Tracking Organisational Progress at Arthritis Care

An Interactive Qualifying Project
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Abstract

This project enhanced the IT and communication systems at Arthritis Care (United Kingdom) and demonstrated their value to staff members. We created a Statistical Network Display System (StaN) and an Information Tracking Protocol to further define how systems should be used in the organisation. The implementation of StaN and the presentation of a protocol document will provide Arthritis Care with a tool to efficiently track organisational progress.

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Executive Summary

Non-profit organisations depend on the generosity of their stakeholders to maintain the funding that will allow them to provide services to their members. Like other non-profit organisations, Arthritis Care relies upon the creation of reports that track organisational progress to be presented to stakeholders to obtain funding. Without this support, the organisation could lose funding and the ability to present services to their members.

Arthritis Care uses many databases to hold statistical data as there is no centralised database to house all the information stored within the organisation. Regional and national offices have their own local databases, either Microsoft Access-based RANDi databases or other Microsoft Access or Excel databases. Local databases are used because information stored at a corporate level, in the Saturn database, cannot be displayed in a format viewable by the entire organisation. Therefore, the regional and national offices need to keep their information locally and use this information for supporting local fundraising efforts. This has caused the regional and national offices to act as autonomous bodies and not as part of the larger organisation.

The 2003 IQP group implemented an interface on the CID known as Flo, or Data Workflow System. This system extracted information from the Saturn database and displayed the information on the CID. Flo had a read-only format so that no one could alter the data on it. However, shortly after the system was implemented, Flo could no longer be updated. We discovered that this was due to permissions set incorrectly, which prevented the information on Flo from being updated for almost a year. The Flo project attempted to eliminate the need for local databases, but that result had not been achieved. Regional and national offices continued to enter data

into their local databases as well as send forms to the UK office for information to be updated on Saturn. This has caused redundancies within the databases throughout the organisation.

The purpose of our project was to improve the IT and communication systems within the organisation and demonstrate their usefulness to the staff. We had specific goals during the course of our project:

- Evaluate why Flo was not being used
- Develop a way in which statistics from regions and nations could be viewed online specifically for inclusion in reports
- Demonstrate usefulness of the IT and communication systems to the staff at Arthritis Care
- Continue enhancing features on the CID

We achieved these goals by identifying the problems within the current systems and analysing the corporate culture of Arthritis Care.

Our methods for data collection included interviews and focus groups. We interviewed management in the UK, national, and regional offices to understand report generation, their attitudes towards the CID and Flo, the database systems they use in their region, and their feelings towards a potential protocol. We interviewed managers and one administrator, who were recommended to us by the managers we interviewed, who knew more about the database systems in their given regions. Interviewing IT personnel and Head of Supporter Development that were present during the implementation of Flo gave us a better understanding of the networks and databases used corporately.

Interviews with management revealed that reports were mainly presented to stakeholders or other managers that presented them to trustees. We determined that

reports generated were very diverse and no standard format could be developed. Instead of a standard format, we created a sample report to show how information could be tracked organisationally and what to include in a report. This was outlined in our protocol document. Interviewees whom we informed about a possible protocol document responded positively, and a majority noted the usefulness that it could serve.

Our analysis of information provided by Jo Brackenbury, Head of Supporter Development in charge of the Saturn database, and the opinions gathered from interviews provided us with a clearer picture of how to proceed. The Flo system, we determined, was not being used because staff members did not have access and it displayed out of date information. This left staff members with negative attitudes toward the Flo system. Jo Brackenbury also noted that the Saturn database would be changing structurally in May 2004, so any attempt to update the information would cease in May. For these reasons, we decided to remove the Flo system from view on the CID and to create a new system to address the specific need of tracking organisational information.

The system we have created is called StaN, the Statistical Network Display System. StaN contains sections to upload statistical documents, to upload regional and national databases, to enter data that cannot be uploaded from a regional or national database, and a section to view statistical information. There is also a StaN manual, a brief overview of StaN, and a place to view the protocol document. StaN is intended to be a pilot program to show the organisation how, if the proper procedures are followed, information can be used for reporting purposes. This seeks to fill the gaps in information flow between the UK central office and the seven regional and national offices. Every staff member in the organisation has been given access to StaN with the intention that it will become widely used.

The protocol document we have created defines the expectations of using the system. It outlines the process and frequency to help staff members, especially those at national and regional offices, to track and provide information useful in reporting. It also contains an examples chain of information at Arthritis Care emphasising how every link in the chain is important. Furthermore, the protocol document provides a sample report to demonstrate how data which is tracked and reported correctly can be used to generate reports which will be useful in fundraising efforts.

We also further enhanced the systems in the organisation by adding more features to the CID that would enhance the changes made by the previous IQP project. We fixed the change password feature on the 'tools' page because it was not functioning correctly. We placed a visitor counter on the CID by request of our liaison, Ms. Lendering, to track website usage and we added a folder for regional diaries and added a section specific to the Senior Management group in the CEO folder. These enhancements were implemented to further add value to the system.

StaN is designed to increase the information shared between the offices. This will increase the UK office's fundraising efforts as well as the regional and national offices. The protocol document will ensure that the data is being entered into the system on a frequent basis and that StaN is constantly being updated. It will demonstrate to the staff the importance of data entry and presentation in obtaining funding for the organisation. The systems are only valuable to the organisation if they are used properly. Proper usage of the systems and generation of reports can increase funding, enabling the organisation to provide better services to its members.

1.0 Introduction

Arthritis affects over eight million people in the United Kingdom. There are 200 types of arthritis which can occur in people of all ages (http://www.arthritiscare.co.uk/downloads/pdfs/IFPWA_A5-small.pdf). Arthritis Care is the largest non-profit organisation in the United Kingdom that supports and empowers people with arthritis. They provide a variety of services such as arthritis information publications, empowerment training, help lines, and arthritis- friendly hotels. Arthritis Care has seven national and regional offices and hundreds of branch locations. These offices do not share a central database connecting the information within each branch. The organisation seeks to become more efficient in communication by unifying the databases within the organisation to provide better services to those with arthritis.

Arthritis Care staff used an interface called Flo on the Corporate Information Database, which displays some information contained in the Saturn Database. The Flo system, short for 'data workflow', was created in the spring of 2003 by an IQP group. This group addressed the issues of unifying Arthritis Care's regional offices and coordinating their systems with the central office in London (Frysinger, Gogos, & Kent, 2003). Flo was initially developed to unify the databases within the organisation but was not extracting or displaying information from RANDi, the previously existing database system used at the regional offices. Flo only extracted certain fields from the Saturn database, mainly the branch members in the regional and national offices. There were fields available on Flo to add course information because this information was not contained in Saturn. One way to have obtained this information without duplicating data was to connect RANDi to Flo. However, this was never done during the implementation of Flo.

Flo had not met the needs of the staff; it was not presenting updated information because there were errors within the system and there was no standard method of updating the system. There are about 250 people that work for Arthritis Care, most of whom choose not to use this system because there are large gaps in the available information or do not have access to it (http://www.arthritiscare.co.uk/aboutus/aboutac_work.cfm?region=uk). Efforts have been made by the previous IQP group to instil confidence in the system through enhancements on CID. However, there were still issues associated with Flo that needed to be addressed to ensure maximum validity of the system. The systems are crucial for management to generate timely reports for the stakeholders. If Arthritis Care does not report the correct information that the appropriate supporting parties (funders, Charity Commission, and trustees) require, they could ultimately lose the financial resources to provide services to people with arthritis.

Ideally, Arthritis Care should have a centralised database. Flo was developed to allow those without access to the Saturn database to view some of the information contained within it. Flo was only meant to display select information, not update it. There was a program which, when operating correctly, would collect the new information from the local server that Saturn was replicated to and update Flo. However, this program was not working correctly and there was then an inability to obtain updated information from Saturn. Therefore, it was not performing to meet the needs of the staff and was not widely used. Another issue associated with the use of the IT systems within Arthritis Care was that there were no set expectations for the staff in using the IT systems in terms of what data should be entered, the frequency of entering data, or deadlines for when the data should be entered by. This affects the production of reports within the organisation because many of the reports generated

contain information from Flo, which does not contain the updated information from Saturn. The production of reports lacking reliable information is very counterproductive and some opt not to bother in taking the time to generate them. The reports generated in the organisation should give management statistical information about the organisation such as course information, personnel information, and financial information. Management must present such reports to the trustees, funders, and Charity Commissioners. Not only are these reports not being generated often enough, but there are multiple report formats which contribute to the non-uniformity of the organisation; a standardised report format would to help unify Arthritis Care. The issues associated with the lack of use of the IT systems are largely technical but there are also issues regarding the staff's lack of expectations for using the systems.

Many key issues contribute to the problem of unifying the IT systems and using them to their maximum capacity to increase organisational communication. One major issue is the incompletion of previous IQP projects at Arthritis Care. Many of the IQPs were not completed in the seven short weeks that the students were in London, allowing the projects to be continued by a succeeding group. It was important to understand where these groups left off in their report so the progress could be continued. The incompleteness of these projects greatly affected the database management systems within the organisation. Many flaws and glitches still exist in the IT systems (Flo and CID) that had previously not been fixed. These glitches have negatively affected the staff's abilities to access information. If the information on the databases are not easily accessible, the staff cannot generate useful reports because of the incompleteness of the information contained in them. There is a variety of report formats present in the organisation; Lendering indicated that

reports serve an essential purpose as they contain information about clients and are also used to demonstrate the results of campaigning and fundraising. The reports are not being presented properly, because of the lack of statistics available and no set procedure. Once the IT systems had been enhanced and staff and management can easily input and generate information, Arthritis Care needed to communicate organisational expectations for staff that input data into the systems and managers that generate reports. Data entry processes and frequency needed to be evaluated and defined in a document to regulate standard operating procedures at Arthritis Care.

The current CID and Flo systems have been implemented over four years by WPI students. Many of the projects have not been able to achieve the level of success within their allotted time, so parts of certain projects needed to be finished and enhanced. The goal of our project will be contributing to the completion of the 2002 Data Management Practices and the 2003 Flo System. We interacted with the staff through focus groups to evaluate motivating factors, expectations, and intuitiveness of using the systems. We interacted with management in the organisation through interviews- exploring how the IT systems in Arthritis Care function, what reports are used for, why regional managers use RANDi, how reports are generated, suggestions for templates, and suggestions for enhancement of the systems. The staff had been trained to use the system with moderate success, but there was no communication of what the staff was expected to do in terms of data entry and presentation. These disparities between previous efforts with Arthritis Care were investigated by studying how information flows in the organisation, how expectations and motivations are used in hopes of improving organisational communication, and increasing the value of reports generated.

The goal of our project was to demonstrate the value of the IT resources to the staff at Arthritis Care in order to improve information flow. We have enhanced communication systems by creating a collaborative environment in which high level statistical information can be shared by all regional and national offices within the organisation. This Statistical Network Display System, or StaN, extracts training course data from fields in regional and national Microsoft Access and RANDi databases and also contains a document repository specifically for uploading spreadsheet files that contain statistical data about the organisation. Once StaN is in place and information is being regularly updated, as defined in a set protocol, then progress can be accurately tracked and reported. We have created a protocol document which will define the organisational expectations outlining information entry and presentation. This document presents Arthritis Care with guidelines on how to collect information necessary to accurately report organisational progress to the public, trustees, and Charity Commission. Fixing flaws within the IT systems will help the staff put confidence in using them. A protocol will effectively communicate organisational expectations. We also provided recommendations for future enhancement of the systems. These outcomes of the project will lead to an increase in the use of the systems and will contribute to improving organisational communication, unifying the organisation, and enabling Arthritis Care to provide better services to their members.

2.0 Background

2.1 Introduction

Arthritis Care's main concern is their ability to communicate with external parties. In time, poor communication could negatively affect their ability to provide services and information to those with arthritis by losing support from stakeholders (E. Lendering, personal communication, January 30, 2004). Staff members were not using Flo often enough there was significantly large information gaps in the database due to the inability of Saturn to be updated. Therefore, the information within the organisation is kept on both local and regional levels, using the RANDi, Access, and Excel databases, because the information available on Flo was not reliable and did not contain fields regarding courses and training. More importantly, the organisation was not producing the quality of reports necessary to present to the Charity Commission, trustees, and the funders. Part of Arthritis Care's mission statement expresses that they are 'striving to create an environment which enables people with arthritis to manage their condition through information, support, and self management' (www.arthritiscare.co.uk). A non-profit organisation is dependant heavily upon stakeholders to provide them with the resources they need to fulfil their organisational duties. Without proper communication within the organisation and with outside parties, Arthritis Care may eventually not be able to survive as an organisation.

2.1.1 Overview

The factors that helped us reveal the main problems with internal and external communication were:

- Arthritis Care and WPI IQPs
- Database Management Systems
- Information Retrieval
- Standardising Reports
- Creating a Protocol

Analysing previously completed IQPs have allowed us to examine what the past groups have completed and what still needs to be touched upon. We looked at the current state of the database systems at Arthritis Care through these reports and how they were implemented. Poor information retrieval within Arthritis Care stemmed from flaws within database systems, which led to a decrease in use by the staff. Since not all of the staff were using the database systems efficiently, incomplete reports were generated. These reports were not only useful because they were incomplete, but there were many report formats which led to the further non-uniformity of the organisation. Creating a protocol would communicate the organisational expectations of using the IT systems to staff and management and allow them to understand their role in the 'chain of information' throughout the organisation. Analysing these concepts gave us a greater understanding of the problems associated with communication in the organisation.

2.2 Arthritis Care and WPI

Arthritis Care has sponsored many WPI Interactive Qualifying Projects since the year 2000. The projects have consisted of analysing a need for a Corporate Information Database, implementing the CID, creating a data workflow system, analysing the organisations data management practices, and fixing problems

associated with CID, and training CID Champions. Previous reports played important roles in understanding the database systems and what the problems associated with them were. The IQPs that were analysed very closely were the 2002 E-term IQP, 2003 D-term IQP, and the following C-term 2004 IQP.

2.2.1 2002 Data Management Practices

The 2002 E-term IQP, entitled *2002 Analysing Arthritis Care's Data Management Practices,* was the fourth IQP in the series of projects based at Arthritis Care. This project took into perspective how information flowed within the organisation. Cecelia Wijaya (2002) investigated the individuals and procedures involved in data collection, storage, transmittal, and reporting in the different offices throughout the organisation.

Wijaya collected most of her information through interviews with members of the senior management group in the UK office as well as management in the national and regional offices. From these interviews she gained information about the types of problems encountered by managers in obtaining information. She tabulated her results in matrices to visualise the departments involved of the collection, storage, transmittal, and reporting of the data and how the methods of storage were varied. Wijaya identified the main problems associated with Arthritis Care's data management practices and was able to develop recommendations on how to information could be managed more efficiently to improve information sharing and increase data reliability.

