

## Successfully Adopting IT for Social Welfare Program Management

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Project URL: <http://ssw.unc.edu/workfirst/research.html>

### Abstract

In DGO 2003, we first introduced the long-standing Work First<sup>1</sup> project that is inter-disciplinary between social work and computer science at the University of North Carolina at Chapel Hill (UNC-CH) with the collaboration of the North Carolina Department of Health and Human Services (NC DHHS). Based on the success in our Work First project, the NC DHHS and UNC-CH have extended the collaboration to work on a similar project to assist in the evaluation of changes to the Food Stamp employment and training (E&T) program in North Carolina. In this paper, we reflect on our experience to discuss some important aspects of successfully adopting information technology in government agencies in order to replicate them in the new Food Stamp project.

### 1. Introduction

In [1], we first introduced the long-standing project that is inter-disciplinary between social work and computer science at the University of North Carolina at Chapel Hill (UNC-CH) with the collaboration of the North Carolina Department of Health and Human Services (NC DHHS). The paper gave a broad overview of the collaboration with brief highlights of two accomplishments from the project – the dynamic website that provides management assistance for Work First and a new method to analyze sequential data, **ApproxMAP** (**APPROXimate Multiple Alignment Pattern** mining). **ApproxMAP** can detect common patterns of welfare services given over time. The dynamic website was also show-cased at the demo program at the DGO conference in 2003 [2].

Based on our previous success in our Work First project, the NC DHHS and UNC-CH have extended the collaboration to work on a similar website to disseminate information on the Food Stamp program in North Carolina. In particular, the Jordan Institute will be providing assistance in the evaluation of changes to the Food Stamp employment and training (E&T) program. Similar to the Work First project, the collaboration will involve designing a longitudinal data warehouse, an effective summary database, and the Food Stamp website.

One of our new challenges will be the change in the amount of data we need to manage, process, and archive. Compared to the Food Stamp program, Work First can be considered a small program with few clients. On average, there are 17,000 new individuals receiving Food Stamp benefits each month. Work First only has 4,000 new clients each month. That means that the Food Stamp caseload grows 4.25 times faster than Work First. Currently, we have roughly 30G (7 years worth) of data on Food Stamp and only 10G (9 years worth) of data for Work First. In addition, with welfare reform, the Work First program is in decline while the Food Stamp program is trying to reach more people. All of this is a direct result of the fact that the target population is very different in the two programs. The goal of the Work First program is to assist those in extreme poverty temporarily to get back on their feet. The program should work with their clients to ultimately move them out of the program. In comparison, the Food Stamp program targets the working poor to assist them with their food necessity. Moving people off Food Stamp is not a goal that the program tries to meet. In fact, the Food Stamp program is always trying to reach more of its target population because only a small proportion of the eligible population receives benefits. Many working poor either do not know or care about food assistance. From the IT prospective,

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<sup>1</sup> Work First is the cash assistance welfare program, also called TANF, in North Carolina.

such program differences translate directly into file size. The magnitude of the data size is inherently at a different level for Food Stamp and Work First. We will have to figure out the best ways to trade off usability for efficiency.

In order to replicate the success of the Work First website in our Food Stamp project we deliberated on the important aspects of successfully adopting information technology in government agencies. In this paper, we share our experience in building the website and more importantly what we have learned from the experience. We present in detail our dynamic website and reflect on what made the website successful. In summary, we found six essential ingredients to successfully adopting information technology in a government agency.

- Trust: Important in all collaborations, trust is essential in a data intensive IT collaboration. The practitioners need to be confident that researchers will put their privacy and interest first.
- A well designed data warehouse: The first step in building a successful website involves designing a proper information system that can archive the appropriate information as well as make it easy to extract the needed knowledge.
- Timing: External factors, such as funding and a good user base with the proper tools, need to be in place before the project can take off.
- User friendly: Choosing the right platform is important for proper presentation of the information as well as designing an easy to use website.
- Easy to maintain and support: A successful deployment requires a light application that is easy to maintain and support.
- Training: Basic training to market the website and train the users to properly understand the information presented on the website is the last but an important step in a successful IT project in a government agency.

