Reengineering of the Patient Flow Process at the Western Sydney Area Health Service

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Abstract

This paper discusses the re-engineering of “Patient Flow” and “Billing” processes at the Western Sydney Area Health Service.

Western Sydney Area Health Service (WSAHS or the Area) is a large public health institution under the state government of New South Wales, situated in the western suburbs of Sydney, Australia. WSAHS provides health care to a patient base of 1.4 million people. Total capacity is 2,000 beds. It employs over 10,000 staff and has an operating budget of $A900 million per year.

Despite achieving productivity gains of 10% per year over last seven years the waiting lists have continued to grow. Being dependant on public funding the Area had to find a more dramatic approach than the TQM methods to date. Of the several options considered the Business Process Reengineering (BPR) approach of the US Military Health Services, and the Mayo Clinic Scottsdale’s effort of multi-disciplinary technique to implement organisational changes seemed particularly attractive. It was therefore decided to embark upon a BPR project to reengineer the Patient Flow and Billing processes.

The benefits to the Western Sydney Area Health Service are significant. First there is greatly enhanced service to the patient. Then there is improvement in relationship with the patients, and with the visiting medical officers. Finally there is a major improvement in the cash flow and bad debt recovery.

1. Introduction

Faced with years of decreasing public funding the management of Western Sydney Area Health Service radically changed their outlook from being a service provider and making each unit efficient in isolation, to being patient focused. To implement this a decision was taken to identify and reengineer the key business processes.

This paper presents the problems faced by the Western Sydney Area Health Service which led to the above decision, how the reengineering project was carried out, and the benefits resulting from the project.

2. Background

Western Sydney Area Health Service (WSAHS, or the Area) is a large public health institution under the state government of New South Wales, situated in the western suburbs of Sydney, Australia. It is one of sixteen such independent public health institutions, which together with a central government department make up a federation of healthcare services known as the New South Wales Health Corporation.

WSAHS provides health care to a patient base of 1.4 million people through seven hospitals and seven community health centres. Total capacity is 2,000 beds. It employs over 10,000 staff and has an operating budget of $A900 million per year. The primary hospital is Westmead Hospital, which is the largest teaching hospital in Australia. Westmead Hospital’s University Clinic is the largest outpatient clinic in New South Wales (NSW) treating in excess of 1,650,000 patients per year. The Westmead Dental School is the primary teaching unit for dentistry for the University of Sydney. The Dental School sees 35,000 patient per year.

WSAHS’s pathology laboratories known as the Institute for Clinical Pathology and Medical Research (ICPMR) is the largest pathology laboratory in Australia. ICPMR has the responsibility of accrediting all pathology laboratories in South East Asia. ICPMR also provides laboratory services to over half the state of NSW. In addition to ICPMR, Western Sydney Area Health Service also operates several state-wide services such as the
state’s Breast Screening Institute and the National Renal Transplant Services.

Funding for WSAHS comes from the federal government in the form of Medicare rebates for non-inpatient services ($A10 million per year), and the state funding for inpatient services. Of all the WSAHS’s inpatients 7% are either comprehensively insured (accident insurance) or are members of private health funds.

Table 1 summarises the statistical features of the institutions in Western Sydney Area Health Service [1].

**Table 1. Profile of institutions in Western Sydney Area Health Service**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Type of Institution</th>
<th>Capacity</th>
<th>Inpatient Services</th>
<th>Outpatient Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Joseph’s</td>
<td>Geriatric Nursing</td>
<td>75 beds</td>
<td>955</td>
<td>29,415</td>
</tr>
<tr>
<td>Lottie Stewart</td>
<td>Geriatric Nursing</td>
<td>126 beds</td>
<td>764</td>
<td>6,735</td>
</tr>
<tr>
<td>Cumberland</td>
<td>Psychiatric Institute</td>
<td>302 beds</td>
<td>2,194</td>
<td>53,933</td>
</tr>
<tr>
<td>Auburn</td>
<td>District Hospital</td>
<td>163 beds</td>
<td>13,794</td>
<td>144,777</td>
</tr>
<tr>
<td>Mt Druitt</td>
<td>District Hospital</td>
<td>216 beds</td>
<td>13,122</td>
<td>234,928</td>
</tr>
<tr>
<td>Blacktown</td>
<td>District Hospital</td>
<td>356 beds</td>
<td>34,126</td>
<td>146,294</td>
</tr>
<tr>
<td>Westmead</td>
<td>Teaching Hospital</td>
<td>1,000</td>
<td>58,500</td>
<td>1,650,000, Dental: 35,000</td>
</tr>
</tbody>
</table>

Each institution has its own executive, medical staff council and administrative service. The Area is administered by a CEO and an Area Executive Management Committee who in turn are responsible to a board of Directors appointed by the local community, the state government, and the medical and staff organisations within the Area Health Service. This structure is not unlike some major international structures such as Northwest Covenant in the US, and European health enterprises such as the Regional Health Services in the UK. Indeed the model is not unique to Australia. The health services in the state of Victoria in Australia are organised along similar lines.