This project proved to be very important because Wijaya had many recommendations that were carried out by the next project through the implementation of Flo. She also had a suggestion for the creation of a standardised

procedure for exchanging data throughout the organisation. From this recommendation, we decided that a protocol document was necessary for information to flow efficiently throughout Arthritis Care.

2.2.2 2003 Flo System

Wijaya's (2002) IQP suggested that information from the Saturn database be shared with regional and national offices in a read-only format since only a select group of people in the main UK office had access. The following IQP, *2003 Flo System*, consisted of creating a Data Workflow System that displayed information contained in the Saturn database. The system they created, nicknamed Flo, allowed management in the organisation to see certain fields from the Saturn database. This program attempted to ease communication issues within Arthritis Care.

Kent, Frysinger, and Gogos (2003) created Flo by allowing Saturn, the contact database located in Maryland in the United States, to be viewed on Flo located on the CID (previously implemented by an IQP group). This was accomplished by creating a program that would dump certain fields from the Saturn database onto a local server. A program was then created to periodically update contents of the Flo system with data from Saturn. Full access to the system was given to directors, hotel staff, and central UK office staff. All the other staff that were given access to Flo were restricted users.

This project aimed to increase staff productivity and decrease costs for the organisation. The process was much faster than the process they used previously, where they had to submit a request form to view the data to the Saturn Corporation base in Maryland. It often took a week to receive the request. Therefore, this system created a more efficient flow of information within Arthritis Care.

2.2.3 2004 Improving Communication Systems

The goal of the most recent IQP, *2004 Improving Communication Systems*, was to improve database management systems that were previously implemented by WPI IQP groups. Chen, Conidi, Roscoe, and Mcbride (2004) evaluated how the CID impacted the organisation and what improvements could be made to the existing system to enhance it. They discovered ways to fix flaws within the system to improve usability and also created new training programs.

The group used surveys, interviews, and focus groups to answer two major questions: 'Which of Arthritis Care's organisational needs can be met by implementing CID'? and 'Will functionality improvements to the CID increase usability'? The data that was examined involved usage statistics, preferred training methods, and glitches found on the CID. The group determined that message board discussions as well as updating news postings will result in an increase of usage of the system. Finally, they concluded that using the CID was much more efficient than traditional methods of data communication.

The outcomes of this project included fixing flaws within the CID, changing the interface, developing a new training manual that correlated to the new interface, and creating a training program that trained CID Champions. However, they were not able to fix glitches or improve the interface of Flo because it was not within the scope of their project. As a continuation of this project, it was essential for us to understand the components of this project to know where it could be continued.

2.3 Database Management Systems

Database Management Systems (DBMS) are widely used in business settings to control organisation, storage, and retrieval from large sets of data. When a DBMS is used, information systems can be modified with ease, allowing information to be kept up-to-date and new attributes to be added without disrupting the existing system. DBMS are often complex in design ('Database Management System', 1998). For this reason, they are difficult to maintain and update.

2.3.1 Database Management Systems at Arthritis Care

Many software applications are available for the implementation of database systems. Microsoft Access is the application of choice at Arthritis Care, upon which RANDi, Arthritis Care's regional database, was implemented. Flo was originally designed to obtain information from Saturn, a database containing information about donors, trustees, branch members, and other financial information. At present, data from Saturn is exhibited on Flo. However, the fields extracted from the Saturn database could not be updated on Flo because of an error in the Saturn update program. This caused the information on Flo to become outdated. Information from the regional databases, moreover, was not appearing on Flo since information from these databases was not being extracted by Flo. The actual Saturn database is located in Maryland, in the United States. The information is uploaded to a local server (or 'dumped') and accessed by Flo. The RANDi and other local databases which were located at the regional offices, however, were not being uploaded and, thus, information could not be retrieved.

2.3.2 Summary

Before the staff can begin using the IT system, it must adequately serve the purpose it was originally intended for. Flo must be able to update new information from Saturn and must have access to the RANDi databases, in addition to Saturn. When this has been attained, it will better aid the staff in realising the usefulness of the system. A fully functional system will be the cornerstone for developing a protocol that will increase staff participation and, overall, enable staff to efficiently and properly use the system. If these database systems are used incorrectly or inefficiently, it could be detrimental to retrieving information in the organisation.

2.4 Retrieval of Information

Effective retrieval of information is a major goal of database designers. The database should be designed in such a way that information can easily be put in and extracted from a database. Easily obtainable information can lead to a higher usage of the database concerning both inputting and retrieving information. Conversely, if users cannot easily retrieve information, or if they do not have access to the information, they will not want to use the system. Staff not being able to retrieve information represents the larger problem of Arthritis Care: communication. The efficiency of retrieving information could positively affect the organisation by enhancing the quality and value of reports generated. Overall, data retrieval is critical to the organisation's ability to communicate progress internally and externally.

2.4.1 Information Retrieval at Arthritis Care

Data quality and the ability to retrieve required information and form reports are integral to the mission of Arthritis Care. Ensuring the quality/validity of data is necessary because the information is used by the organisation to report its progress. They use the data to form reports that are sent to regulatory committees, donors, and to staff. When the staff sees that the data contained in the system is used for variety of purposes, such as information analysis and report generation, they realise the value of the system.

2.4.2 Presentation of Information

Retrieval of information can be very useful for staff needs. However, obstacles can exist when either too little or too much information is available for a user (Dodge, 1998). Too much information results in an overload which causes users to not use the system. To elaborate, if a user were presented with hundreds of choices on one page, he or she would not be able to find what they wanted. If a user were confronted with only a few choices then perhaps he or she would not have the option to accomplish what they want. Offering the user just the right amount of information that he or she can find their way to the information they seek can improve their experience using the system. In Human Computer Interaction (HCI) fields this is called breadth and depth of information. Depth refers to the number of levels deep one can go to find information and breadth refers to the numbers of items per level (Czerwinski & Larson, 1998). According to Schneiderman (1998) a broader and shallower menu tree is best for users to find information. He adds that how information is presented is also integral to a user's ease of use.

Schneiderman's last point leads to evaluating the user-friendliness of an interface. The physical design, use of fonts, colours, and layout can entice a user to continue use (Crow & Jansen, 1998). One approach is to display information that is only useful to the user. Crow and Jansen note this being done through implementing usernames and passwords for a database to display only pertinent information. Implementations with usernames and passwords allow the database to adapt to the personal needs of the user while keeping a common look and feel for all users (Tilley, 1994). Another approach is to establish regular and emergent activities in authors of the information. This is accomplished by setting standards for employees and systems as to how information should be entered in the database (Bhavnani, Reif, & John, 2001).

2.4.3 Arthritis and Computer Systems

Uniformity throughout an IT system is important for people with disabilities. The interface for systems at Arthritis Care must be developed with considerations to accommodate users with disabilities, specifically arthritis. Arthritis affects one's joints, so designers must pay special attention to how 'click' intensive a system is. If the user has to do a lot of clicking with the mouse they may find themselves in considerable pain. This is not a side effect that will encourage use of the system to retrieve information. The more intuitive an interface the less likely the user will click on something in error and the less pain will result.

Additionally, the physical computer system that a user with arthritis uses could hamper their effective retrieval of information. The ergonomics of the angle they look at the monitor and their sitting position may impact their system usage. If they are forced to move their knees, hips, or neck in an uncomfortable position to use the

computer they will be turned away from using it. Alternative computer layouts can be used to decrease awkward sitting positions that computer use encourages (Schneiderman, 1998). In fact, the United Kingdom has a Disability Discrimination Act that requires employers to provide each employee the same access to information as any other employee (http://www.legislation.hmso.gov.uk/acts/acts1995/1995050.htm, 1995).

2.4.4 Summary

The conclusions that can be drawn from studying information retrieval is to keep the system simple, educate the user, and provide instinctive front ends which will allow the user to input and extract data with ease. All this will lead to greater administrative staff use of the system which will aide in adding value to reports and improving communication amongst offices by helping the staff realise the importance of the data they enter and extract. The more useful the information retrieved, the better it will be to meet organisational needs when relaying that information, in various formats, to outside parties. Also, successful transmittal of information could also be dependent upon the creation of a standardised report format.

2.5 Standardised Reports

A successful organisation needs to be unified. Its documentations and reports should be standardised between offices. Unification is especially significant for organisations that have many offices located around the country and/or the world. Arthritis Care came to conclusion that a standardised format of their reports is needed and through the standardisation, they expect to unify the organisation with the launch

of CID and Flo. However, fragmentations in management from the regional and national offices of the organisation led to multiple report formats produced. Inconsistent practice among staff leads to unnecessary information being reported to other departments of the organisation.

Multiple standardised formats depend on the nature of the organisation. Standard documentation must be built upon careful analysis to ensure a format which will best represent and benefit the organisation. More generally, the foundations for framework of standardised formatted documents are developed in terms of their ability to generate insights (Jakobs, 2000). Arthritis Care's livelihood is dependent on the content readers will extract from the report. With their offices spread throughout the United Kingdom, reports need to be standardised within the regions and nations throughout Arthritis Care. In effect, these reports are to reflect the progress of the organisation.

A good report will 'summarise sales revenue and expenses for the most recent period and the resulting profit or loss' (Tracy, 1999). Organisations with many different departments, such as Arthritis Care, generally have more than one type of report. This is because very different information will be contained in each report. Thus, a standardised formatted report will ease the confusions among management from different departments and branches.

Our goal was to gather information that must be contained in reports presented to the public, trustees, and the Charity Commission. We generated sample reports, as explained and defined in later sections, to demonstrate the efficiency of CID and Flo to the staff and management. We expect that this will increase the usage of the CID and Flo, and improve the communication and unification of Arthritis Care. To accomplish our objective, we needed to find out what standardised format is

appropriate for Arthritis Care and information that needs to be contained in these reports.

2.5.1 Procedures to Standardise Reports

A successfully developed standard report can be derived from Jakob's (2000) observation. Careful analysis of information to be placed in the report must be made before producing a standardised format. Since Arthritis Care provides more than one type of service, multiple reports should be generated to reduce misunderstanding when the reports are presented. When the analysis is completed, a standardised format should be selected. Multiple standards are allowed due to various reports needed to be generated for different services the organisation provides. Finally, the standardised report needs to be implemented and reviewed by technical staff before submitted for general use.

2.5.2 Summary

Standardised documentation is essential to the unification of Arthritis Care because of its technological development. The organisation needs to unify its communication before it can advance to the next level. A well-defined framework and thorough analysis should be completed before the release of the standard report format. Multiple reports should be developed for different departments and services. These reports should reflect the progress and summarise the success of Arthritis Care. We needed to identify the components of a report, who uses them, and who they are presented to, as well as the different reports for each department, to understand how a

report template can be produced. Report templates can be included in a set protocol to communicate how reports should be generated and presented.

2.6 Developing a Protocol to Communicate Expectations

Defining a set of expectations can help employees understand their tasks as well as their role within an organisation. As employees understand their part in contributing to the larger organisation, they can associate more value to their tasks and be more motivated to perform the defined tasks. This will help management track the tasks performed by the employee and use the information to help in their managerial duties. These managerial duties can help the organisation report on the accomplishments in the organisation to secure contracts or other sources of funding. Overall, helping employees understand where their tasks fit in to an organisation-wide process via a protocol document can lead to success.

A protocol is important to document processes that already exist within an organisation but need to be recorded. The purpose of a protocol is to define expectations in order to maintain consistency amongst what otherwise would not be uniform. Protocols can also serve other purposes including understanding others jobs, clarifying roles, maintaining uniform practices, having a basis from which to negotiate, and understanding when differences appear. Protocols also can help new staff understand the organisation or act as a refresher to those staff members who need it.

2.6.1 Steps to Develop a Protocol

The development of a protocol requires that agreements be reached between parties mentioned in the finished document. The development process can be broken down into ten steps ('Guide to Developing Interagency Protocols', 2000). However, the following steps can only be taken after support in developing a protocol is gained from staff and management.

1. ***Identify that a need exists***

   Factors influencing an existing need include reoccurring issues between offices and duplicate activities being performed at more than one office. Another factor may be that a certain task is not being performed to the satisfaction of management and no successful remedy has been implemented.

2. ***Gain support***

   The first step to gain support is to obtain a sponsor from management for development of a protocol. To gain support amongst employees, the need for establishing such a protocol should be explained in terms where it is communicated how the protocol will improve the effectiveness of the organisation and how it will directly benefit staff.

3. ***Identify Protocol Contents***

   Identifying protocol contents will help flag issues that will mutually benefit many parts of the organisation. These can include how to resolve issues and prioritise tasks.

4. ***Identify People Involved***

   The people involved will be those associated with the information in step

three. This helps to establish direct and indirect parties that will be affected by the protocol.

5. ***Evaluate Conflict Resolution***

   Considering complications which may arise will help alleviate possible power imbalances or other tensions. Understanding and providing a plan to consider these possibilities will help ensure the protocol will most benefit the organisation.

6. ***Attainable Goal***

   Meetings to ensure that the goal is within the scope of the protocol will help set the tone for the expectations of the protocol. These meetings should be carefully run with a focus on setting the right tone, but will most likely result in requiring some changes to the protocol.

7. ***Gain Final Commitment***

   During this step it should be determined if all essential parties are included. Development of strategies to achieve the organisational goal and how the document will present the protocols will also be assessed.

8. ***Write the Protocol Document***

   This step involves writing the document. A good way to present the information is with pictures, chart, and lists.

9. ***Implement the Protocol***

   This step requires getting a management level staff member to sign on the protocol and devising a plan to deploy the protocol to the organisation.

10. ***Evaluate the Protocol***

    The evaluation should determine if the goal of the protocol are being

achieved by deployment of the protocol. This step can take months if not years and will not be measurable in the scope of this project.

2.6.2 Components of a Protocol

The protocol document containing a set of guidelines should contain a variety of sections, each personalised to the organisation. There are seven common components of protocols (http://www.utoronto.ca/lifecourse/app1.htm). These include a statement of principles, definitions of what is contained in the protocol, the roles of people affected by the protocol, information sharing, an outline of a process to address problems which may arise, a list of resources related to the protocol, and an evaluation process for the protocol. These components will help staff understand the importance of the processes defined in the protocol. A greater understanding by the employee will aid in providing the necessary information, gained from a following of the protocol, to management. In Arthritis Care's situation, a protocol will aid employees in understanding how the information they enter into the organisation's databases will help the organisation produce reports with complete and accurate information. This protocol will provide guidelines on how to enter and retrieve data, set expectations for the IT system, and further unify the organisation. In time, it is the Arthritis Care's hope that communication will become more efficient, internally and externally, through the implementation of this document.