## **2. Work First Management Assistance via a Dynamic Website**

We first briefly describe our Work First website. In North Carolina, welfare programs are state supervised and county administered. The state is responsible for dealing with the federal government in developing policies and procedures. County departments of social services across the state follow those policies in determining the eligibility of households for benefits. To properly manage welfare reform initiatives in such an environment, efficient timely communication of a comprehensive set of data analysis customized to each county is required between the state and the 100 counties in North Carolina. Consequently a dynamic website that tracks the experiences of families and individuals on Work First by county was built to assist county DSS (Departments of Social Services) program managers in evaluating their local program. The information technology not only provided a means for efficient dissemination of information, but by presenting complex information in an intuitive easy to use manner, it also showed social workers a new way of thinking. The information provided through the website has resulted in many counties evaluating their performance in terms of outcomes.

State and county staff can access the website by using a browser such as Netscape or Internet Explorer. Users are presented with a state map outlining the counties (which are clickable polygons that can launch the analysis for a particular county). They can obtain information on the experiences of individuals and families in their caseload by clicking on their particular county. The clickable counties are used to provide intuitive drill down capability (Appendix). Through the website, the managers also can compare the experiences of individuals in their county with those in neighboring counties, counties of a similar size, the state as a whole, or over time.

Once a county has been selected, the user can pick and choose from a wide range of analysis organized by category in the side menu bar (Appendix). Information is provided on the caseload as a whole (caseload characteristics) as well as how it has changed over time (caseload dynamics). Information is also available on caseload attributes, such as the size of families, the ages of children, and the racial composition. An array of graphs is provided on caseload dynamics. Much of the information on families and individuals is tracked longitudinally over time. As a result, it is possible to explore how the median length of stay on welfare has changed over time. Through the use of radio buttons, users are able to compare the dynamics of caseload sub-populations. For example, they are able to compare the rates of

exit from Work First based on the racial composition of the family, whether these rates have changed over time, or rate of exit for various racial groups for a selected cohort. The analysis done for Wake county by age of youngest child shows that the families with children under 1 take longer to exit the program compared to other families with older or no children (Appendix).

Users are also able to observe and analyze changes in different types of Work First cases such as those comprised only of children or those containing two parents. The child only cases are of particular interest because in the early days of welfare reform efforts nationwide, many policy analysts warned that the stringent work requirements could result in a number of parents abandoning their children. That has not been the case in North Carolina. In fact, the website illustrates that the child only caseload has been fairly stable over the last five years. While the number of child only cases has remained constant, even though the total welfare caseload has been dropping statewide, child only cases currently account for about half of the Work First caseload. In some counties, child only cases account for more than 70 percent of the current caseload. Prior to welfare reform, because of the size of the caseload, this same number of child only cases accounted for less than 20 percent of the caseload (Appendix).

The two-parent caseload is of interest because of the enhanced work requirements for these families. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), more frequently known as the welfare reform bill, requires that a certain percentage of all families containing adults participate in a minimum number of hours in employment and training activities each month. Two parent families have a much higher minimum number of monthly hours. Also, a significantly higher percentage of these families are required to participate in employment and training activities (as opposed to families containing only one parent). North Carolina implemented a policy of pay after performance, which requires most two-parent families to find work or job training before receiving cash benefits. This policy went into effect in March 1998. On the website, the sudden drop in the two-parent caseload clearly illustrates the impact of this policy (Appendix).

The latest version of the website contains information on the earnings of all individuals who have left Work First for 2 years following their exit. The site also contains information on individuals subject to time limits on the receipt of benefits (North Carolina implemented a twenty-four month time limit for certain households; PRWORA has a sixty-month lifetime limit for most households). Another addition to this version shows the number of individuals receiving diversion benefits—these individuals receive a higher one-time payment for an emergency situation to keep them from entering the Work First Program. Finally, we are adding the rate of return or reentry to the caseload using survival analysis.

