new system requirements caused by the lack of final regulations on TANF data collection, one should not expect many system changes between winter 1996 and winter 1997.

From a statistical point of view, the number of states (15) included in the sample prevented the use of factor analysis, but

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<sup>45</sup> States included Arizona, Florida, Georgia, Kansas, Michigan, Mississippi, New Jersey, New York, North Carolina, Ohio, Rhode Island, Tennessee, Utah, Washington, and West Virginia.

correlation studies uncovered suggestive findings. These findings centered on state and local manager's capacity to access and use information necessary for effective system management, for the purposes of eligibility determination, report of work activities, case management, and signaling ( the capacity to flag individuals and families nearing time limits or other critical program junctures).

No correlation was found between capacity to generate information for state reporting versus local information purposes; the only exception being that the ability to generate state-level eligibility reports correlated with local signaling report capacity. This suggests the current systems were not designed to support both state and local information needs, except for linking overall eligibility tracking with a local ability to flag problem cases. This is consistent with findings of the 1985 Dawes study of WMS, where state and local users possessed divergent views of AFDC system's capacity and utility. It also conforms to the narrative descriptions of information system capacity found in Rockefeller Institute field network reports.<sup>46</sup>

In addition, the analysis found newer centralized AFDC and JOBS systems tended to have a greater capacity to generate state-level work reports, reports on clients reaching eligibility time limits, and state-level case management information. However, there was no evidence of a relationship between system centralization and local reporting capacity.

The study also showed that states with a greater capacity to generate case management information of value to local managers tended to be more decentralized with respect to their JOBS data structures. Similarly, states with superior local work reporting capacity had fewer concerns about data exchange unknowns: Presumably they would already be operating in an environment of electronic data exchange across governmental agencies.

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46 The Rockefeller Institute Study of the States involves extensive field network reports by academic researchers located in study states who have an intimate knowledge of state and local welfare systems.

Taken together, these data sets draw an intriguing picture of perceived system capacity at the state and local level early in the period of welfare reform that is consistent with the issues highlighted earlier in this document. They show clear differences between state and local level technology capacity and indicate the effect the age of computer systems had on reporting and ability to incorporate the changes embodied in PRWORA. They also highlight the relationship between system decentralization and professionals' view of the complexity of changes fostered by changes in the welfare management environment.

## IV. Progress and Pain

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**I**n the first two years after nationwide welfare reform, welfare caseloads dropped more 40 percent from a March 1994 high of 5.1 million, to just over 3 million recipients.<sup>47</sup> Most states aggressively restructured programs and organizations to meet goals articulated by the legislation. However, state efforts at welfare information modernization were progressing in fits and starts.

On the positive side, some information systems designed to support certain welfare functions advanced in this climate of change. By November 1998, 37 states had certified CSE systems, intended to implement the network of information relevant to child support collections included in the 1996 PRWORA. A network of cross-state information exchange, called CSENet, was in operation, with an average of seven cross-state linkages per member state, including 37 connections by Montana, 34 connections by New York, and 33 cross-state connections by Washington.<sup>48</sup> The National Directory of New Hires was in place and receiving information from most state Directories.

Eelectronic Benefits Transfer systems for food stamps showed equally impressive advances. By October 1998, 36 states were operating EBT systems in at least some part of their jurisdiction, with 27 states operating statewide systems. In addition, several states had developed consortia where a single contract and system design was negotiated with a vendor, insuring cross-state system compatibility. Another 11 states were in various stages of contracting, piloting, or development of an EBT system.

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<sup>47</sup> Congressional Research Service, *Welfare Reforms: Trends in the Number of Families Receiving AFDC and TANF*. Washington, D. C., 1998.

<sup>48</sup> US Department of Health and Human Services. *National Status of Automated Child Support Systems*. Available on the WWW (<http://www.acf.dhhs.gov/programs/cse/stsys/certmap.html>), 1998.