3.0 Methodology

3.1 Overview

This project demonstrated the value of IT resources to the staff at Arthritis Care in order to improve information flow. We provided Arthritis Care with the resources to allow for better communication, internally and externally. We enhanced communication systems by creating a Statistical Network Display System (StaN) that displays statistical data from regions and nations within the organisation and added more features to the CID. Once the information is updated regularly, as defined in a set protocol, progress can be accurately tracked and reported. We have created a protocol document which defined the organisational expectations outlining information entry and presentation. This document has presented Arthritis Care with guidelines on how to collect information necessary to accurately report organisational progress to the funders, trustees, and Charity Commission. We also provided recommendations for future enhancement of the systems. The data collection and analysis methods to perform these tasks were largely qualitative. Data collection methods included interviews and focus groups. Analysis methods consisted of comparative and content analysis.

3.2 Objectives and Data Collection/Analysis Method

3.2.1 Research Questions

Specific research questions needed to be answered to accomplish the goal of this project. These questions related to the IT and communication systems at Arthritis

Care and their integration into the organisation. They also sought how and what information was being tracked at Arthritis Care.

Understanding the functionality of Flo to asses the status of Flo and recognise what changes needed to be made to increase the reliability of the information of Flo was critical to our project. The information necessary to answer this question was gathered from previous IQP's and through interviews with people that oversaw the implementation of Flo- Dave Wright from RADAR and also Jo Brackenbury, Head of Supporter Development. We also needed to understand the networks and communication systems used within the organisation used within the organisation to track progress.

Another major question was 'How does the staff relate to Flo and the other database systems'? Within this question there were many sub-questions:

- 'Why are the staff members not using Flo'?
- 'Do staff members like using the CID/Flo'?
- 'Why do nations and regions use their chosen computer application'?

These questions were asked to assess the changes that needed to be made to Flo in order to increase staff participation and be able to understand the reasons for using another database (RANDi) and whether or not they like using the systems. This information was mostly gathered through interviews with management and a focus group.

The last set of research questions regarded the information and databases available in the organisation. These questions included:

- 'What information does management need in reports'?
- 'How does management use reports'?
- 'What databases are used within a given region/nation'?

It was important to know what types of information are contained in reports to understand what information needs to be extracted from the database. It was necessary to know who specific departments presented their reports to in order to understand how the final product of information tabulated was used. This information was gathered through interviews with management and one administrator.

3.2.2 Focus Groups

Our first method of data collection was a focus group. A focus group allowed us to discover staff's feelings and motivations toward their jobs and using the IT systems provided by Arthritis Care. They were helpful because we were able to obtain a wide range of opinions and we saw how staff responded to each other's comments when in this group setting. This provided us with an option that allowed us to gather information that could not be attained from a personal interview. Focus groups were also appropriate because the highest concentration of administrative staff was in the UK office which made it much easier to gather people together.

We conducted focus groups with the frontline staff – administrators and administrative assistants. The frontline staff had the most interaction with the system as they were concerned with inputting data. There are few administrators within the organisation, about three or four at each regional office and about a dozen at the UK office in London. We conducted one focus group at the UK Office in London with staff who worked in that particular office. The selection pool at the UK office was quite small (about twelve), so all those eligible were invited to participate. We anticipated that not everyone would reply affirmatively. If such a case had arisen, then we would have randomly sampled a smaller number from those who had replied. In attendance were Jenni Lawson, Juliana Kirkpatrick, and Sandrine Caumont. The

focus group was intended to identify the staff's understanding of their responsibilities, their feelings towards the current IT systems, and hypothetically how they would feel about a protocol that would illustrate the life-cycle of information. We developed questions to discover their attitudes towards entering data and the databases in the organisation, as seen below.

Table 3.1: Focus Group questions

- Opening Questions
  - What are your responsibilities within Arthritis Care?
- Introductory Question
  - How do you feel about using computer systems in conjunction with your responsibilities?
- Transition Question
  - What happens to the data you enter into the computer systems?
- Key
  - How do you feel about the CID and Flo?
  - How would you feel about a Statistical Network Display System, or StaN?
- Ending
  - What would be your feelings if there existed a document outlining the information life cycle (from data entry to compilation to statistical analysis to report generation)?

3.2.3 Interviews

Interviews were employed for two different data source collections for this project. Interviews were held mainly among management from the Central UK office

and regional and national offices. Through these interviews with management we hoped to gain a better understanding of the information required, provided, and not available to management on demand. We also held interviews with management and one administrator that knew most about the database systems used in their region or nation.

In the interviews with the Central UK, regional, and national office staff, we gathered data regarding reports- the types of information needed to be contained in the reports, staff and departments that are responsible for the generation of the reports, and presentation of the reports. Elizabeth Lendering advised us to interview the management and staff of the Marketing department, as they were the department that will need the reports the most. Interviews were also conducted with management from other departments that generated reports to more clearly understand the scope of our project.

Management from regional and national offices were also interviewed seperately to find out which databases they used and why. We also conducted one interview with an administrator because they were recommended to us to interview about the database systems from another manager. We were unable to conduct face-to-face interviews with numbers of the regional office management due to their location and our lack of the time to travel to their location. These interviews were conducted through conference calls.

We interviewed people from the IT department to familiarise ourselves with the different database that Arthritis Care that is currently employed and also the networks available within the organisation. Interviews were also conducted with the Head of the Supporter Development department because this is the only department

that used the Saturn Database. We interviewed Dave Wright, Simon Goodwin, and Jo Brackenbury.

4.0 Data Collection

4.1 Focus Group

The focus group attempted to answer the research questions, 'Why are the staff members not using Flo'? and 'Do the staff members like using the CID/Flo'? The purpose of the focus group was to learn the data collection processes of different departments at the UK office of Arthritis Care and also to understand how they feel about the current systems in place. We had hoped to understand interests and resistances in providing a protocol for administrative staff who are responsible for entering the data. We selected all administrative staff from the UK office to attend the focus group. Of twelve administrative staff in the UK office, three attended the focus group and others were unable to attend due to scheduling conflicts. Those attending were Sandrine Caumont, Fundraising Assistant from the Marketing and Fundraising Department, Juliana Kirkpatrick, Resource Directorates Administrator from the Human Resource Department, and Jenni Lawson, Human Resources Administrator from the Human Resource Department. Not all administrators in attendance interact with the IT systems for purposes of data entry.

Our main findings from our focus group were methods for entering data, how staff felt about a protocol document, if they used and liked the CID and Flo, and how they felt about a statistical network display system. The focus group participants agreed that different departments require various methods in maintaining their data. Ms. Caumont gave details about a process of entering donor information. The donation can come from mail or through the trust. If the donation comes from mail, it is sorted and batched, and an amount is entered into a database. The donor information is entered into a database and reports would be created by Joanne

Brackenbury manually from the information in the database. The reports are department specific and no standard analysis is made to create the reports.

What were the attitudes toward a protocol that will define guidelines in outlining the administrative staff's expectations regarding entering data? Juliana pointed out that administrators have no knowledge of how information is stored in different departments. The protocol can be a tool to learn functionality of other departments. Also, Jenni Lawson mentioned that a protocol can provide administrators from regional offices with a sense of corporate identity.

How did staff members feel about the existing systems, CID and Flo? Not all administrators in attendance have access to or know much about Flo. This was part of the reason that their feelings toward Flo were indifferent. Another reason for their indifference toward Flo is that Flo was not intended to benefit the administrators, but rather the managers. All the administrators agreed that CID was greatly improved with the development implemented by the C-term 2004 IQP group. We also introduced StaN, the statistical network that we were developing at the time (refer to section 5.6). Juliana strongly recommended that the protocol highlight the training staff using the system as part of the management's job description, as it is up to the managers to decide the success of StaN.

We determined that not all of the administrative staff and assistants interact with data entry and IT systems on a frequent basis. However, the focus group still provided us with how they felt about a protocol document (that it would be more useful in the regional and national offices) and how they felt about the CID and Flo (the CID was greatly improved by the last IQP but they did not have access to Flo). It was important to understand the front-line staff's opinions toward the protocol and current state of the systems to understand their position. However, we also needed to

ask management similar questions through interviews to attain viewpoints from the other end of the spectrum.

4.2 Interviews

4.2.1 Interviews with Management and Database Administrators

Information contained in reports throughout the organisation varied from department to department. Managers collected information specific to their department and either presented it to higher level managers or directly to the trustees and funders. Below, Table 4.1 depicts the managerial titles of the people we interviewed, whether or not they generated reports, the types of reports they generated, where they obtained the information, and to whom they presented the reports.

Position	Generate Reports?	Type of Report	Information Obtained From	Reports presented to
Training Development Manager	Yes	Evaluations of training courses	participants	Funder
Information Services Manager	Yes	Information services (publications)		Funder
Acting Director	Yes	depends on type of funding	Funder application forms	Funder
Resource Development Manager	No- needs someone to generate for him	projects that have been run- financials	Managers that generate reports	Trustees
Helplines Manager	Yes	Information about calls made to helplines	Information from forms manually entered into spreadsheets	Director of Public Affairs
Head of Trust Fundraising	Yes	Tracks historical data of organisations funding from trusts	Personal Database	Funder

Table 4.1: Different Positions and the Reports Generated

Almost every report generated by the people that we interviewed was presented to funders and trustees. This suggests how critical the reports are for raising money for the organisation. However, some reports are generated for other managers who could potentially present them to funders and other stakeholders.

All of the regional offices, with the exception of South East England, use the RANDi databases. South East England has a training database similar to RANDi and the regional offices use Microsoft Access and Excel. Northern Ireland is the only office that does not use Microsoft Access as a standard.

Region/ Nation	Database
Northern Ireland	Microsoft Excel- some Microsoft Access
Scotland	Microsoft Access and Microsoft Excel
Wales	Access
South West England	RANDi
Northern England	RANDi and Microsoft Excel
Central England	RANDi
South East England	Training Database' similar to RANDi

Table 4.2: Regions and Databases Used

Does management have trouble finding the necessary information to include in reports? Everyone, with the exception of two people, said that they had all the information necessary for their reports. Lin Martin, the Resource Development Manager from Northern Ireland, said that she would like to include statistics in her reports such as the specifics about the number of people who have arthritis (i.e. number of people who have rheumatoid arthritis). She would also like to be able to see qualitative information such as feedback from training courses (L. Martin, personal communication, March 26, 2004). Anna Kelly commented that she often

does not have information regarding tracking money, which makes it difficult to relay information to funders (A. Kelly, personal communication, March 24, 2004).

Everyone we interviewed thought that it would be useful for other regions and nations to see information about their nation/region. Similarly, all also thought that it would be useful for others to be able to see information from other regions and nations. Some were hesitant in answering the question, 'Will it be useful for you to see other offices information?' because many thought that seeing this information may not affect them directly, but they did agree that these features may be useful for others, especially the UK office.

Managers were almost unanimous in believing that reports throughout the organisation should not have a standard report format because each report was too highly specialised and specific. Margaret Morton stated that collecting unnecessary information would unnecessary and time consuming. It would be counterproductive to collect information that was not needed in the report (M. Morton, personal communication, March 28, 2004). Lin Martin from Wales recommended that training reports could be standardised by including the average age of participants (L. Martin, personal communication, March 26, 2004).

We discovered that the CID was used occasionally among the management in regional offices but Flo was hardly used. They used the CID as a personnel directory but did not use Flo because they either did not have access to it or did not use it because it was non-updated and incomplete information. Lin Martin suggested that Flo should display a dating system so they could know when the information was last updated and she also thought that the search feature was not good (L. Martin, personal communication, March 26, 2004). Linda Farnham, a Regional Administrator from South East England, explained that she didn't really like the CID because she thought

it was not very intuitive and she had a hard time searching for personnel and branch members (L. Farnham, personal communication, April 2, 2004). Marcus Cooper from Northern Ireland shared that he did not like that when he opened a document, it did not open in a new window, so if he accidentally closed the window he would be logged out of the CID (M. Cooper, personal communication, March 30, 2004).

The idea of a protocol document presenting organisational expectations for data entry, collection, and presentation received an overwhelmingly positive response. There were, however, some indifferent feelings towards the idea of a protocol initially but after explaining how there is somewhat of a high turnover rate in the organisation, a feeling that it would be helpful in communicating organisational expectations to new staff members surfaced. Jane Robson, a Regional Administrator from Southwest England, was the only person we interviewed who felt indifferent towards the protocol (J. Robson, personal communication, April 1, 2004). Tim Gardiner, the Manager of Hotels, explained that the hotels were somewhat of a separate sect of the organisation and did not think that it would be helpful for staff members at his hotels (T. Gardiner, personal communication, April 4, 2004). Overall, there was a positive response to the idea of a protocol document. Almost every manager thought that a protocol document would be very beneficial in communicating expectations for inputting and outputting information to the staff at Arthritis Care.

One interview important to note was the interview with Jo Cumming, The Helplines Manager. She expressed the need for a database that would be specifically used by the Helpline department. Currently, her staff uses a pen and paper system to record information about each call. This information is then tabulated and recorded in to an excel spreadsheet. She noted that this was an inefficient way of doing business and was wasting the time of much of her staff. To previous IQP groups and to

Elizabeth Lendering she had expressed a desire to implement a secure helpline database, possibly located somewhere on Flo (J. Cumming, personal communication, March 24, 2004). This, however, was beyond the scope of previous projects and is also beyond the scope of ours.

4.2.2 Interview with IT Specialists

It was necessary to ask other members on staff (or that used to work for the organisation) about the database and network systems used within the organisation to understand their capabilities and limitations. The questions asked in this section were different from the previous section because we were focusing on the technical aspects. Interviews with Dave Wright, Simon Goodwin, and Jo Brackenbury gave us a more thorough understanding about the IT and communication systems that we could not find in the previous IQPs.

4.2.2.1 Interview with Dave Wright

The knowledge of the Flo system was somewhat limited amongst the current staff at Arthritis Care. Because of this we interviewed Dave Wright, a former IT staff member at Arthritis Care currently at RADAR, to inquire about the intention of the Flo system. Mr. Wright explained that Flo was designed to display the data from Saturn. He said that this was deemed necessary because staff at regional offices do not currently have access to Saturn. He said that Flo was not initially successful because the information was not updated and not all staff members have access to the system.

Mr. Wright explained that Flo was designed to possibly replace the RANDi databases. The RANDi and Saturn databases contain much of the same information, which leads to redundant and inaccurate data, due to updating one database and not the other. Mr. Wright suggested the Flo was not being widely accepted or used because the information is not updated with enough frequency.