Most of the information on the website is presented in tables, graphs and charts. Managers can save and download these graphs and charts or spreadsheets through their browser software. These images can subsequently be imported into word processing documents, spreadsheet packages, or into presentation software, such as Power Point. The data tables were designed so that the managers could save data from their county and use other tools, such as the graphing and charting capabilities of a spreadsheet package, the data manipulation of a database program, or the analytic capabilities of a statistical software package, to conduct additional analyses.

This may not seem innovative. Downloading customized information about your county's Work First program from the Internet and using it to do further analysis or including it in reports is a huge leap from how information was accessed before the website. Before the project, the only access to customized information was by logging onto a mainframe, building and running a SQL query (there were some basic canned queries available), then ftping the results back. In addition, the queries were being run on the raw administrative datasets that were not linked or archived. Consequently, comprehensive information available with a click of a mouse on the website now was only available to few counties with internal research staff.

The Work First Project enabled county DSS staff to use data on outcomes to assess their performance using state of the art information technology. The site was so easy to use with such a wealth of information that when the prototype was demonstrated to the director of the state Division of Social Services and the Secretary of the North Carolina DHHS, the DSS director became so excited, he bumped project staff off the computer and began conducting his own analyses. In the rest of this paper, we will discuss the six ingredients that made it a success.

### **3. Ingredients for successful IT project in government agencies**

#### **3.1 Trust: Building a relationship**

Important in all collaborations, trust is essential in a data intensive IT collaboration. The practitioners need to be confident that researchers will put their privacy and interest first. Practitioners will be reluctant to share their administrative data if they feel it could be used against them. It is important for both researchers and practitioners to realize the IT is being used for constructive feedback. Along these lines, researchers should always share the results with the practitioners ahead of time, so that the practitioners are not caught off guard. The importance of building a relationship based on mutual trust cannot be over emphasized.

#### **3.2 Timing: Background and Objective of the Website**

External factors, such as funding and a good user base with the proper tools, need to be in place before the project can take off. In the Work First project, both funding and the user base with access to the Internet became available at about the same time. This provided the perfect opportunity to build a website to disseminate information via the Internet.

The collaboration between NC DHHS and UNC-CH evolved as the result of a number of initiatives concerning welfare reform in North Carolina. In 1996, North Carolina implemented its welfare reform initiative, Work First, under a waiver from the U.S. Department of Health and Human Services. That effort was similar in most respects to the changes to the Aid to Families with Dependent Children (AFDC) program brought about by the Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) of 1996. PRWORA ended the AFDC program and implemented the Temporary Assistance for Needy Families (TANF) program. The focus of TANF was to move families from welfare to self sufficiency. In order to assess its efforts in implementing Work First, as well as to meet the requirements of TANF, NC DHHS contracted with the Jordan Institute to provide evaluation support where needed.

This support included providing evaluation assistance to state policy makers as well as assisting counties in evaluating their own performance. Assistance to the counties is accomplished by providing them with easy to use and easy to understand information on the experiences of families and individuals that have received assistance through their agency. In a state supervised, county administered environment, communicating such information is a challenge because the program managers are dispersed throughout the state. Prior to the development of the website, most of this assistance was provided in person, using 'one of' analyses and sets of transparencies that were prepared specifically for that county. These presentations were not an efficient use of staff time. Also, if a county wanted an update on performance a few months later, a new set of analyses needed to be conducted and a new set of overhead slides prepared.

While these activities were taking place, NC DHHS was taking steps to provide Internet access to each county DSS. The counties did have direct access to state mainframe computers through IBM 3270-like terminals in each local office, but they did not have access to the Internet. As a result, most counties did not even have access to electronic mail.

Knowing that the Internet initiative was under way, and also looking for a way to efficiently provide counties with timely information on the experiences of families receiving assistance, project staff began exploring a number of ways to provide this information via the Internet. In effect, since NC DHHS was attempting to provide access to the 'information super highway,' we attempted to provide the information that could encourage them to use the technology.