Other state operated welfare-related systems were not progressing as smoothly. While a May 1998 survey by the NASIRE, entitled "Welfare Reform and State Human Service Information Systems"<sup>49</sup> indicated a great deal of information network development, some systems for data analysis and data warehousing, and a modicum of movement toward system integration and data sharing strategies, efforts were being hampered by several factors. According to the NASIRE survey, our own state capacity research, and the observations of professionals in the field, the constraining elements included:

1. Uncertainty and disagreement about federal data regulations, which had not been finalized.
2. Discussions about the relative roles of process and outcome measures in system oversight and management.
3. Disagreements and uncertainty about the relative role of federal and state agencies with respect to system design and approval.
4. Interorganizational difficulties across state and federal agencies.
5. Continued procurement and financing balkanization.
6. State-local disagreements about system development priorities.
7. Inevitable disruption caused by organizational change and redefinition at the federal, state, and local levels.
8. Serious resource difficulties caused by a national shortage of information professionals and the Year 2000 bug, particularly for older welfare-related information systems.

This last problem deserves special mention, since it highlights both the difficulties of system change in the current environment, and the relative ages of various components of welfare-related information systems. A recent GAO report, entitled "Year 2000 Computing Crisis: Readiness of State Automated Systems to Support

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<sup>49</sup> National Association of State Information Resource Executives. "Welfare Reform and State Human Service Information Systems." Lexington, 1998.

Federal Welfare Programs,<sup>50</sup> developed in response to a request by Senators Roth, Moynihan, and Rockefeller, and Representatives Shaw, Levin, and Johnson in the House of Representatives, indicated that of 421 state welfare systems included in the survey, a mere one-third were found to be Year 2000 compliant by the end of 1998. In the report, states expected to spend about \$545 million to complete Year 2000 compliance, with 80 percent indicating the effort was delaying implementation of other needed system development and upgrading activities related to welfare reform.

A closer look at Year 2000 compliance across welfare information systems presents a revealing pattern. The oldest system development effort, MMIS, had only a 16 percent Year 2000 compliance rate, followed by 25 percent among TANF (FAMIS and FAMIS-like) systems and a similar compliance level among state Food Stamp information systems. In contrast, generally newer systems to support Child Care and Child Welfare had compliance rates around 50 percent. This is no accident; older systems were more likely to have been developed using a two-character date field. It illustrates, however, the advantages of being newer, smaller, and more flexible, when undertaking information system changes and upgrades. This may have important implications for future efforts to integrate older and newer technologies.

Finally, on the program evaluation front, efforts have also advanced. While federal outcome reporting requirements have not been finalized, a few states (most notably Maryland) have been able to effectively use FAMIS and other administrative data systems like Food Stamps, Medicaid, wage and unemployment databases to begin drawing a picture of life after welfare. Several other states, such as South Carolina, Vermont, Iowa, Wisconsin, New York, and Florida, are in various stages of developing and implementing surveys of randomly selected families who have left welfare since the beginning of welfare reform. Many of these efforts are being partially funded by federal grants, and make use of

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50 U.S. General Accounting Office. "Year 2000 Computing Crisis: Readiness of State Automated Systems to Support Federal Welfare Programs." GAO/AIMD-99-28. Washington, D. C., 1998.

FAMIS and other information systems to identify and help locate families for study. Taken together, the evaluation efforts in many states begin to provide a picture of the impact of welfare reform on individuals and families across the United States.

## V. Looking to the Future

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**I**n the three years since the passage of the Personal Responsibility and Work Opportunity Reconciliation Act, researchers, commentators, and oversight bodies have observed, debated, and acted upon mandates in this historic legislation. At the same time, practitioners at the federal, state, and local levels have struggled to implement provisions of the law and subsequent regulations, and worked to assemble new service and administrative structures exemplifying philosophies embodied by the Act.

Practitioners are being forced to integrate two needs. They are interested in the implications and impacts of reform. They must also manage day-to-day activities of front-line workers, and make service adjustments in a timely fashion. In addition to these demands, they must struggle with organizational impacts of information technology, since design and implementation of information systems shape processes and organizations in powerful ways.

In 1994, the National Center for Service Integration reported that organizations that sought to employ information technology in support of changes in human services delivery faced a daunting challenge of simultaneously re-engineering their service delivery and information systems, while operating under the constraints of uncertainty. The constraints of uncertainty existed in the political, programmatic, and technology arenas. In response, system planners tended to move deliberately and in piecemeal fashion, rather than comprehensively.