Mr. Wright recommended that there be a method to update the information displayed by Flo and he suggested that access be granted to more people (D. Wright, personal communication, March 22, 2004). This was supported by management we interviewed because they noted they either did not have access or the information was not updated.

4.2.2.2 Informal Interviews with Simon Goodwin

Simon Goodwin, the IT staff member housed in Arthritis Care offices but employed by an outsourced firm, provided information on the more technical aspects of the IT system. He has been working at Arthritis Care for three years and was working for the organisation during the development of CID and Flo. Mr. Goodwin explained how information is downloaded from the Saturn database onto a local server residing within Arthritis Care. This is supposed to be done with an update program, created by WPI students in March/April of 2003, which can be run from a computer located in the IT office. Currently, the program was not run because no one has been asked to run it. Mr. Goodwin provided information about the network at the UK and other Arthritis Care offices. Each office has a high speed ISDN or broadband level connection to the internet. However, regional office networks are not connected directly to the UK office except through a VPN. The extent of the possible uses for

this VPN (virtual private network) is not known by Simon as he stated that he uses it mainly for troubleshooting computers.

4.2.2.3 Interview with Jo Brackenbury

An interview with Jo Brackenbury, the Head of Supporter Development and in charge of the Saturn database, helped us understand more about Saturn and Flo. Her responsibilities are maintaining the database and making queries on the Saturn system to help Arthritis Care extract information from the database.

Ms. Brackenbury clarified the database structure of Saturn and how the Saturn Update program should work. She did this by clarifying the contents of tables being downloaded via the program and explaining the changes that would be made to Saturn in May 2004. The contents of the tables were at first confusing because as the data is pulled to a local computer via the update program, it is being reorganised for extraction and display via Flo. Ms. Brackenbury also noted that she did not know all the details of the functions of Saturn Update program because she was not highly involved in the process that the D03 IQP group underwent in making the program.

She also described the changes that would be made to the structure of Saturn because of some reorganisation of groups within Arthritis Care. The structure of Saturn will be changing to eliminate members by branch and to include only numerical data for regions. Each member would no longer be associated with a branch. Ms. Brackenbury concluded by saying that she does not believe that it is worth the time to fix the Saturn Update program at this point because of the upcoming changes (J. Brackenbury, personal communication, April 5, 2004).

5.0 Analysis

Our analysis focused on understanding Arthritis Care as an organisation and how uniformity could be introduced to the organisation by evaluating the data collected in the previous section. We formulated a plan to implement a unifying system by enhancing existing IT systems, developing a new IT system, and by defining organisational expectations of using new and existing systems. We further analysed the usage and layout of Arthritis Care's IT infrastructure in hopes of providing a solid background for future projects.

5.1 Corporate Culture

Arthritis Care has evolved into an organisation with distinct regional and national identities. While each regional or national office receives approximately 70% of their funding from the UK office, they do not see themselves as being accountable to a larger organisation. Conversations with national office management revealed their strong feeling that they wanted a hands-off approach from the UK office. The regional and national offices track information which is desirable for reporting to their local stakeholders, specifically funders, and often do not track information which will assist the UK office in its fundraising efforts.

Each office stores its data in unique ways. The national offices in Scotland, Northern Ireland, and Wales store information in either their own Microsoft Access database or in a Microsoft Excel spreadsheet. They have not adopted the RANDi database which is largely used by England regions, especially the Central England region. This lack of uniformity and unwillingness to conform has left Arthritis Care with a difficult situation. With no standard format for entering and storing

information, Arthritis Care cannot easily track information. Information from regional offices often cannot easily be accessed and the UK office has a hard time following progress amongst regions.

The UK office, following recommendations of WPI projects, has attempted to standardise the way data is stored with RANDi and Flo. Both systems have not been widely adopted because they do not offer the customisability that each region needs. Not having been provided with a database system which is highly customisable and centralised, each office has chosen to use its own.

The result of varying methods of storing data has been Arthritis Care's inability to fundraise to its full potential. The decline in services may cause duplicate mailings and out-of-date information contained in one database may result in information not being delivered on arthritis services. The inability to fundraise to Arthritis Care's full potential is a result of information not being readily available to provide to stakeholders. When information is unavailable to possible funders, the funders are more reluctant to donate because they may not be able to see data on the results of their generosity. Information not being shared corporately directly impacts Arthritis Care's organisational unity because it promotes the autonomous cultures which have emerged at regional and national offices.

5.2 Data Storage

Elizabeth Lendering informed us that regional databases were kept locally at each corresponding office. With the exception of Wales, Scotland, Northern Ireland, and South East England, RANDi databases are used to store information pertaining to volunteers, addresses of members, courses, and training information. Otherwise, the information is stored in a Microsoft Excel spreadsheet or similar Access database.

The different formats make it difficult to display and keep these records current in conjunction with the Access database records. Furthermore, information from two different formats cannot be joined together by the novice computer user. While Access databases can be converted to Excel spreadsheets with the use of programs available on the market, they are not bi-directionally compatible. Moreover, since Microsoft Access is the standard format Arthritis Care wishes to adopt, it would not be useful or time-efficient to convert all databases to Excel.

5.3 Reports

Analysis of our interviews revealed that we could not create a standard report format. Each report generated was too highly specialised and specific for any of the components of the report to be standard within the organisation. As mentioned in 4.2.1, collecting information that would not be needed in the report would be time consuming and counter-productive.

However, a sample report was still important to include in the protocol document. This sample report demonstrates to the administrative staff how the information they enter into the database systems is being used by the organisation. Staff could then recognise the value of their tasks and realise how they affect the organisation as a whole. Refer to Appendix D to view the sample report.

5.4 Arthritis Care's Network Infrastructure

Simon Goodwin, an outsourced IT systems administrator at Arthritis Care, explained how Arthritis Care's network system was set up. This was vital to fully understand how information could be transferred across the networks. Each of

Arthritis Care's offices, the UK office included, is set up on a Wide Area Network (WAN) connected to a high-speed internet server.

While this configuration is adequate to serve the needs of information exchange within each office, Arthritis Care experiences inefficient interoffice communications. This is a result of the WANs at the offices being completely disconnected from the WANs at other offices. Elizabeth Lendering noted that ideally the databases at all of Arthritis Care's regional and national offices would be available live online for the purpose of generating useful statistics, such as course information. This is best served by the employment of a distributed or centralised[1] database system. Separate disconnected WANs prevent such a system from being implemented.

5.5 Flo Analysis

In an attempt to provide a system that would not place a burden on Arthritis Care's network infrastructure while providing corporate information to all employees, the D-term 2003 IQP group implemented Flo system. When researching the RANDi databases, we were told incorrectly that the RANDi databases were nearly identical to Saturn. The RANDi databases also contained training and course information that were specific to their corresponding regional and national offices. The developers of Flo hypothesised that if the regional office staff members had access to Saturn, there would be no need for RANDi. The purpose of creating Flo was to share information from Saturn and regional-specific information with all the offices. This also facilitated access to management at the UK office. Managers could view necessary information from regions to make reports for the stakeholders. Flo was also

[1] See Chen, T., Conidi, J., McBride, I., Roscoe, G. (28 February 2004) *Improving Communication Systems* Interactive Qualifying Project Report. Pp. 19-22

implemented to eliminate the redundant data that is kept by regional offices on RANDi.

An update program, written by the C-term 2003 project group, was supposed to take information from Saturn and replicate it to a local server, where it could be extracted by Flo and viewed via the CID. This software, however, was insufficient at the time we looked at it due to the fact that name that the program logged in with did not have permission to modify the files. RANDi, which we now know to be a vital part of the information flow, was not connected to the Flo system due to network limitations, thus preventing staff at the UK office to have any access to the information from the regional offices.

Jo Brackenbury stated that Flo has always misinterpreted information that was extracted from Saturn. Part of the reason that information was misinterpreted can be caused by the queries, implemented in Flo, not meeting a certain criteria (J. Brackenbury, personal communication, April 5, 2004). Since Flo's functionality was not fully completed, access was never given to all staff and only certain management had access to Flo, which left other staff members with a negative feeling towards Flo. Management from regional and national offices have misconceptions about Flo in believing that once information such as courses and venues that are kept at regional offices on the RANDi databases are entered into Flo, they will lose control over the information and the other offices can manipulate it. This was quite alarming because some of the information is highly sensitive. Administrative staff are indifferent regarding their feelings towards Flo because they do not have access to it or use it as part of their daily job tasks.

5.6 StaN

Current IT systems at Arthritis Care have been implemented and used with varying degrees of success. The Flo and RANDi systems have not been allowing information to be shared amongst offices. This results in authors of reports having difficulty finding information to include in the reports. An important task was to understand why the IT systems were not allowing Arthritis Care to track and report progress. An analysis of Flo gave us an understanding of the most appropriate next steps for Arthritis Care.

Staff members had many negative associations with Flo. The information was not up to date which made it hard to rely on. Also, many people did not have access so they did not know what Flo was. Our interview with Jo Brackenbury informed us that the structure of Saturn would be changing soon so the update program for Saturn/Flo would no longer work as of May 2004. Any program that we could write to fix the Saturn Update would not work after the completion of our project.

In an attempt to provide access to information on progress and to provide a way for the information to be updated, we created a new system on the CID. The reasons for implementing a new system to display statistical information are numerous. First, the information must be read only so that regional and national offices do not feel that control of their information is being given to someone else. The system must provide a way to both display information from the Microsoft Access databases being used and a way for staff members not using Microsoft Access to supply their information. Finally, a new system would be able to pull information from the databases (assuming the databases were updated) for as long as the structure of the database remained the same.

To provide a solution to these needs we developed a new system called StaN, short for Statistical Network Display System. A shown in Figure 5.1, StaN extracts fields from RANDi and other regional and national databases and displays them on an interface of the CID. Every regional and national office can upload their databases to StaN with the exception of Wales and Northern Ireland. These two national offices can enter data in on tables available on the Statistics data entry page. Management also have an area to deposit important documents that may be useful to share with other offices. The UK office, as well as the regional and national offices, will be able utilize this interface to share information and create reports that will aid in the fundraising efforts.

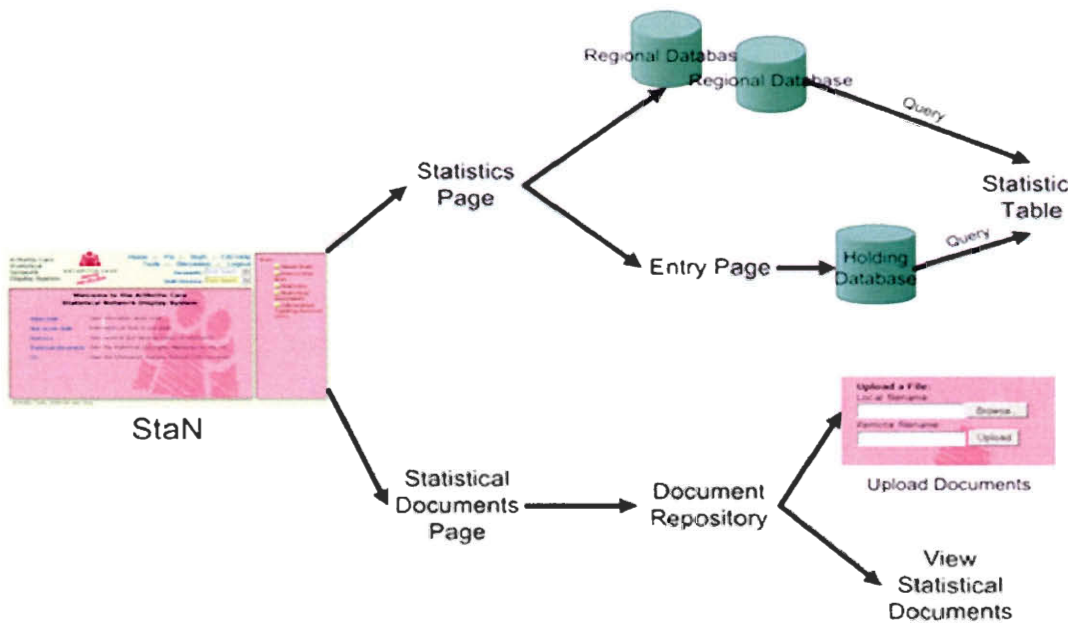

Figure 5.1: StaN flow chart

This system is housed on the current CID and is linked in a fashion similar to Flo. Because Flo was not working at the moment and because of the upcoming changes to Saturn, we have hidden the Flo system from public view. However, the files still exist on the ftp server (ftp.cid.ac) in the \htdocs\home\flo folder. The StaN

system has the same user interface as that implemented by the C04 project group.

The StaN system has 5 sections:

- About StaN
- How to Use StaN
- Statistics
- Statistical Documents
- Protocol Document

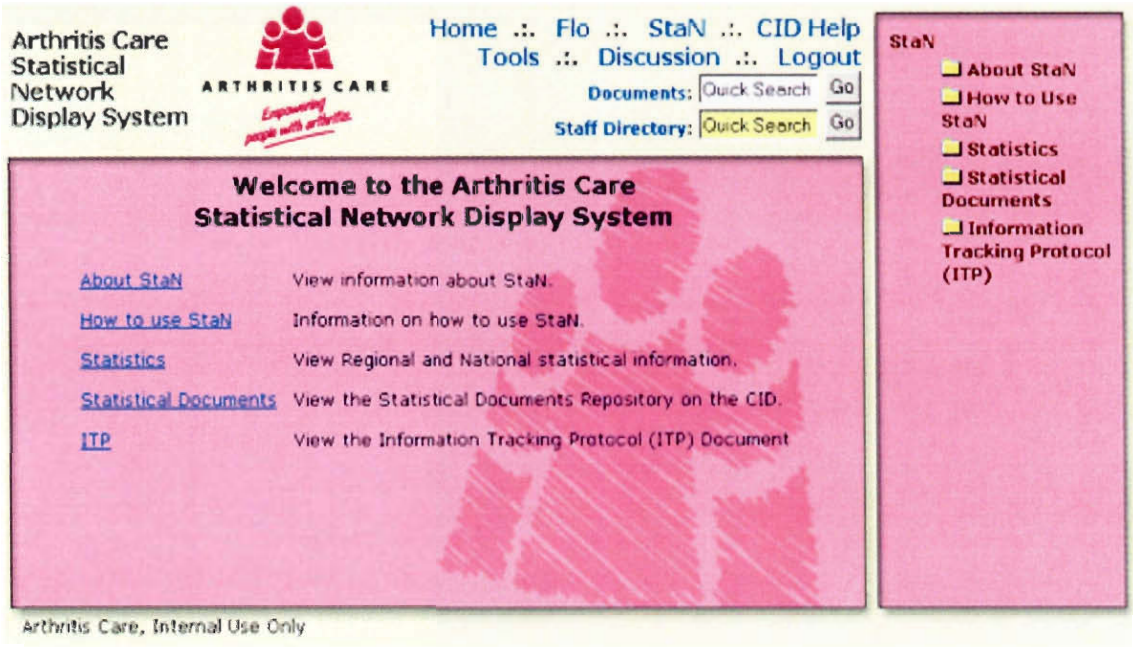

Figure 5.2: StaN interface

Each section seeks to provide Arthritis Care with better communication and report generation tools. The 'About StaN' section gives the user an overview of the system. It explains who should use it and why. The text from this section is as follows:

> *StaN was developed as a method of displaying statistical information from regional and national offices. All information displayed on StaN is read only and cannot*

be modified. The statistical information is intended to provide a basis for reports to aid in fundraising.