#### **3.3 A proper data warehouse: The longitudinal information system**

Many government agencies have administrative data accumulated on mainframe DBMS designed for optimal operation (providing the services) not for information gathering or dissemination. Thus, it is extremely time consuming and expensive to access the administrative data. In essence, it is difficult to obtain useful and accurate information dynamically and quickly from these systems. Furthermore, it is impossible to keep all information over time, thus the data in these systems are updated and maintained to

provide current services appropriately. Consequently, no analysis can be done over time directly from these data without archiving it. Hence, the first step in building a successful website involves designing a proper information system that can archive the appropriate information as well as make it easy to extract the needed knowledge.

A primary effort in the collaboration involved the development of an information system using administrative data from NC DHHS to track the experiences of families and individuals that receive assistance in North Carolina over time and across social service programs. The information system needed to be able to assess the impact of welfare reform. A key outcome of the reform effort is for families and individuals to be better off than they were prior to the changes. Properly tracking how well off people are requires a comprehensive view. Basically, the information system had to be a temporal database of heterogeneous data that is updated dynamically each month to provide the most up to date information.

A substantial amount of effort was devoted to developing a longitudinal information system that tracks individuals and families over time. By using monthly extracts from multiple administrative computer systems and stitching them together, it is possible to track individuals and families over time. Such an information system can provide comprehensive evaluation measures for the Work First program.

One of the challenges was to design a data warehouse that could properly use the semantics of the administrative data but also is suitable for analysis of diverse policy and program questions. Such difficulties can only be overcome by researchers spending as much time as needed with the practitioners in order to understand the intricacies of the welfare program.

The Jordan Institute successfully built a longitudinal information system that tracks the experiences of families and individuals that received welfare in NC at any time since January 1995. By beginning the longitudinal files 18 months prior to the implementation of Work First, it is possible to compare the experiences of families prior to as well as following the implementation of welfare reform. The information system further allows for the analysis of Work First program outcomes at different levels ranging from the individual recipient to the entire county and state caseloads. Thus, county program managers and staff are able to explore outcomes for participants in their own county. Workers and supervisors are able to track the impact of Work First services on their clients over time. In addition, county directors are able to gauge their performance in the Work First program and compare their county with other similar counties or the entire state as well as across time.

Most importantly, the dataset is a longitudinal database. This allows managers and staff of county DSS to view their caseload longitudinally on the website. This is a significantly different view of the information than was previously available. Prior to the development of the longitudinal database and the website, almost all of the analysis of the caseload was based on an extract or “snapshot” because that was the only data available. It is difficult to determine what is going on in the caseload only using the cross-sectional view. Instead of looking at everyone who participated in Work First during a certain period of time, the cross-sectional view simply looks at who is currently participating as of a certain point in time. The snapshot tends to over represent those families that remain on the caseload for a long period of time and under represent those families that receive assistance for a fairly short period. By using data warehousing and data mining technologies on multiple administrative data sets, we are able to create and present a more comprehensive and accurate view of the Work First program.

The information system not only is the foundation on which the website was built, but has become a wealth of information for both research in academia and policy analysis for practitioners. The longitudinal information system has been used effectively for many social science research efforts as well as computer science research. Furthermore, numerous reports and presentations were produced for NC DHHS using the longitudinal information system.

### **3.4 User friendly: Platform**

A number of web based information delivery products were examined. Most were not pursued because they required that the users have some knowledge of databases, particularly the development of structured query language (SQL) queries. As the final platform, we decide to go with a simple website that could emulate the personal presentations with a mouse click. The challenge was to design the website simple enough for anyone to use and understand, but have a wealth of information at various

levels without it being high maintenance. As discussed in the next section, keeping applications light (i.e. inexpensive to maintain and support) is one of the most important aspects of successfully transferring IT to government agencies.

The solution was a dynamic website driven by a well-designed summary database that could easily get updated each month. However, common platforms for building dynamic websites (coldfusion, php, ASP) were not satisfactory. We needed to do more than just display different data based on user input. We envisioned a dynamic website that could do complex statistical analysis using the backend data based on user input.