Many technology planners in the human services arena today are following the same strategy. Therefore, previous issues of information federalism raised in this report cannot be expected to disappear anytime in the foreseeable future. Rather we can count

on them to intensify, mutate, and often reprise earlier debates as both the information systems and the programs they support change and evolve in the coming decades.

When bringing information technology into play to meet the challenges of welfare reform, practitioners are struggling with a series of sometimes competing realities. The first set of competing realities juxtaposes promises of focused performance- and outcome-based management against the availability of information collected by current welfare systems. Today, most data collected are pointed toward process and eligibility tracking rather than outcomes, and is poorly integrated across programs and agencies. The second juxtaposition of conditions is the general movement toward what is called “second order devolution” – transfer of program responsibility and authority to the local level – which requires development and use of information as a key local management tool, and a shift of the federal role from oversight of information systems development to collection of large amount of information gathered by state and local governments. This shift in federal oversight strategy leads in turn to a tendency to enhance centralized state and federal information support and collection at the expense of local needs.

Finally, the convergence of two other factors generates a myth about the current status of this field. Merging the advances in information technology with the perception – true or false – that welfare information systems operated by states before passage of welfare reform are now inadequate, even irrelevant, to new business requirements, leads to a tendency to think that the billions of dollars invested by federal and state governments in information technology are irrelevant, and therefore unworthy of study or concern. The reality, however, is that FAMIS systems are likely to continue to play a significant information role, and that the history of welfare information systems development holds several lessons for decision makers who must reposition information systems as a useful tool for the new environment of welfare administration.

Results of this historical review of FAMIS, JOBS, and related systems yield insights into the nature and extent of issues

confronting program and technology decision makers struggling with a transition from centralized welfare management to the new world of decentralized, flexible, and variable structures for implementing welfare reform. Below, some areas are highlighted for further discussion.

**Lesson 1: FAMIS cannot meet all information needs, but will be part of a suite of information systems required to meet a variety of strategic, management, and policy goals.**

The FAMIS and FAMIS-like systems, along with their JOBS system cousins, were never designed to meet all human service information needs. Rather, they were designed each for a specific purpose, including rule centralization, internal program accountability, and basic aggregated reporting. Toward that end, they have played an important role in the management of welfare systems for the last 30 years.

Changes in welfare management requirements have, however, greatly expanded information systems requirements. The following table summarizes key classes of business requirements, along with the likely customers for such capacity.

<i>Requirement Class</i>	<i>Type</i>	<i>Customer</i>
Accountability	Process	Federal, State, and Local Government
	Fiscal	Federal, State, and Local Government
Evaluation	Policy Research	Federal and State Policy Makers
	Operational Research	State Policy Makers and Local Managers
Service Management	Cross Organizational Coordination	Local Government, Nonprofit and For-Profit Managers and Case Workers
	Client Service Coordination	Local Case Workers

Originally, FAMIS systems were intended to support accountability requirements, with some evaluation capacity subservient to overall program oversight needs. Development of new JOBS systems began moving the system toward service management, but this movement was not universal. The most dramatic information systems growth in the new welfare environment can be expected to occur in systems supporting evaluation and service delivery. These developments will involve different customers than those in the accountability world, and may pose a difficult challenge to information professionals accustomed to dealing with a more centralized clientele.

Any development of a future system must, therefore, clearly specify the class and type of requirement the system expects to impact; both from the perspective of designing appropriate features, and including appropriate customers in design and implementation. Within this context, FAMIS systems can be expected to continue playing an important role in meeting accountability requirements, but should not be expected to significantly impact needs for evaluation and service management without extensive modification.

**Lesson 2: Greater local technology support will be needed to support local decision making.**

The development of FAMIS systems accompanied centralization of information technology support at the state level. In states where significant local decision making power and authority are being developed or even contemplated, a concomitant increase in local information support requirements should be expected. This could lead to a decrease in state-level IT staffing, different support relationships between state and local entities, and variations in support arrangements based on local technology capacities. It can be expected, however, that some variation will be based on local government size, and/or the ability of local agents to cooperate in developing a regional approach to information system management.