The information in StaN relies on the diligence of staff members to update data with regularity. The process for updating data is outlined in the Information Tracking Protocol (ITP) and the instructions for updating data on StaN is explained in the 'How to use StaN' section of this webpage.

The 'How to Use StaN' section is a manual (see appendix C) which includes how to upload databases to the system to display updated information, how to upload document to the document repository section, and how to update statistical information for those regions not using databases. This manual was written to be as simple and reader-friendly as possible using minimal jargon and referring to everything as it appears to the user. The manual also includes a FAQ section to answer questions that users may commonly want answers to.

In the statistics section, staff members can view comparative information about regional and national offices. This is especially useful for the UK office for tracking progress and reporting for fundraising. This section is 'read only' (meaning that data displayed on the pages cannot be modified) so regional and national offices do not feel like their information is being controlled. In this section there are also sub-sections where regional and national offices not using databases can enter information for display. Not only will this be useful to management, but staff members will also be able to see how the information they collect and enter can be displayed for use in reports.

The statistical documents section is derived directly from the CID document repository. The only difference is that the top and side menu matches that of the StaN system. This area is used for staff members to upload document which contain

statistical information which may be of use for inclusion in reports. The aim of this section is to make it easier to track down information. Mrs. Lendering noted that she, and the staff, often had difficulty obtaining information from regional offices. This area on StaN would provide a way for which documents of this nature can be placed.

The final section of StaN is the ITP (Information Tracking Protocol) document which is simply a link to the document outlining procedures, most of which relate to the activity the StaN promotes. The ITP document is linked from the StaN main page so that it can easily found. This protocol is further explained in section 5.8.

While StaN is a fully functional statistical system it does not display all information which could be pulled from databases and displayed that would be useful to Arthritis Care. This implementation of StaN is meant as a pilot program to demonstrate the usefulness of the existing IT systems and infrastructure to staff members at Arthritis Care. It is our hope that StaN and the CID will be further expanded upon as more money and resources are invested in the IT resources.

5.7 CID Enhancement

All our efforts could not be focused on creating a new section of the CID for organisational tracking purposes. The CID, as a now integral part of Arthritis Care's day to day operations, needed some maintenance performed on it. The CID was greatly improved by the C-term 2004 group. The focus group with the staff at the UK office has reflected a positive attitude toward the enhancement of CID. The C-term 2004 group completely changed the CID interface and also added a discussion board to increase interaction and communication amongst staff from different offices.

Upon our arrival, we found that certain features of the CID were not functioning properly. As the project progressed, we decided that certain features

should be added to further enhance the system. The enhancement of CID had become one of the focuses of our project. We will describe each function that we have included on the CID in this section.

5.7.1 Change Password Tool

The enhancement that was of utmost importance was to allow employees to change their password successfully, a function which was not operational at the start of our project. Staff members from the UK office raised concerns about the change password tool. The passwords that are initially assigned to the staff members are random and allowing them to change their password to something they could easily remember is important because they may forget their assigned password. We fixed the original script for the Change Password feature and it is currently functioning properly. The Change Password feature provides access to a secure environment for CID users to deposit documents and view information.

5.7.2 Counter for CID

Mrs. Lendering requested that a visitor counter be placed on the CID. The purpose of the counter is to keep statistical data of number of users that visit or use the CID. With this feature implemented, we hope to encourage occasional visitors to use the CID more often by demonstrating that it is often updated and widely used by other staff members of the organisation.

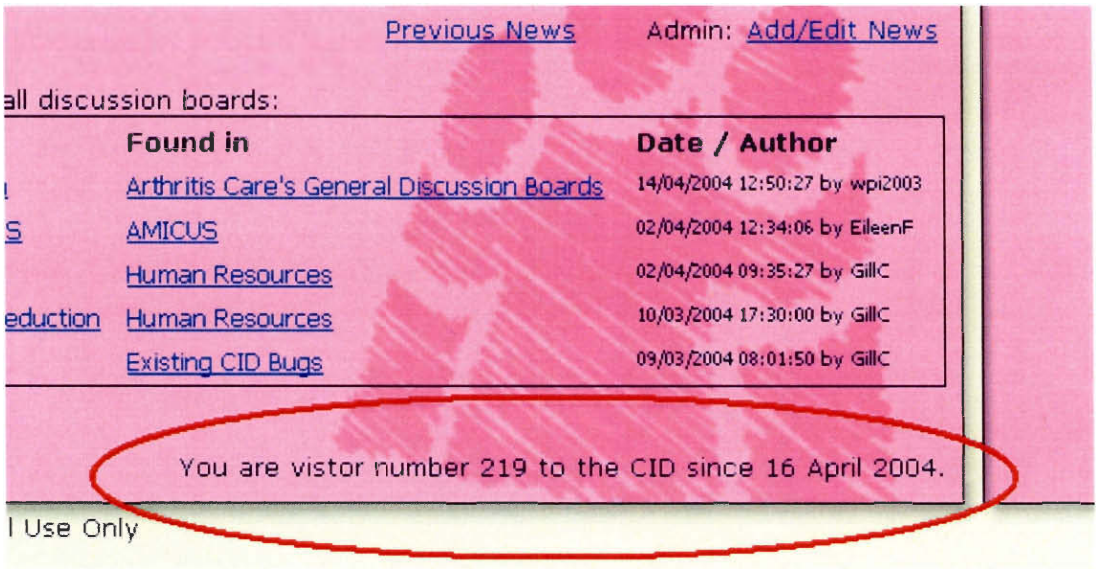

Figure 5.3: Visitor Counter on CID

5.7.3 Regional Diaries

The Human Resources Department at the UK office requested a document folder for the regional worker information to provide easily accessible information pertaining only to these employees. This directory currently includes information on staff and/or directors working hours and locations at the regional offices. Certain staff members in the organisation are working from home and many staff members do not have a regular nine-to-five working schedule. The staff members are located throughout the United Kingdom, and having information regarding staff's whereabouts presented in the CID could eliminate the need to search and seek out where the staff members are located. This could increase production within Arthritis Care by reducing time spent searching for information.

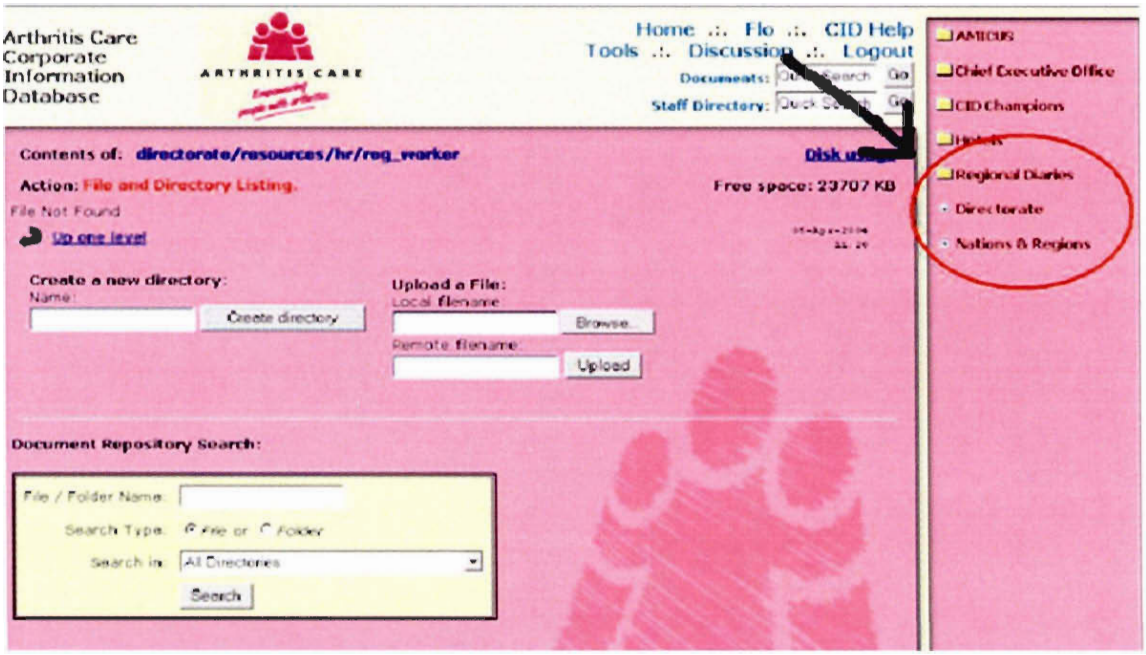

Figure 5.4: Regional Diaries

5.7.4 Senior Management Group (SMG)

Mrs. Lendering shared concern that documents that are specific for the Senior Management Group is being shared by others when it is uploaded onto the CID. Upon request, we have created an SMG directory in the CEO folder. Regular staff members cannot view documents and information shared on this folder. The SMG directory is secured and access is only granted to the senior managers.

5.8 Information Tracking Protocol

Arthritis Care's IT and Communication systems can be most effective in the organisation only if they are used frequently and updated on a regular basis. A protocol document was implemented to define and outline requirements for inputting data into the systems. Without a set of rules and requirements for entering data into the systems, the systems will become useless in time because they will become outdated. Also, as exemplified by Flo, if the information is outdated on StaN, people will lose confidence in the systems and stop using them. The information will be

reliable only if those responsible for specific tasks are identified and given responsibilities as part of their job descriptions.

The four main sections that are specifically included in the protocol are the Chain of Information, requirements for updating data in the regional and national databases, requirements for uploading data onto StaN, and a sample report. As shown in figure 5.5, the Chain of Information displays the processes involved in creating a report. This bottom up process begins with administrative staff entering data into the system. The chart allows for the staff to see a visual representation of all the factors included in a report. The staff can appreciate that if information is not entered properly, reliable reports cannot be generated and therefore can lead to a decrease in funding for the organisation.

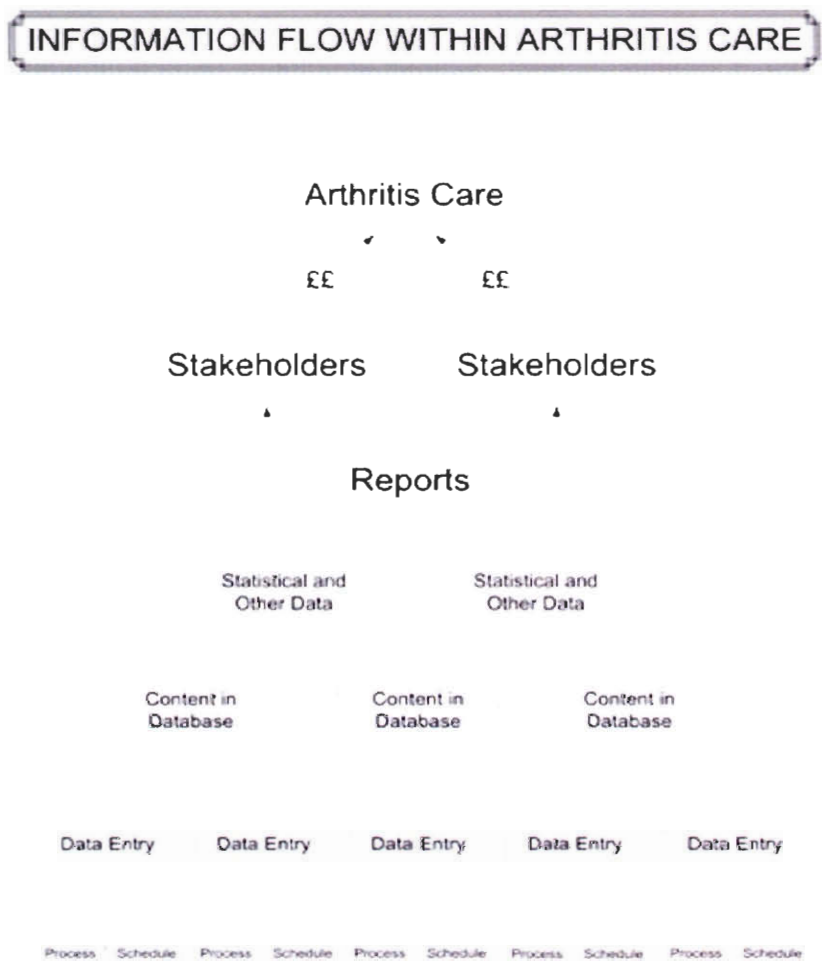

Figure 5.5: Chain of Information

The protocol contains specific requirements for staff to enter data into the databases that are used locally in each region. The administrative staff will need to frequently update the training course data on their databases. They are required to do this on a monthly basis so that updated information can be viewed on StaN. Requirements for uploading the databases to StaN must also be defined. Each month, the Training Development Managers from each regional office will need to upload their database through the document repository feature on StaN. The national offices that do not use the RANDi or similar training databases regularly will need to enter the data from their local database on the database available online. Management will also be required to upload any useful documents into the document repository as needed. Lastly, a sample report is included in the protocol to show administrative staff how the data is collected to provide statistical analysis for the stakeholders.

This document can be used as an effective tool for outlining data entry and presentation if all staff members in the organisation responsible for inputting and outputting data follow it closely. This will demonstrate to staff members the importance of database and communication systems throughout the organisation and how they directly affect the flow of information. This will add motivation to using the systems frequently.

5.9 Summary

The regions and nations within Arthritis Care do not feel a sense of corporate identity. They behave as though they are not part of the larger organisation and that most of their fundraising comes from local sources, which is not the case. Flo has also been working incorrectly, which has contributed to why people are not using it.