However, unlike in the US, the bulk of Australians do not have private health insurance and the number of insured has steadily declined over the past 10 years from 75% in 1983 to 33% in 1998 [2]. Health Maintenance Organisations (HMOs) are unknown in Australia and employees are not required (in fact discouraged under the Federal Government’s taxing of such policies) to provide health cover for their employees. The deterioration of the privately insured patient base has placed a growing strain on public health services. To meet this demand with little increase in public funding, WSAHS has had to meet productivity gains of 10% per year over the past seven years.

### 2.1. The Health-Care Issue

Despite the productivity gains obtained, waiting lists have continued to grow. Fuelled by a growing population base and a greater reliance on public rather than private health, WSAHS has had to find a more dramatic approach than the TQM methods to date.

Since 1996 there has been a gradual take up of the US concept of DRG clinical costing to help identify inefficiencies and improve the efficiency of the Area. However, there has been a general attitude throughout the WSAHS that because the health services are basically state funded the drive for business unit efficiency is about cost containment, not improved service. This is all about to change.

In 1996 the NSW Government announced a revised funding model to take affect in July 1998, known as the RDF (Resource Distribution Funding) model. The concept is loosely based on the UK health funding model. In the past the health services were funded on the population base that they intended to support rather than on the services that they provided. This meant that if a patient from Western Sydney Area Health Service catchment area were to be treated by the North Sydney Area Health Service, the latter provided the service for which it was not funded. These services are known as outflows (from WSAHS). Under the new funding arrangements, if a patient from Western Sydney is treated in a neighbouring Health Service the cost of the service is met from WSAHS budget allocation. Effectively the funding follows the patient. WSAHS currently has a 20% outflow to other Health Services and a 20% inflow. To stabilise its revenue base and in fact create a profitability basis to improve local patient services, the health service must stem the outflows.

It became obvious that the problems faced by the Western Sydney Area Health Service required a radical approach rather than what will give incremental benefits. A number of options were investigated to address the Area’s underlying philosophy. Instead of being service provider centric and looking fundamentally to making individual business units efficient in isolation of others the view was changed to becoming patient centric, or patient focused. Currently a given hospital does not know if a patient it has dealings with is being treated by another hospital. In the new scenario all clinical services would be viewed from a patient’s perspective. Clinical Streams have been established so that a patient becomes the client of the stream, which operates service over a number of hospitals, rather than the patient being a customer of just one hospital.
Furthermore, this scenario is planned to be extended to include the local General Practitioners (GPs) into the patient-care cycle. The total patient care is not merely a service that starts and finishes at the hospital door. The new model is moving some way towards the USA HMO model. This is a particularly important point because it is generally considered that patients recover more quickly in the home environment supported by local GPs and community nurses than in the hospital. Furthermore, quite coincidentally, the outflows discussed above are thought to be caused in the main by the GPs referring patients to other hospitals outside the Area basically on the “old boys” network. The new care paths model brings in the local doctor more closely into the care loop and by providing him with better pathology and diagnostic services online increases his working with the facilities within the Area.

Because of this need for a radically different solution, and the desire to become more customer focused the WSAHS decided to use the Business Process Reengineering (BPR) approach for overhauling its business processes. The management knew of the immense popularity gained by BPR in the recent years. They were also aware of the fact that BPR was relatively new, and that the staff at WSAHS had little or no experience in the methodology. However it was clear that BPR has been successfully used by many health care organisations, for instance the Military Health Services [3] and the Mayo Clinic Scottsdale [4]. Mayo Clinic’s effort of multi-disciplinary approach to implement organisational changes seemed particularly attractive.

In any event the management wanted to make sure of the fact that BPR was just not a passing management fad but something that could give them results of lasting value.