Fortunately, around the same time SAS<sup>®</sup> (Statistical Analysis System) announced plans to release the first version of SAS/IntrNet<sup>®</sup>. Unlike the other platforms, SAS/IntrNet<sup>®</sup> allowed us to build graphs and charts dynamically using the statistical procedures in SAS<sup>®</sup>. With a click of a mouse, a SAS<sup>®</sup> data analysis procedure is launched and the resulting output is displayed in the users' browser. This allows users to conduct sophisticated statistical procedures—such as survival analysis—without having to know anything about SAS<sup>®</sup>. Also, the results from these procedures are presented graphically so the users don't have to translate model parameters or worry about levels of significance. An additional bonus was that SAS/IntrNet<sup>®</sup> could display text while it was processing the SAS<sup>®</sup> statistical procedure. Thus, when the user clicks on an item, they are first presented with a small amount of text explaining the results while they are waiting a few seconds for the graphs to come up. This will ensure that most users read any important explanation for the results before jumping to conclusions.

SAS/IntrNet<sup>®</sup> could deliver information to counties efficiently and in an easy to use, easy to understand manner with low maintenance. Furthermore, the project was already using SAS<sup>®</sup> for the information system platform, so it was a perfect match.

This project was one of the first applications built with SAS/IntrNet<sup>®</sup>. As soon as the software was available, the prototype of the website was developed using routines created to perform analysis of individual counties. The graphs and charts available through the earliest version of the website were those prepared for individual county presentations. In fact, in many instances, the analyses done for those individual presentations were used to check and validate the information provided through the website.

### **3.5 Easy to Maintain: Backend Database and Maintenance**

The website uses a SAS<sup>®</sup> dataset that contains aggregated information on the experiences of around 442,000 families and 1,002,000 individuals that have received assistance in North Carolina at any time since January 1995. Most information is aggregated at the county level. For a number of reasons—including confidentiality—individual level data is not available through the website.

The dataset is incrementally updated monthly through a batch process using extracts from state administrative computer systems. After the updated dataset is created, routine checks are made to verify the quality and integrity of the data. A parameter file for the website is updated, and the data are made available for public use. This incremental updating takes only a few hours each month. Shortly after the first of the month, state and county staff are able to access information on the caseload as of the end of the prior month.

User support is another aspect of maintenance that could be a potential nightmare. At a minimum, the project has to support users from all 100 counties. From the onset, efforts were made at every step of the development process to use existing tools and proven technology. For example, data tables are made available as HTML files that can be imported into a spreadsheet. Graphics are generated using a 'gif' format instead of larger 'jpg' or 'tif' formats (since the graphs were uncomplicated, it was possible to limit the number of colors to those available in 'gif') because a number of users access the site by dialing up a local ISP in their county. Frames are not used since many counties have older PCs with browsers that do not support frames. The website itself was designed to be self-explanatory with plenty of explanations. Anyone that can use a web browser can navigate the website and learn something about the impact of welfare reform in NC. These efforts have paid off. The website is extremely easy to support, even though it is designed to be used in 100 counties in the state and open to the public. During the six years of operation, there have been only a very small number of requests for end user support.

### **3.6 Training and marketing**

Basic training to market the website and teach the users to properly understand the information presented on the website is the last but important step in a successful IT project in the public sector. We have tried to hold as many training sessions as possible, but with the county staff spread out all across the state it has not been easy. The best we have been able to do was present our website whenever an opportunity was available. That is when staff from various counties were getting together for other reasons, we would try to fit in a small presentation.

Of all our efforts training has been our weakest. We are still trying to do more on this end, as well as analyze the user logs to better understand who is using our website. We know that our website was successful at one level because the state staff have come back to us with much praise. The project manager has said that when there are inquiries from the county staff, she is often able to find and give the needed information from the website. Furthermore, our many presentations to the counties have generally been very positive. We know that some counties use our website because of some of the feedback. Nonetheless, there is room for improvement through more training and marketing. Students, researchers and media as well have found many uses for the information on our website. Understanding the current use through log analysis as well as an online survey is the next step needed in our project.

### **4. Case study**

In this section, we will briefly share a recent experience with the website which demonstrates well what a successful project should look like. Recently, a county staff person contacted us to inquire about some statistics for their county. Apparently, the county wanted to look at what percentage of the Work First recipients leave the program and stay off for 3 years or more. As simple as this sounds, such measures are not easily accessible to the county. The county staff person visited our website. She concluded that the exact information she wanted was not available on our website. However, she noted there was similar information about the rate of return to the program. Her initial inquiry involved two questions. First, she wanted to know if we could help her get the exact information she needed. Then she also wanted to know exactly how to interpret the rate of return information on the website.