We found through our interview with Jo Brackenbury that the format of Saturn will be changing in one month, therefore any new program update would be obsolete. Instead of writing a program which would be useless soon after we completed our project, we created a new communication system, StaN. We also made enhancements to the CID to further increase its reliability. A protocol document was created to ensure that the programs would be used efficiently in the organisation and to demonstrate the usefulness of entering and presenting data. We decided that we could not make a template for the standard report in the protocol because the reports generated were much too specific. We made enhancements to the IT and Communication Systems at Arthritis Care that we thought were the most appropriate in the duration of our project.

6.0 Conclusions and Recommendations

6.1 Conclusions

The regional and national offices of Arthritis Care are currently behaving as though they are autonomous bodies. They track their information using their own local databases, either Microsoft Access or Microsoft Excel. These local databases make it difficult for the UK office to track the progress of the regional and national offices because they are not able to view their statistics. This has been affecting the UK office's ability to present reports to stakeholders that could potentially provide them with additional funding.

During the course of our project, we enhanced communication systems within Arthritis Care to increase information flow throughout the organisation. Enhancing the CID increased its functionality from the C term 2004 group's implementations. The Flo system, which was previously on the CID, was removed from view due to the fact that the format of Saturn was changing (in May 2004) and any update program would be obsolete at the end of our project. Instead, we created StaN, the Statistical Network Display System, which allowed all of the regions, nations, and the UK office to view organisation-wide statistics on a section of the CID. Access was given to everyone throughout the organisation in hopes that it would become widely used.

The Information Tracking Protocol we have created will demonstrate to the staff at Arthritis Care the importance of using the IT and communication systems in the organisation. The protocol has also outlined who is responsible for entering information and how often. As long as these IT and Communication Systems are updated, as outlined in the protocol document, there will be successful information sharing throughout the organisation. Reports can be generated from this statistical

data on StaN and be presented to the stakeholders responsible for funding the organisation. StaN and the protocol document were presented to Arthritis Care together both to provide the means to track information and to outline procedures to do so. The ability to track progress effectively and efficiently will allow Arthritis Care to continue receiving the funding necessary to provide better services for its members.

6.2 Recommendations

6.2.1 Centralised Database

Ideally, Arthritis Care should have a centralised database throughout the organisation. A centralised database would hold all data which is now kept on regional and national levels. This information would be able to be viewed, but not necessarily controlled, by all management to generate comparative reports. It is important that control of information is retained by regional offices to ease management issues which would arise from centrally controlled information. This would be most efficient because it would eliminate the need for RANDi and other Access databases, further unifying the organisation and eliminating the duplication of information entry. We urge management to create comparative analysis reports with other regions and nations throughout the organisation. Such reports could be presented to stakeholders to comply with procedures needed to maintain the funding necessary for the survival of the organisation.

Before a centralised database can be implemented, Arthritis Care will need a grant large enough to provide the cost of implementing a new system. The organisation will need a WAN (wide area network) that includes all Arthritis Care

offices. Before a centralised database can be implemented, moreover, all regions and nations within the organisation will need to start behaving corporately and recognise that they are part of a larger organisation and not autonomous. If a centralised database system is implemented in the near future, we fear there will be a large resistance from the regions and nations. The regions and nations still feel the need to control their own information. The nations and regions need to be willing to support this centralised database before it can be implemented with any degree of success.

6.2.2 Uniform Database

Since Arthritis Care is not yet at the stage to implement a centralised database, we recommend having a uniform database throughout the organisation. This would include implementing RANDi in all the offices not yet using RANDis: South East England, Wales, Scotland, and Northern Ireland. This implementation will allow StaN to pull the necessary fields from the databases and display them on the CID in the same manner as with the other England offices. This would eliminate the need for these offices to manually enter data into the database available online. This cannot be accomplished, however, without the assistance of code writing from a future IQP group. Also, if necessary, more information could be pulled from the RANDi databases and displayed on StaN if deemed necessary by future IQP groups. This would further unify the organisation and would still allow the nations and regions to track their own information while allowing the UK office to see their statistics.

6.2.3 Helpline Database

A future WPI Interactive Qualifying Project could be conducted to implement a database for the Helplines. The Helplines Department needs its own database because they track highly confidential information from the calls made to the office. This database, which would need to be very secure to protect this confidential information, could generate aid funding for the organisation if top level statistics could be viewed on StaN.

6.2.4 Bandwidth

We also recommend that the organisation obtain more internet bandwidth at regional and national offices which will allow for "live" regional databases to be put online. The current state of the network does not allow for a live connection to be made to a database located away from the UK office. This leaves the task of sending the database to a server a manual task, which is not ideal for any organisation, let alone one new to using Information Technology Systems.

6.2.5 Qualitative Data

Finally, we recommend that a future IQP group provide a way in which qualitative information from training feedback surveys can be viewed online. It would be helpful to be able to view comments made by the training course participants. This could be done with a customisable online data system.

6.3 Summary

This project has presented Arthritis Care with the tools to improve the tracking of progress throughout the organisation. StaN can be used by all staff members at Arthritis Care to increase the sharing of information. This can lead to new and more complete reports that must be presented to the stakeholders responsible for funding and maintaining the organisation. Succeeding IQP groups can expand on this system by adding new fields and enhancing its features. The Information Tracking Protocol will ensure that the systems are being used properly and often by providing a set of guidelines and requirements for using the systems. Using these tools, Arthritis Care can efficiently track its organisational progress to obtain an increase in support from external parties.

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Appendix A: Glossary

Administrators
Front-line staff members who are responsible for inputting data into the IT systems (British Term).

Charity Commission
The Charity Commission is a government organisation that reviews the legal and regulatory framework of charities and non-profit organisations.

Corporate Information Database (CID)
This database is used as a document repository. Contains corporate information and is online and can be accessed by everyone in the organisation.

Flo
'Data Workflow System'. This is an interface on the CID that accesses data dumped to a local server from the Saturn contact database centralised in Maryland. It contains information about donors, postal members, branch members, and subscribers (non-members).

National Offices
Wales, Scotland and Northern Ireland offices.

RANDi
Microsoft Access- based database used by the regional and national offices other than the UK branch. It contains information about training courses, participants, members, etc.

Regional Offices
The England Offices: Central England, North England, South East England, and South West England.

Saturn
The contact database centralised in Maryland and is replicated locally for easy retrieval of information by Flo. It contains information about branch members, trustees, donors, bank accounts, etc. Used by staff in the Marketing and Developing department.

StaN
'Statistical Network Display System'. Contains information extracted from RANDi databases about training courses and participants. Also contains a document repository that contains other useful statistical spreadsheets or documents about regions and nations. Accessible by everyone at Arthritis Care.

Appendix B: Summaries of interviews with management

Appendix B.1 Types of Information Collected in the Different Regions/Departments

Training Development Manager
Linda Clements (Northern Ireland)

- Generates evaluation reports on training courses
    - Internal and External Reports
        - External- information presented to funders (awareness courses)
        - Internal- information to be used internally
- Information comes from participants
- Summary reports for funders created

Resource Development Manager
Marcus Cooper (Northern Ireland)

- He doesn't generate reports, he needs the reports generated for him.
- Does fundraising, presents the reports to trustees
- Monitors and evaluates projects running that they have funded
- Pulls up reports from accounts

Information Services Manager
Katy Green (Scotland)

- Generates reports about information services in Scotland. Looks at the number of publications sent out, etc.
- Makes two different types of inquiries
    - *Administrative Inquiries*- events going on, internal and external
    - *Information Inquiries*- people that call up for information, specific to Scotland.
    - Reports generated are similar to Helplines
- Presents reports to funders

Acting Director
Margaret Morton (Scotland)

- Produces reports for funders
- Depends on funding what information is included in reports
    - Funder provided with a form to fill in (Community funders- largest)
- Obtains information from application

Regional Administrator
Jane Robson (Southwest England)

- Holds regional records
- Makes sure IT systems are in good state
- Gets the information they need to function as a region
- Handles inquiries that go through the office

Head of Trust Fundraising
Anna Kelly (UK Office)

- Generates reports to use later on
    - Used to track historical data of the organisations funding from trusts
    - Information in reports- tracking where money goes and how it is used
- Generates reports for funders

Appendix B.2 Use of Databases in the Organisation

- Northern Ireland
    - Excel
    - Access (RANDi) is not used that much
        - Only keep a few records on donors
    - Planner used to store information (Training Development)
- Scotland
    - Access database- enters handwritten information (Information Services)
    - Access Database similar to RANDi
    - Spreadsheets (Excel) (Acting Director)
- Wales
    - Microsoft Access, but not RANDi database
- South West England
    - RANDi database
        - Contains data of all branches and branch offices
        - Uses it for details on training courses
- North England
    - Excel Spreadsheet (Finance)
    - RANDi (Training)
- Central England
    - RANDi
- South East England
    - 'Training Database' similar to RANDi
    - All southeast branches on that system

Appendix B.3 Is there information missing that should be included in the Reports?

- Northern Ireland
    - No
- Scotland
    - No
- Wales
    - Statistics like number of people who have which condition (e.g. How many people have rheumatoid arthritis, etc)
    - Qualitative information (feedback from training groups)- no way to store information
- South-West England
    - ?

- North England
  - ?
- Central England
  - ?
- South East England
  - ?

Appendix B.4 Would you find it useful for other offices to see information about your region?

- Northern Ireland
  - Yes, it would be helpful to see numbers of information inquiries, training courses, and fundraising
- Scotland
  - ?
- Wales
  - Yes
- South West England
  - ?
- North England
  - ?
- Central England
  - ?
- South East England
  - Yes

Appendix B.5 Would it be useful to see statistics from other regions on Flo?

- Northern Ireland
  - Yes, it would be helpful to see comparisons
- Scotland
  - Yes, it would be useful
  - Possibly, this information might be useful for reports generated across UK, though she had never personally felt a need for it
- Wales
  - ?
- South West England
  - ?
- North England
  - Yes
- Central England
  - ?
- South East England
  - Yes, that way if someone asked about the training available in the UK, they could refer them to courses in another region

Appendix B.6 Standard Report Format?

- Northern Ireland
  - No, they all have their own templates
- Scotland
  - No, doesn't use one, has no suggestions for one

    - Thinks there is too much variance to make a standard
- Wales
    - Suggestion- Average age of training participants
- South West England
    - None
- North England
    - None
- Central England
    - None

Appendix B.7 How would you feel about a Protocol Document?

- Northern Ireland
    - Yes, it would be good if there was some sort of log or way to keep track of what information is being entered
- Scotland
    - Yes, Would be very helpful/useful
- Wales
    - Yes, It will be helpful
- South West England
    - Feels indifferent about it… but feels it is important to have up to date information
- North England
    - Would be very helpful
- Central England
    - ?
- South East England
    - Yes, would be helpful

Appendix B.8 Suggestions/Complaints for Flo/CID

- Northern Ireland
    - If someone looks at a document and closes it, they can't go back- the document does not open in a new browser
- Scotland
    - None
- Wales
    - Useful ensuring that information is updated
    - Not always informed if it is up to date
    - Error index
    - Dating system to know how old data is
    - Search feature is bad
- South West England
    - ?
- North England
    - ?
- Central England
    - ?
- Southeast England
    - Doesn't think that it is very intuitive
    - Has a hard time searching for people/branch members

Appendix B.9 Other Observations/Suggestions:

- Many people do not use Flo because they don't have access
    - We would recommend access for more staff members
    - The Information Services Manager doesn't even have access (Katy Green)
- Margaret Morton of Scotland-
    - Is hesitant about a data collection system throughout the entire organisation
- Staff in Regional Offices don't seem to use CID or Flo much.
- Linda Clements from Northern Ireland wants to amend the evaluation form for qualitative feedback from training courses. People score low on it because they do not understand the question
- Helplines really need their own database systems, they currently use pen and paper to record information. The access to a database would have to be restricted because the information is highly confidential.

Appendix C: The StaN Manual

StaN Manual

20 April 2004
The WPI Consultants

Contents

What is StaN?

StaN was developed as a method of displaying statistical information from regional and national offices. All information displayed on StaN is read only and cannot be modified. The statistical information is intended to provide a basis for reports to aid in fundraising and to monitor performance.

How does the information get in to StaN?

The information in StaN relies on the diligence of staff members to update data with regularity. The steps for using StaN are outlined below.

How can I use StaN?

There are two main interactive sections that are included in StaN. They are statistics and statistical documents. The statistics sections displays information from regional and national databases; and the statistical documents sections stores documents which contain information not kept in a regional or national database.

Using the Statistics sections:

The Statistics section is broken up in to 3 parts:

1. *Viewing Statistics*
2. *Uploading a database* from which the statistics in the 'View Statistics' section are pulled from.
3. *Entering general statistical information* from those regions who do not store information on databases. This information will be used for comparative displays amongst regions.

It is important to note that all information contained in and displayed from databases or similar files in this section is **READ-ONLY** and the information cannot be modified. This information is only for high level statistical information and is stored in a secure file storage area of the CID.

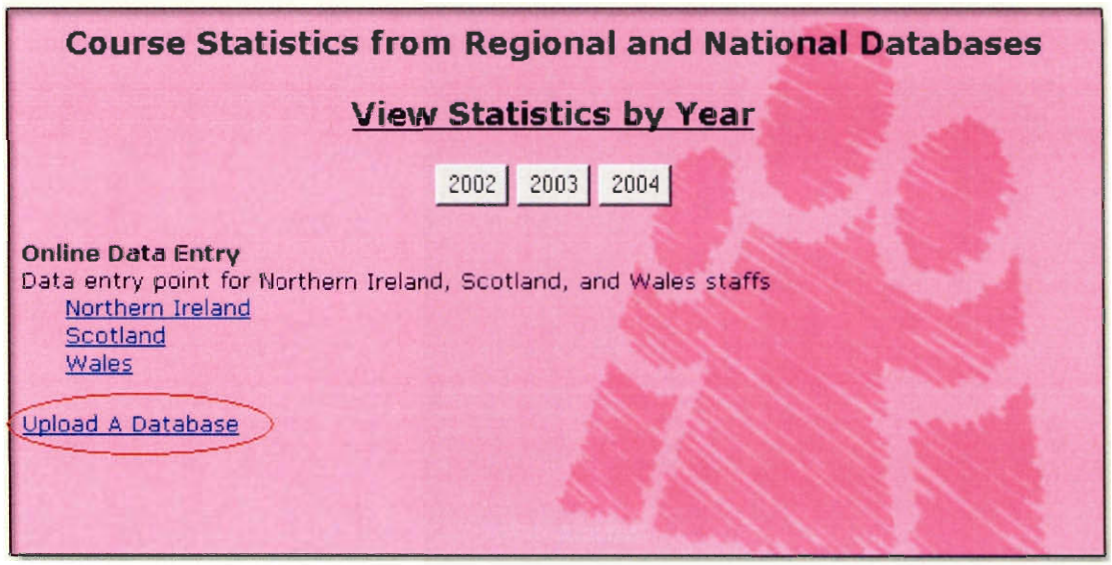
Viewing statistics

In this section Statistics can be viewed by clicking a button with a year on it to view statistics from that year. This will open a new window and will display only the information which is available from the database.