3. Business Process Reengineering Approach

3.1. Relevance of BPR

Management fads come and go. Among the so-called fads that we have witnessed since the middle of the twentieth century are Program Evaluation and Review Technique (PERC), Zero Based Budgeting, Materials Requirement Planning (MRP), Management by Objectives (MBO), Strategic Planning, Management-by-walking-around, Activity Based Costing, and Total Quality Management (TQM). There is no doubt that the latest in line of such so-called fads is Business Process Reengineering (BPR). It has been argued that fads have a life cycle of their own [5]. They grow, mature, and fade away. Fads that are at the right place at the right time are assimilated into the mainstream management practice before declining as fads. They become part of the mainstream management knowledge.

BPR certainly belongs to the category of such management knowledge. Since its beginning in 1990 it grew quickly, matured, during which time it gained extraordinary popularity, and finally reached a stage when it was absorbed into the mainstream management practice. While many researchers maintain that BPR is nothing new, in the current context its origin can be attributed to Davenport and Short [6] and Hammer [7]. And although since that time it has gone through several modifications, the main essence of BPR remains the same. BPR is the fundamental rethinking and radical redesign of business processes to bring about dramatic improvements in performance [8]. The key words here are processes, radical redesign, and dramatic improvement. Within this broad definition BPR may mean different things to different people. Some think of it as innovative use of Information Technology (IT) while others associate it with downsizing of the organisation. In any case wherever a fundamental or revolutionary shift is desired, BPR is a front runner.

Initial discussions with the management of WSAHS convinced them of proceeding with the BPR approach. However they took two decisions. First, their own officers, and not the consultants will conduct the study. For this the selected personnel would need to be trained in the study methodology and be guided by a consultant. Second, two processes, namely the Patient-Flow process, and the Billing process will be used as a pilot project for reengineering. It was a wise choice to have these two processes together because they are closely interrelated. Also a decision was taken that the training sessions will be hands-on type sessions with the participant groups working on these two actual processes during the training period.

To conduct a BPR study there is no universally accepted technique. The growth of BPR was so explosive that only one year after its origin in 1990 there were more than 100 consultants offering reengineering services [9]. In absence of an established methodology they all came with their own BPR techniques. These techniques however had some common themes. Typically they were:
- Maintain constant focus on the customer
- Aim at dramatic improvement in cycle time, cost and quality
- Focus on business goals
- Obtain executive level commitment
- Assemble a cross functional team to redesign the process
- Understand the current processes
- Maximise the performance of entire business unit or the organisation, not just a portion
- Eliminate tasks that don’t add value to the customer
3.2. Customisation of the methodology

Based on a large number of BPR studies we have developed our own generic BPR methodology. Initial discussion with the management revealed that the generic methodology is largely suitable for WSAHS but may require some customisation. Fitting a generic methodology to a particular organisation and process even when the changes are not many is one of the hardest challenges. Process reengineering at the Western Sydney Area Health Service was no exception. To ensure that BRP technique is suitable for the situation, and customise as needed, a series of discussions were held with the executive sponsor of the study. The sponsor was one of the highest level executives of the organisation who saw this project as a major opportunity for effective management of the delivery of health service in the region. In these discussions, the client expectations and objectives were confirmed, the methodology customised and documented, the project team finalised, and the timetable for the project prepared. The success criteria for the various study phases was also developed so that project progress can be measured, and corrective action taken as required.

The BPR methodology customised for Western Sydney Area Health Service consisting of following five phases is described below.

1. Commitment

The main objective of this phase is to obtain senior management commitment for the BPR study. It consists of confirming the overall corporate objectives, and determining the client expectations of the reengineering project. A cross-functional BPR team is selected. An executive briefing is given to the team by the executive sponsor covering the value and significance of the BPR project to the enterprise. Expected measurements of the reengineered process are specified and agreed.

2. Definition

The BPR team is trained in the methodology. This is conducted as a hands-on type workshop. The topics covered include redesigning work, innovative uses of technology, process mapping, and people issues in reengineering (Refer Figure 1). Actual case studies are presented. This phase also involves the team describing and documenting the current (“As-Is”) process using the Service Encounter Mapping Method described below. The relevant measurements of the current process are identified.

3. Redesign

Armed with the BPR education, and assisted by the consultant, the team identifies the change opportunities (“To-Be” process). As far as possible a “clean-sheet” approach is used. The emphasis is on how it can be done, rather than how it is done.

4. Reconstruction

In this phase a detailed analysis of the new process alternatives, costs, human resource considerations and other implications is carried out. This includes the organisational and technology changes, impact on people, and value and risk assessment of the alternatives. A recommended action plan is developed.