**Lesson 3: Design of information systems will need to incorporate requirements for both centralized and decentralized use.**

Both the general trend toward decentralized information architectures (three-tier client/server) and decentralized welfare system management can be expected to lead to some degree of reversal in the historical trend toward information centralization. How significant this trend becomes will be contingent on, among other variables:

1. The level to which decentralization of authority is supported in each state.
2. Organizational size and the desire by local agents of independent analysis capacity.
3. Capacity to support increased expenditures in IT staff, training, and system administration.
4. The effect of federal information demands.

At the very least, one can expect some standardization of data elements among local units (both public and private) and states to support federal reporting.

**Lesson 4: Service level integration will require mechanisms for goal convergence, joint financing, and joint regulation across federal and state agencies.**

PRWORA directs states and localities to integrate services, by mandating a new, more extensive level of information exchange. However, the continued absence of unified goals and information requirements across federal and state programs/ agencies will continue to make client level service integration extremely difficult. The extent to which federal agencies and their state counterparts align reporting requirements, program goals, financing structures, and regulations will determine the level of service integration and unified case management we can expect to achieve.

**Lesson 5: The federal role in information system development oversight will need to be clarified across several component programs that support family services.**

Welfare reform realigned the federal role regarding TANF information system development by eliminating transfer, APD, and software ownership requirements. However, the failure to undertake similar reforms to support the linkage to systems that manage Medicaid, Food Stamps, and child support will mean — at least for the short term — the federal role in information system oversight may become more, rather than less, confusing. Absent streamlined system development oversight and new models for pooling technology and financing to support the linkage to systems that manage Medicaid, Food Stamps, and child support will mean, at least for the short term, the federal role in information system oversight may become more, rather than less, confusing. This confusion may, in turn, lead to a perpetuation of “stovepipe” information system development at the state and local level. It may also perpetuate a tendency for development based on less innovative, larger-scale systems created by traditional vendors.

However, a broader issue of project oversight and management must also be addressed. The mechanisms for federal IT project oversight developed in the 1970s and 1980s — which may have been appropriate for a time in which information technology development and implementation was centralized in large state-wide systems and based on proprietary standards — have been shown to add time, complexity, cost, and risk to modern day technology projects. Advances in project risk management coupled with a movement toward increased decentralization, modularity, and interconnectivity in the IT world call for new mechanisms of technology project oversight and approval. Accordingly, federal and state governments must redefine their practices with respect to project planning, approval, oversight, procurement and implementation in order to more efficiently and effectively manage large-scale technology developments such as those common to welfare system development.

**Lesson 6: Clarifying outcome and performance measures quickly will help define the priorities for information system design and implementation.**

In JOBS, failure to quickly develop national performance measures commensurate with programmatic goals led to a situation where subsequent attempts to establish national standards were stymied by state-level priorities and system designs. The longer agreement on national outcome measures remains unsettled, the greater the likelihood resistance to establishing national standards will increase.

The persistence of input and process reporting requirements will continue to bias information system development toward measures responding to known penalties, thus slowing development of true outcome-based management. Reliance on traditional measures means resources will continue to be directed toward functions such as eligibility determination and internal welfare system functioning, rather the client-based tracking and support.

**Lesson 7: Priorities for information system changes and new development need to be set, because of limitations in human and technical resources.**

Finally, substantial new information requirements will require extensive expenditures over an extended period of time. Development of the systems already in place in 1996 took more than 20 years and billions of federal and state dollars. New system developments cannot be expected to occur overnight. In addition, the costs can be expected to be very significant.

In an atmosphere where federal financing participation for TANF systems development no longer exists as a separate pool of funding, information systems will now compete with other funding priorities. With the current surplus due to decreased case-loads in the states, such a concern is not immediate, but it still warns policy makers to set priorities, not only between program and technology priorities, but also within the realm of information systems. Even in a prosperous financial environment, other constraints such as staff and expertise shortages will limit the number of new projects that can be undertaken at any time. The relative priority placed on accountability, evaluation, and service

management will determine the direction of progress in welfare reform, and our ability to manage progress at the local, state, and federal levels.





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