After a few emails and a phone call we determined that the information she wanted could easily be pulled out from our longitudinal information system. Our information system was set up in such a way that responding to these inquiries would be easy. However, the straightforward method that she wanted to use to measure what percentage of the Work First recipients leave the program and stay off for 3 years or more had some serious problems in methodology. It would end up counting some cases multiple times. Hence, we felt it inappropriate to simply give her wrong information. Instead, we wrote up a short report explaining the problems with using the data she wanted in order to answer her question. We then suggested a slightly different method that would at least correct for the multiple counts of cases. We further recommended a better method that is more complex than the other two, but would give the most comprehensive and accurate answer. This addressed her second question on the rate of return information available on our website because this was the method used on the website. We concluded with the results section that included results from the later two correct methods. We also remembered to point out how she would be able to get such information from our website in the future.

We basically gave the county all information we felt comfortable to say was correct, along with the differences between the methods. It would be up to the county to determine which method they wanted to use. Fortunately, the results from the two methods were almost identical. The report included the most up to date information from just two weeks ago. The report has just been sent to the county, and we are waiting to hear back.

This experience demonstrates a few important points. First, it clearly demonstrates the obvious need for the longitudinal information system that can provide information needed to properly manage government programs such as Work First. Since the program is managed at the county level, collaboration with the local university seems ideal in providing the support needed to all 100 counties. Second, it demonstrates the success of our website. Although, she needed additional help in understanding what information could be used to answer her question, ultimately the information she wanted was on our website. With the practitioners spread out geographically, electronic support via the website and email is very efficient in providing the information needed for them to do their job better.

And last, it demonstrates the benefit of having collaboration between the practitioner and academia. The collaboration enabled the county to be properly trained and use a sound method in answering their policy question. Often times, practitioners do not understand the intricacies of different methods and will tend to use the simplest method available. By having to come to academia for the data, we can easily point out the problems with some of the simple methods and suggest better methods to use. Furthermore, the researchers can become a central source for standardized measures for evaluating diverse dimensions of the program.

## 5. Conclusion

Prior to its development, there was no idea that information on outcomes could be presented in this manner for all counties in the state. The information provided through the website has resulted in many counties viewing their caseload longitudinally and evaluating their performance in terms of outcomes. It has provided a common set of measures that can be compared over time and across counties. Not every county is using the information on a regular basis. There is substantial variation across the 100 counties in the way they use the website. Access to the website is not restricted. As a result, anyone in the state—or anyone with access to the Internet—can monitor the performance of welfare reform in North Carolina. Journalists are frequently referred to the site when they request information on the welfare caseload. College students writing term papers on welfare reform are also referred to the site. State legislators can access the site as well. To our knowledge, it is the only application of its kind. Researchers in several states, such as Illinois and California, are considering adopting or developing a similar application for providing information on welfare reform.

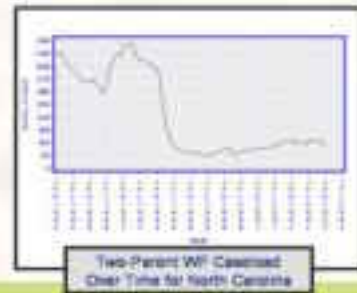
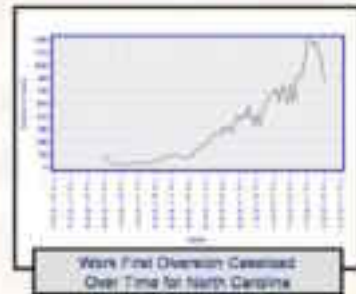
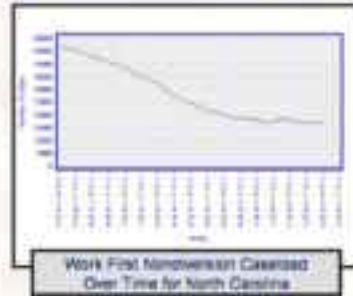
We have found this technology to be quite effective for communication between the state DHHS and the county DSS<sup>7</sup>. Furthermore, the ability to disseminate complex information in a simple manner makes it a good tool for introducing new ways to view program outcomes. Consequently, we are using similar technology to provide information on a number of related initiatives (see, for example, <http://ssw.unc.edu/Work First/demos>). In particular, we adopted similar technology for a Medicaid project. In the Medicaid project, the technology was enhanced for two-way communication with login capability. We were able to gather pertinent information from the counties as well as disseminate information in a timely and efficient manner.