5. Report

Final report is presented to the management for approval and their commitment to proceed.

3.3. Process Mapping Technique

Process mapping is a key part of any BPR exercise. For this study a technique called Service Encounter Mapping Method (SEMM) was used. This mapping technique is inspired from a number of existing techniques, specifically the Line of Visibility Engineering Methodology [11]. SEMM is a simple yet an extremely powerful technique. Its single strongest feature is that one is able to use it with little training. The focal point of SEMM is the depiction of the service encounters (interactions) that the client has with the organisation for obtaining service.

Figure 3 shows the Service Encounter Map of the “As-Is” Patient-Flow process. As can be seen there are a number of horizontal bands (rows) in this map, the top one belonging to the client (in this case the patient), and the remaining ones belonging to the various internal functions of the organisation. The Line of Service Encounter (LSE) is the line dividing the client and the organisation. The map shows the process activities as well as the lines of data flow. A client service encounter occurs each time a line of data flow crosses the LSE. The more the lines of data flow cross the LSE the more the number of customer interactions with the organisation. The Service Encounter Map also shows the internal organisational activities associated with the process as well as the number of times the process involves crossing from one function to another.

This technique is also very effective in identifying the process bottlenecks, determining the time taken for carrying out activities including wait time, finding out the number of client interactions for a process and the opportunities for reducing them, and detecting the redundant activities. It is also a very good technique for
4. The BPR project

4.1. Project objectives and expectations

The BPR project for the Western Sydney Area Health Service was kicked-off with a 2-hour BPR Workshop Planning Session. Following were the objectives of this session, which covered the first phase (Commitment phase) of the study.

- Inspect corporate business objectives
- Confirm workshop scope and objectives
- Select appropriate business process to be reengineered
- Determine client¹ expectations
- Describe key benefits of the reengineered process
- Identify critical assumptions
- Define workshop/project timeline
- Identify pre workshop activities

The planning session was followed by the Business Process Reengineering Workshop with the following objectives for individual participants, and the teams. The workshop covered the Definition phase and part of the Redesign phase of the study.

- Acquire knowledge of the fundamentals of business process reengineering
- Obtain an understanding of the new business environment
- Develop an appreciation of the technological revolution
- Assess the impact of process reengineering on organisations and personnel
- Describe and document the current (“As-Is”) process using the Service Encounter Mapping Method.
- Identify the relevant measurements of the current process
- Identify change opportunities (“To-Be” process)

4.2. Project team

The BPR team should always be a cross-functional team. It is a very important requirement for the success of the project. In the case of WSAHS the project team consisted of 12 people selected from several functional areas including IT. The team was chosen carefully to provide a mix of skills and knowledge required for the success of the project. Following were the members of the project team.

- Area Executive
- Director Human Resources
- Manager Internal Audit
- Corporate Training Manager
- Manager Area Consulting Service
- Area Corporate Executive (Policy) Officer
- IT managers (3)
- IT professionals (3)

¹ Client refers to client of the process being reengineered.

As is clear from the above there were six participants each from the IT and non-IT functions. The members of the team were selected based on specific strengths that they brought to the BPR project. The Area Corporate Executive (Policy) Officer was included because of his in-depth experience in medical administration. The Manager Area Consulting Service was a provider of methods studies, and had involvement in the implementation of the recommendations. The Area Executive had been in the health services for a long period, working with senior level executives. As a result he had a very clear grasp of the management policies, direction and goals. The Manager Internal Audit was chosen because he was, among other things, responsible for auditing the Area’s business processes. His participation was necessary to ensure that the reengineered process meets the organisation’s quality requirements. The Director Human Resources was included because of the possible human resource implications of the reengineered process. The Corporate Training Manager was part of the team because the BPR project was also considered a learning exercise for the employees of the organisation. She was also responsible for measurement of the quality of the BPR workshop.

Among the IT staff there were three each from the management, and from professional ranks. The managers provided the IT strategic direction, whereas the IT professional provided the operational level input to the BPR exercise. One of the managers was specifically selected for this project because he was a recent appointment in health services, and therefore had a fresh perspective on the health care system.