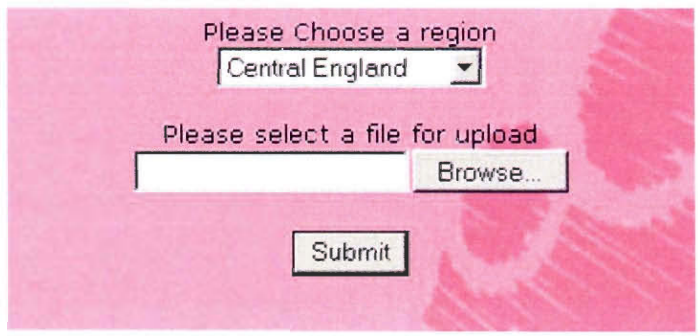
Uploading a database

In order for the statistical information to remain reliable databases containing updated information should be uploaded as defined in the ITP (Information Tracking Protocol).

On the StaN Statistics page clicking "Upload a database" will bring you to a page where a database can be uploaded.

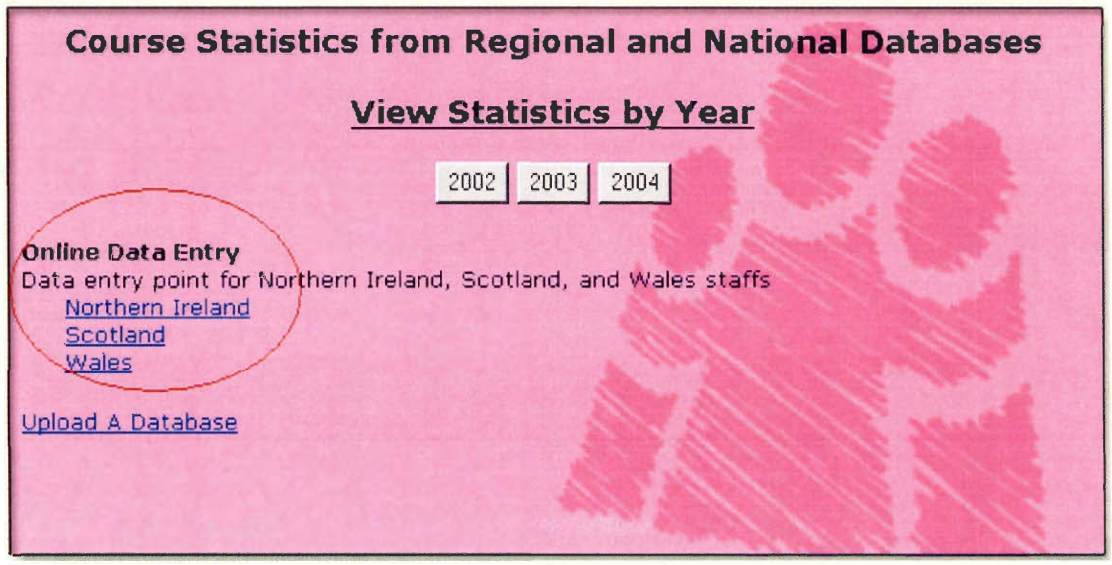


On the upload database page you be presented with a page requested you to submit a database. Select your region from the dropdown menu. Browse your computer for your database file. Once selected, click the submit button. Depending on the size of your database, and the speed of your internet connection **this may take a while**. Expect this to take at least 5 minutes and as long as an hour. As the database is being sent to the server you may continue to perform work on your computer in another window.

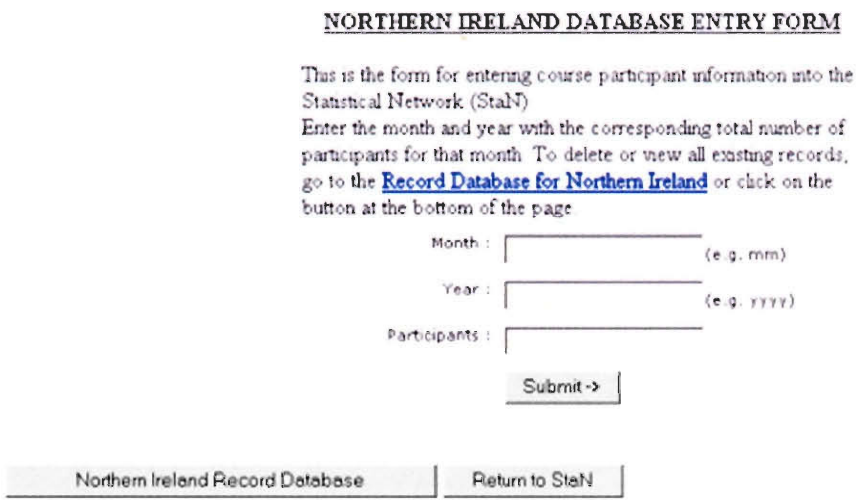


Entering information not provided from a database

To enter information, for comparative purposes, to be displayed side by side with similar information which is provided in a database go the StaN Statistics page. On this page you will see a section of the page entitled Online Data Entry. The regions and nations listed are those who do not use a compatible database format with the system.

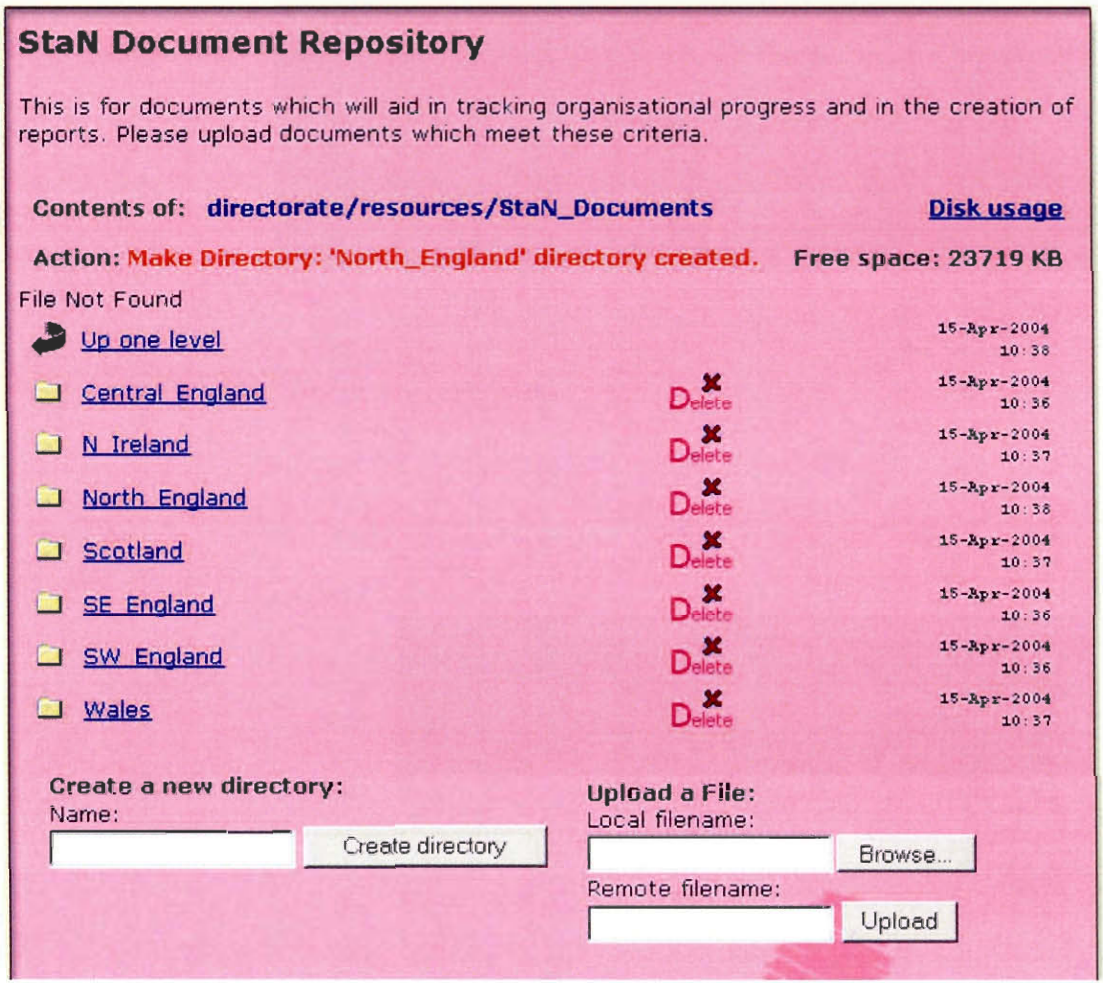


To enter information click your region or nation. You will be brought to a data entry page.



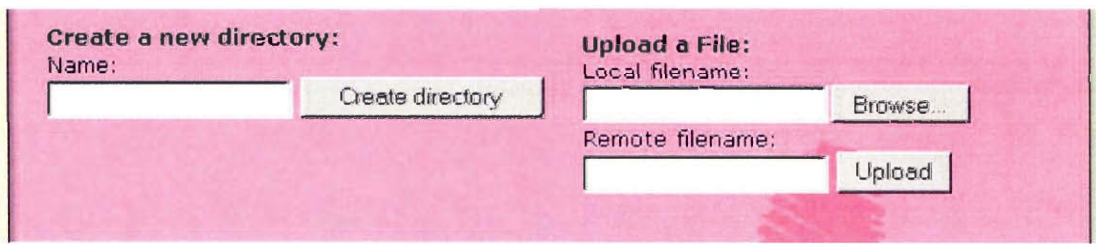
On the data entry page there are three fields which will help you provide information pertaining to courses, month, year, and participants. Enter the corresponding number for month (for example, April = 04), the year, and the number of participants in training courses overall for that month. Once your information is entered press the Submit button. Your information will now be displayed on the StaN Statistics page.

Using the Statistical Documents section:



Each region or nation has been provided with their own folder within this section to place files containing statistical information. The files in this folder are meant to be useful for report generation. Examples of such files would be those containing training course participant numbers, helpline information, volunteer or member numbers.

To upload a file click your office's folder. In this directory you will see a section called 'Upload a File'.



To place a file in this directory click the 'Browse' button. You will be presented with a window to choose the file to be uploaded. Once the file has been selected click 'OK'. The field below 'Local filename' will be filled and you will have the option to change the name of the file to a more descriptive title in the field below 'Remote filename'. Once a suitable name has been entered click the 'Upload' button. Your file has now been placed in the folder!

Appendix D: Protocol Document

Information Tracking Protocol

30 April 2004
WPI Consultants
WPI

Introduction

This protocol will inform all staff members that interact with database and communication systems at Arthritis Care which systems are used within the organisation, how the systems can benefit the organisation, and will provide guidelines on how data will be entered into the systems.

Overview of Components in this Protocol:

1. Arthritis Care Mission Statement
2. Information Technology Vision
3. Information Handling
4. Chain of Information
5. Key People and Roles Defined
6. Uploading Databases
7. Reports

Arthritis Care Mission Statement:

'Our vision is clear. We are working hard to ensure all people with arthritis are included in society and given access to the same opportunities as everyone else. We are striving to create an environment which enables people with arthritis to manage their condition through information, support, and self management. Each of our key aims- representation, information and support, training and inclusion- must be fulfilled in order to become a truly successful voluntary organisation. **Relying on the generosity of our supporters to exist, we must continue to work efficiently and effectively focusing on how all our members, branches, groups, staff, volunteers, and supporters can work together'**.
(http://www.arthritiscare.co.uk/downloads/pdfs/M_A_DIFF-small.pdf)

Information Technology Vision:

'Arthritis Care understands information technology as being an essential component of communication within the organisation. The flow of information within the organisation has a direct correlation to the quality of information provided to stakeholders. Arthritis Care aspires to be able to track and report progress within the organisation as accurately and efficiently as possible. Arthritis Care pursues this vision by using the IT resources at their disposal in hopes of achieving these organisational goals'.

Information Handling

Data Protection Act of 1998

"An Act to make new provision for the regulation of the processing of information relating to individuals, including the obtaining, holding, use or disclosure of such information."

This act of Parliament discusses rules about accessing data, sharing data, and use of the data. It defines the enforcement of the data protection act, the unlawful obtaining of personal data, offences, etc.

Please allow time to refer to the complete document on *Her Majesty's Stationary Office* webpage:
(http://www.hmso.gov.uk/acts/acts1998/19980029.htm)

Chain of Information

What?

- A bottom up process beginning with data collection and entry and including all steps leading to report generation and presentation to stakeholders. It is important to note that the process begins with administrative staff and the chain cannot be completed if one of the steps is removed or interrupted.

Where?

- In databases, computer files, and paper documents

Why?

- Data cannot be extracted, analysed and included in reports if it does not exist and is not available
- The reports can be used to demonstrate Arthritis Care's value to the community to gain financial support from stakeholders

The major foundation in which Arthritis Care is based on is the generosity of its donors. If Arthritis Care cannot provide these stakeholders with appropriate information about the progress within the organisation, funders could lose interest in the organisation. The organisation cannot survive without their assistance.

(see figure on next page)

Databases Available In Organisation

Databases are used to store and extract information. They are a good resource because information can be both entered easily and queried for analysis.

- **Corporate Information Database (CID)**
  This database is used as a document repository and directory for staff members. It contains corporate information and can be accessed by everyone in the organisation online (www.cid.ac)

- **Statistical Network Display System (StaN)**
  An interface on the CID which is Arthritis Care's newest communication system. StaN pulls information from regional and national databases concerning training course statistics. It also houses a document repository in which statistical spreadsheets can be uploaded. Reports generated can aid in fundraising efforts. (http://cid.ac/home/stan/)

- **Saturn**
  The contact database that contains information about branch members, trustees, donors, bank accounts, etc. Used by staff in the Marketing and Developing department.

- **RANDi**
  Microsoft Access- based database used by the regional offices. It contains information about training courses and other regional data.

- **Local Databases**

These databases are used by regional and national offices to store data that is entered only for their specific use. It is usually a Microsoft Access database or an Excel spreadsheet. There are any numbers of formats.

Key People and Roles Defined

People

Expectations:

- ***Administrative staff:***
  Enter data frequently into the systems so that management can generate useful reports.
- ***Management:***
  Should work together and share information with other offices using the databases available in the organisation. If done effectively, it will lead to more informative report content to be used in acquiring funding that can be used to help people with arthritis.