Recently, we have started a new collaboration with NC DHHS to develop a Food Stamp website to assist in tracking changes to the Food Stamp employment and training (E&T) program. Much of what was successful in the Work First project will be applied to the new Food Stamp project. As part of this effort, longitudinal files will be created that track the experiences of families and households that participate in the Food Stamp program. These data will be linked with quarterly earnings data reported to the North Carolina Employment Security Commission (ESC). The resulting linked datasets will be analyzed to explore the earnings and employment patterns of Food Stamp participants, particularly those that have received employment and training services. This analysis will be used to create baseline indicators. These indicators will be employed to assess changes in earnings and jobs that are associated with changes in the employment and training program. As in the Work First project, these indicators will provide a common set of measures that can be compared over time and across counties. The indicators will be published via a dynamic website by county. The beta version of the new Food Stamp website will be ready by May.

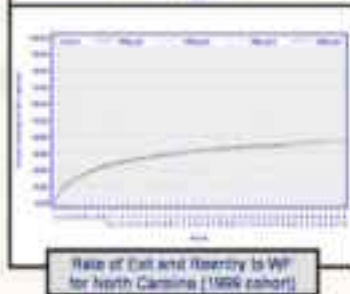
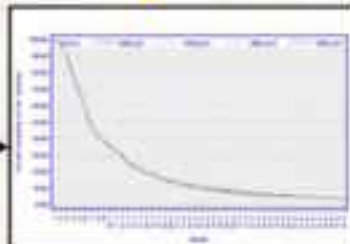
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- [2] Hye-Chung (Monica) Kum, Dean Duncan, and Kimberly Flair. (2003). Management Assistance for Work First via a Dynamic Website. *Proc. of the 3rd National Conference on Digital Government Research*. Boston, MA, May 2003.

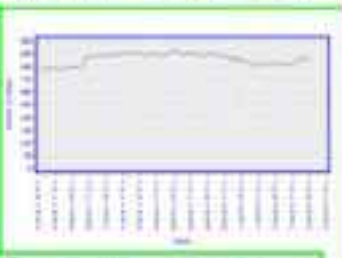
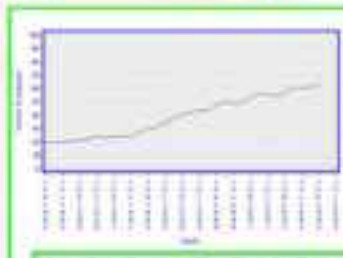
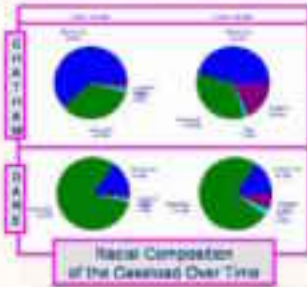
# Appendix: screen shots



**Explanation for this Chart**  
This chart depicts how many income families have to leave welfare. When the line crosses the 50 percent line, half of the families in that cohort have left Work First.



**Explanation for this Chart**  
Why is there so much data on two-parent welfare families? Welfare families with two parents are relatively rare. They constitute less than one percent of the welfare caseload. These families are watched closely, however, since the federal welfare reform law placed stricter work requirements on them. Therefore, the state implemented a policy of pay after performance, which requires now two-parent families to find work or job training before receiving cash benefits. The policy went into effect in March 1998.



**Explanation for this Chart**  
Although the number of child only cases has been constant over the years, because the total WF caseload has decreased, the percentage of child only cases have increased over time.