4.3. Project Schedule and Team Training

The schedule of the BPR project customised to meet the requirements of the Western Sydney Area Health Service is shown in Figure 1. Figure 2 shows the planned BPR project timeline. As can be seen there was an overlap between the second and the third phases. This was so because it was decided that the lecturing sessions for the training be interspersed with hands-on practice sessions. This turned out to be a very good decision as it helped develop team synergy, and maintain a very high level of active participation by the team members.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Session</th>
<th>Duration</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>BPR workshop planning session</td>
<td>2 hours</td>
<td>Introduction and class room session</td>
<td>In this session the participants were introduced to the BPR workshop, its purpose, structure, and the relevance of the workshop to them. The participants were also given pertinent publications for reading. The reengineering problem was identified, and business objectives confirmed.</td>
</tr>
<tr>
<td></td>
<td>Pre BPR workshop individual activity</td>
<td>1 week</td>
<td>Individual home work</td>
<td>During this period the participants read the workshop preparatory material, including the case study material.</td>
</tr>
</tbody>
</table>
| Definition and redesign | BPR workshop session 1       | 2 days   | Class room sessions and group exercises | The class room sessions covered the following main topics related to business process reengineering:  
- The new business environment  
- The technological revolution  
- Redesigning work and reengineering the business process  
- Service Encounter Mapping Method (SEMM)  
- Reengineering and comparative methodologies  
- Work management  
- Managing technological change  
- The organisation of tomorrow  
- Implementation requirements  
- Human & organisational issues  
- Automating the business environment  
- Strategies and tactics  

Following hands-on team activities were interspersed with the class room sessions:  
- Describing and documenting the current (“As-Is”) process using the Service Encounter Mapping Method.  
- Identifying the relevant measurements of the current process identifying change opportunities (“To-Be” process)  

Participants worked in teams on the To-be (reengineered) process. They carried a detailed analysis of the new process alternatives, costs, human resource considerations and other implications. This included the organisational and technology changes, impact on people, and value and risk assessment of the alternatives. A recommended action plan was developed.  

Participant teams presented and critiqued the reengineered business process from the Inter session team activity. Participants also developed action plan leading up to the implementation of the reengineered process. |

Figure 1. BPR Project Schedule
5. Reengineering and the outcome

As mentioned earlier it was decided to reengineer both the Patient-Flow process and the related Billing process. Redesigning only the Patient-Flow process would have put restrictions on the major benefits that would otherwise be obtained through reengineering across multiple functions. Following is the detail of the old and redesigned Patient-Flow and Billing processes, their scope, and the benefits obtained from reengineering.

5.1. Reengineering the Patient-Flow Process

The scope of the Patient-Flow process was limited to Day-Only or short stay episodes of care from the point of pre-admission to discharge. The term Day-Only or Day-Only Theatre is used to describe procedures where a patient undergoes minor surgery and is not admitted to the hospital overnight. Examples of such services are angiograms or wisdom teeth extractions that require an operating theatre procedure but the patient comes to the hospital in the morning and goes home in the afternoon. Day-Only Theatre are always planned admissions and constitute more than 30% of all episodes. Patients coming through the Accident and Emergency wards are not counted as Day-Only.

5.2. “As-Is” Patient-Flow Process

Figure 3 shows the Service Encounter Map (SEMs) of the “As-Is” Patient-Flow process.
In the existing model the most startling observation is the number of encounters or interactions the patient has. Just to get admitted the patient has three service encounters with the system. Beginning with telephoning the admissions office to make a booking for a bed, the booking of a theatre, followed by pre admission pathology and radiology tests which are often needed. The patient is then required to confirm the availability of a bed the day before the admission. Only one activity—provide planned treatment involves the direct treatment of the patient’s ailment. It is obvious the “As-Is” process was unfriendly and uncertain, creating anxiety for the patients. Too many patient encounters coupled with a large number of steps resulted in resource wastage, making the process costly. Also the unpredictability of resource requirements resulted in poor planning.

5.3. “To-Be” Patient-Flow Process

The reengineered Patient-Flow process focused at reducing the patient encounters with the hospital prior to admission. The “To-Be” Patient-Flow process shown in Figure 4 identified a method wherein the number of service encounters for the patient have been reduced from four to two by the hospital carrying out the service bookings instead of the patient or doctor’s surgery. This is achieved by a resource scheduling system. To implement such a system a number of technical problems had to be overcome. Firstly, all the booking systems for the service providers had to be linked, and secondly the clinical care path for the ailment had to be determined. That is, identification of the services required for the particular procedure were needed to be known, alongside the availability of information on when the services were to be completed prior to treatment.