Roles

Administrators at Regional/ National Offices

Process	Frequency
Enter data to either Access database (RANDi) or other data storage medium	Weekly or more frequently as necessary

Management at All Offices

Process	Frequency
Place documents on StaN (*)	Weekly
Place database on StaN (*)	Monthly- by the 15th of the next month
Share information with colleagues	As requested

(*) A manual on how to do this can be found at http://cid.ac/home/stan/howtouse.asp

Management (cont'd):

- Use the discussion board to communicate with staff members
- Evaluate how information is being tracked and shared throughout the organisation
  - Monitor data entry frequency and reliability of data
  - View statistical information on StaN to comparatively analyse regions
  - Evaluate the quality of the information available in local databases and on the CID and StaN for use in reports

Uploading Databases

In order for information from the databases to be uploaded and displayed on StaN, the format of the database should not change. If the format is of the database has changed, the upload program will not work. Please do not change the format of your training statistics. The Training Services Managers are specifically responsible for uploading and entering this information which is outlined in the StaN Manual.*

Regions and Nations that can upload databases to StaN:

- Northern England
- Southeast England
- Southwest England
- Central England
- Scotland

In event that a database cannot be uploaded, there is a database available on the CID in which offices can enter the data manually (course participants by month).

Nations that must enter data onto the database available on the CID:

- Wales
- Northern Ireland

*Contact Simon Goodwin if you are having trouble placing statistics on StaN

Reports

The data that is entered into the systems by the staff is used to generate reports that are presented to the stakeholders. This is an example of the data that is collected and used to generate a report about training statistics*. The efficiency of creating reports is dependant on the validity of the data entered into the systems. See a sample report on the next pages.
(* Data not accurate)

Arthritis Care Sample Report

A Comparison of Training Courses in Regional/National Offices in 2002-2003

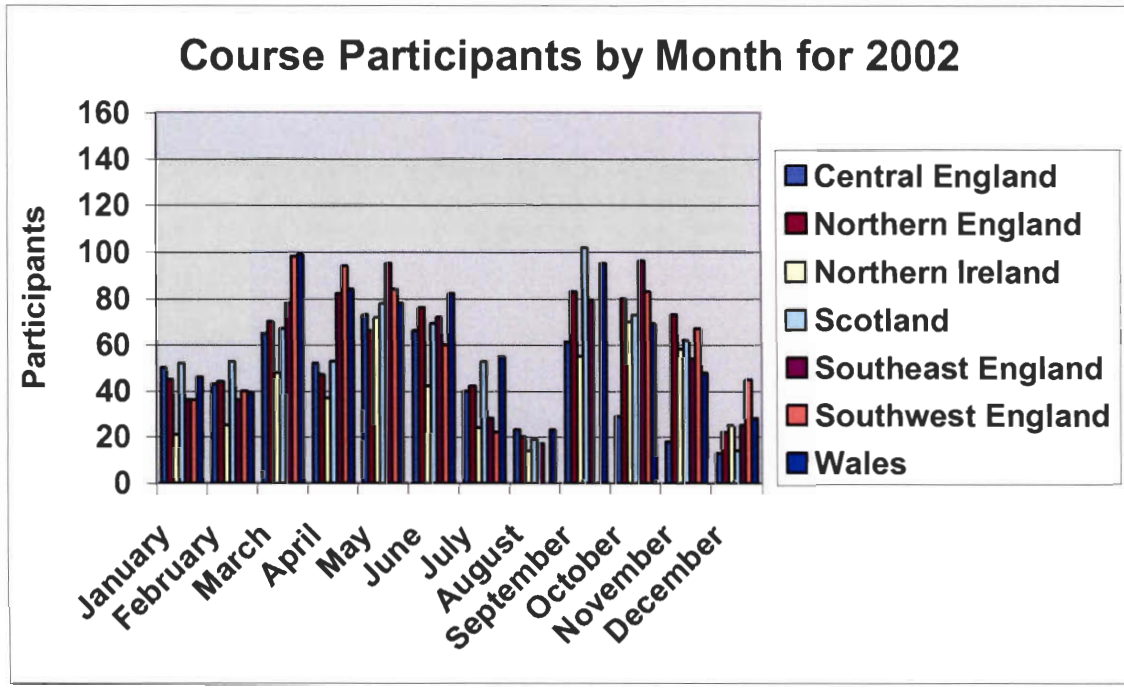
Course Participants by Month for 2002

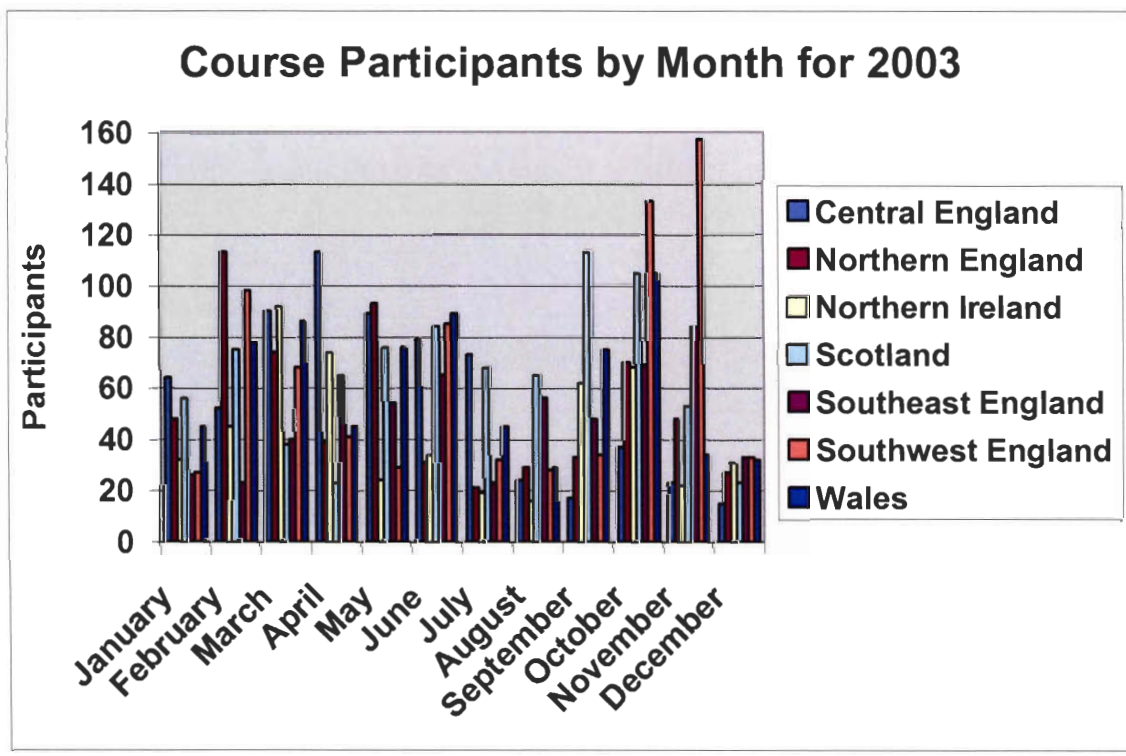
	Central England	Northern England	Northern Ireland	Scotland	Southeast England	Southwest England	Wales
January	50	45	21	52	36	36	46

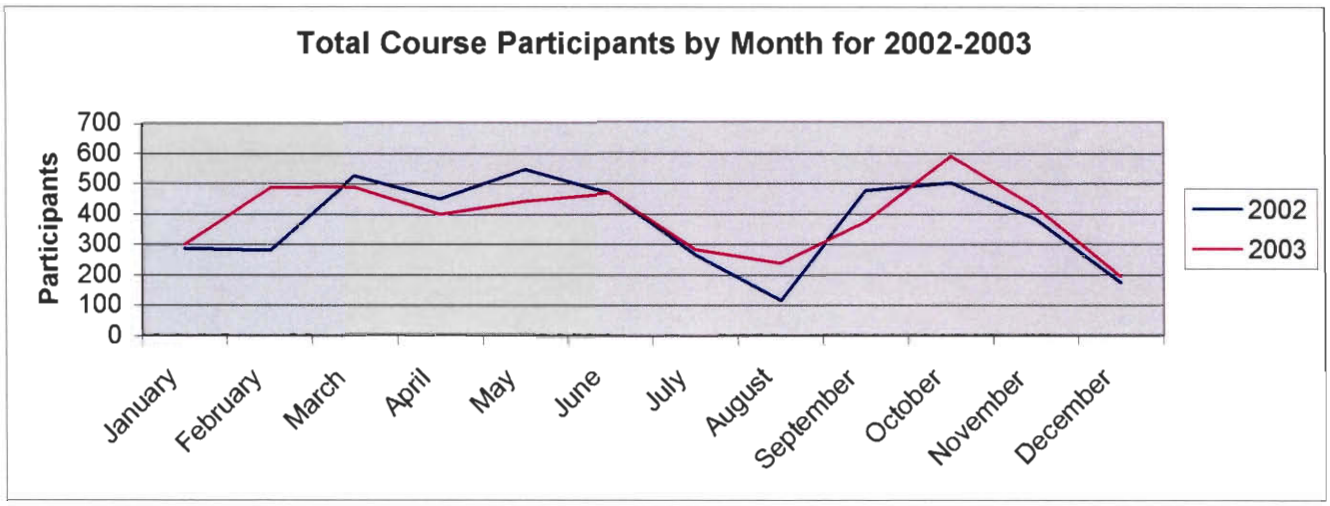
February	43	44	25	53	36	40	39
March	65	70	48	67	78	98	99
April	52	47	37	53	82	94	84
May	73	66	72	78	95	84	78
June	66	76	42	69	72	60	82
July	40	42	24	53	28	22	55
August	23	20	14	19	17	0	23
September	61	83	55	102	79	0	95
October	29	80	70	73	96	83	69
November	18	73	58	62	54	67	48
December	13	22	25	14	25	45	28
TOTALS	**533**	**668**	**491**	**695**	**698**	**629**	**746**

Course Participants by Month for 2003

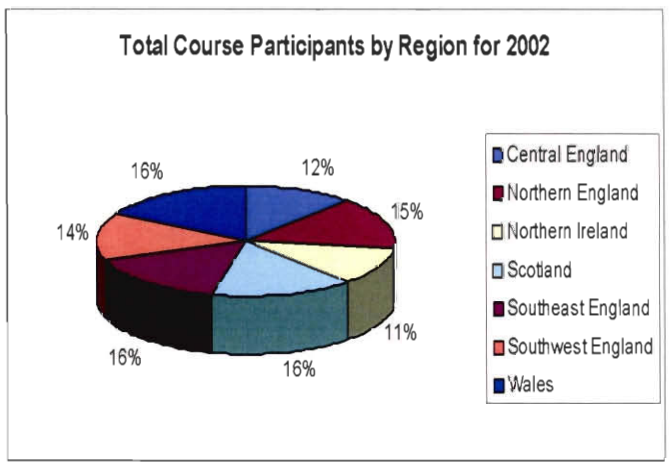
	Central England	Northern England	Northern Ireland	Scotland	Southeast England	Southwest England	Wales
January	64	48	32	56	26	27	45
February	52	113	45	75	23	98	78
March	90	74	92	38	40	68	86
April	113	39	74	23	65	41	45
May	89	93	24	76	54	29	76
June	79	31	34	84	65	85	89
July	73	21	19	68	23	32	45
August	24	29	16	65	56	28	29
September	17	33	62	113	48	34	75
October	37	70	68	105	69	133	105
November	23	48	22	53	84	157	34
December	15	27	31	23	33	33	32
TOTALS	**676**	**626**	**519**	**779**	**586**	**765**	**739**

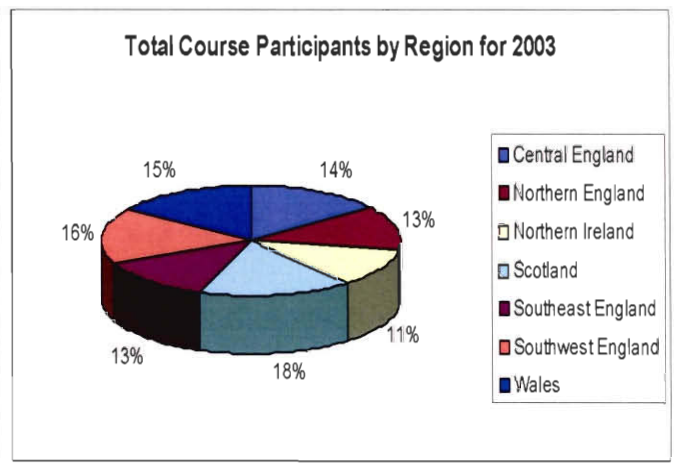

Course Participants by Month for 2002
Participants
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Central England
Northern England
Northern Ireland
Scotland
Southeast England
Southwest England
Wales


Course Participants by Month for 2003
Participants
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Central England
Northern England
Northern Ireland
Scotland
Southeast England
Southwest England
Wales

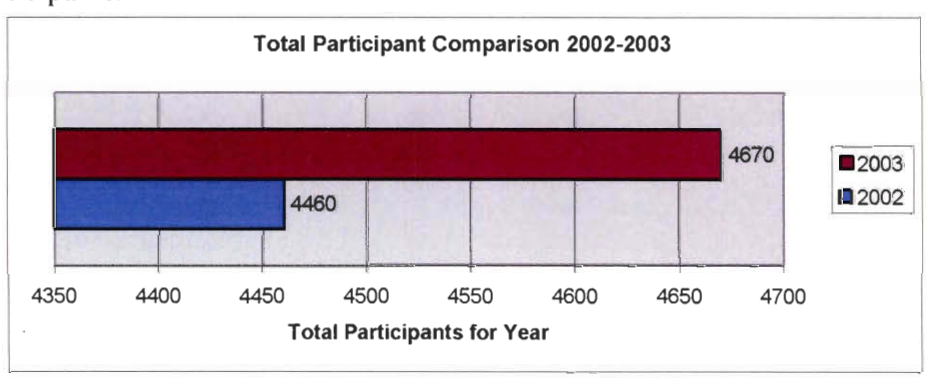


Course Participants in 2003 are noticeably greater, though during some points, 2002's total course participants rise above. Consistent trends in 2002 and 2003 indicate peak months in April and late spring then a large decline in late summer and early autumn, then another peak in mid-late autumn.





Wales, Southeast England, and Scotland held the largest percentage of total course participants in 2002. In 2003, Scotland finished up the year with the most training course participants.



Total course participants increased by 4.7% in 2003 from the previous year.