The biggest benefit of reengineering the Patient-Flow process was that it made it customer focused. The “To-Be” process not only reduced the number of service encounters that the patient had to have, but improved the communication between the patient and the doctor. The date of treatment in the reengineered process was given with increased certainty. Proper planning and predictability of resources meant increased efficiencies and decreased costs.

The recommendations for the new process was presented and accepted by the Area Executive Management Committee (AEMC). As a result, the infrastructure project was launched to implement an interface engine to link the disparate systems in the treatment process. At the time of writing, this project is just going into production and the interfaces are being developed.

A second project to develop an Enterprise Resource Management System began in May 1998. It is scheduled for completion in a series of releases over 18 months. The first components will be in production by January 1999.

Figure 4. “To-Be” Service Encounter Map for the Patient-Flow Process
5.4. **Reengineering the Billing Process**

Automated Billing is the process where a clinical unit provides a billable service. The charging for the service is initiated in the clinical system by the doctor making clinical notes. The patient services for an occasion of service may be provided by more than one clinical unit. Quite often there are pathology or radiology tests as part of the treatment service. Automated billing collects this data from the clinical systems and produces a bill for the patient on discharge.

5.5. **“As-Is” Billing Process**

In the process in place at the time of the study it was not possible to produce a single account for a patient on discharge. The patient would get up to ten separate accounts for up to six months after the treatment. This was so because most individual departments would manually raise charges and forward them to a central billing service who would endeavour to collate them into a single bill. However there was no discipline to get all the accounts in by a given time. Furthermore, billable services were often not charged to other government agencies because it was all too complicated and in any case the department providing the service rarely saw the money back in the department. The biggest problem from the patient’s perspective was that the patient was often unsure of the final cost. These problems resulted in bad debts and cash flow problems for the hospital. Extra staff was required for follow-up and debt recovery.

From the hospital’s perspective there were problems too, not only in regard to the patients but with the hospitals Visiting Medical Officers (VMOs) as well. The hospital had conflicts with the VMOs on patient status. The VMOs lacked information to assist the patients in choice and predictability of procedures.

5.6. **“To-Be” Billing Process**

The “To-Be” Billing process is shown in Figure 5. The benefits of reengineering the Billing process included reduction in patients’ concern over accounts and improved relationship between the hospital and the patients. Decrease in bad debts and improved cash flow is cited as another benefit. Huge reduction in bad debt translates to reduced staff required for bad debt recovery. Finally the reengineering has all the elements for a better working relationship between the hospital and the VMOs.

![Figure 5. “To-Be” Service Encounter Map for the Billing Process](image-url)
Again the AEMC were presented with the findings of the study and the following action was implemented. The billing system was redeveloped to take advantage of the new interface engine discussed above to link all clinical systems providing billable services. This system contains 3.5 million lines of code and is now being moved to implementation. In this model, as services are provided, details of the services are automatically broadcast to those systems that have a need to know. One such system is the Billing System. WSAHS can now produce a single account for the patient for a single episode of care regardless of which institution provided the services. Furthermore, services such as ECG, which attract Federal Government reimbursement, are also being billed. This represents an addition income to the Area of over $A1 million per year.

WSAHS is now beginning to negotiate with surgeons for a set fee for service with guaranteed payment in the same way HMOs in the USA operate. With this in place, patients will receive only one bill and that too within 7 days of discharge.

As a result of this program, WSAHS has become the leading site for a federal government initiative of simplified billing. In this model, billing agents such as WSAHS will enter into arrangement with health insurance agencies to determine refunds due to the patient by his health fund. They will then bill the fund for their contribution and the patient for any shortfall. The planned implementation for this service is January 1999. Presently all billable services that are chargeable to the Federal Government are conducted by EDI thus reducing claim turn-around from six weeks to six working days and reducing the revenue staff by seven.

6. Conclusion

There is no doubt that radical problems require radical solutions. Faced with years of ever decreasing public funding the Western Sydney Area Health Service embarked upon the simultaneous reengineering of the two key processes- the Patient-Flow process and the Billing process. The project was carried out by a cross-functional team of IT and non-IT personnel who were initially trained in the methodology. Also the project was backed up by strong executive commitment. Needless to say without these two ingredients failure of any reengineering project is inevitable.

The benefits to the Western Sydney Area Health Service as a result of the reengineering exercise are many. First there is greatly enhanced service to the patient. Then there is improvement in relationship with the patients, and with the visiting medical officers. Finally there is a major improvement in the cash-flow and bad debt recovery. It is not surprising that the Western Sydney Area Health Service has become the leading site for a federal government initiative of simplified billing.

References