Project Report for M-CARE Management
(Specifically for the Senior Plan Report Package)

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IOE 481 Senior Design
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# Table of Contents

1.0 Executive Summary

2.0 Introduction and Background

3.0 Approach and Methods Used
   3.1 M-CARE Departments and Responsibilities
   3.2 Approach (Procedures)
   3.3 Personnel

4.0 Findings
   4.1 Analysis of the Senior Plan "Value Chain"
   4.2 The Senior Plan Information Flow
   4.3 Key Issues Affecting the Senior Plan Report Process

5.0 Discussion of Recommendations
   5.1 Form Report Team and Hold Biweekly Meetings
   5.2 Schedule of Events (Timetable per Month)
   5.3 Log Problems into a Senior Plan Database
   5.4 System Audits
   5.5 Discuss Priority of Reports/Files
   5.6 Projects Underway

6.0 Conclusions

7.0 Appendices
   Appendix 1 Senior Plan – Original Monthly / Quarterly Reporting Process
   Appendix 2 Senior Plan Report Package - Original Gantt Chart
   Appendix 3 Senior Plan - Actual Monthly / Quarterly Reporting Process
   Appendix 4 Senior Plan Report Package - Actual Gantt Chart
1.0 Executive Summary

**Project Scope**
M-CARE Consulting Team’s (MCCT) study was designed to identify problems and clarify procedures within the Senior Plan Report package process flow. MCCT’s work on this process included individual employee interviews, group brainstorming sessions and an overall process analysis. MCCT’s purpose was to determine whether the 45-day Senior Plan Report deadline is feasible.

**Project Goals / Objectives**
The following lists the goals/objectives of MCCT’s study of the Senior Plan Report information flow process:

- Analysis of department procedures and operations
- Streamline the information processes
- Identify errors causing rework
- Create employee awareness throughout M-CARE on the Senior Plan reporting process problems
- Clarify the information flow process to employees

**Project Approach**
MCCT used an upstream approach to analyze the information flow of the Senior Plan Reporting process. The Senior Plan Report’s “Value Chain” employees were interviewed from the following departments:

- Network Development
- Data Management & Reporting
- Information Systems
- Finance
- Health Services
- Care Management

**Key Project Issues**
Key issues identified by MCCT on the report package are:

- Technological constraints
- Data errors causing excess rework time
- Lack of employee awareness and miscommunication
- Soft deadlines

**Recommendations**
Upon analysis of the Senior Plan Report’s process flow, MCCT recommends the following changes be made to
reduce the delivery time of the report package down to (or below) 45 days:

- Form Report Team and hold semi-monthly meetings
- Schedule of events (timetable per month)
- Log problems into a Senior Plan database
- Perform system audits
- Discuss priority of reports/files
- Finish corrective projects underway

2.0 Introduction and Background

The M-CARE Senior Plan Report package is a cumulative set of monthly and quarterly reports detailing expenses, revenue and utilization of resources for several Independent Physician Associations (IPAs). Each IPA is composed of a group of physicians associated with a specific hospital. Currently, there are nine IPAs under contract with M-CARE that carry significant membership to warrant regular Senior Plan reporting.

Each Senior Plan Report package is due to their IPA 45 days after the end of each month or quarter. M-CARE is currently experiencing difficulties meeting the 45-day deadline. For this reason, the M-CARE Consulting Team (MCCT) has been brought in to analyze the Senior Plan Report information flow processes.

The Senior Plan Report package includes several financial, utilization and ranking reports. The creation of each of these components requires interaction between at least two, and often more, M-CARE departments. The departments involved in creating the final Senior Plan Report package are Information Systems, Health Services, Care Management, Finance, Network Development and Data Management and Reporting.

3.0 Approach and Methods Used

3.1 M-CARE Departments and Responsibilities

- Network Development: Responsible for the final collection and distribution of the Senior Plan Report package.

- Information Systems: Runs several “production” reports and corrects any errors that are identified within the data.

- Data Management & Responsible for generating parts of the report
Reporting (DM&R): package, analyzing data and writing an executive summary. Verifies that the report package is complete and accurate. Also responsible for distributing the report packages internally and to provider groups (IPAs).

- Finance: Responsible for creating and verifying the financial components of the reports.

- Health Services: Runs Acute Equivalent Bed Day (AEBD) tracking reports.

- Care Management: Verifies the accuracy of the AEBD tracking reports.

3.2 Approach (Procedures)

1. MCCT’s first step was to meet with each department involved in completing the Senior Plan Report package. MCCT began with Data Management & Reporting, since it is the department responsible for sending out the final report, and worked its way upstream to search for problems within the package information flow process. (See Appendices 1 and 2 for an original information flow chart and gantt chart initially given to MCCT from M-CARE.)

MCCT was concerned about the collection and/or generation of the following data:

- Age/Gender analysis
- Physician Financial System database results
- Prescription Drug rankings
- Drug class costs reports
- High Cost Member information
- Major Diagnostic Categories Ranking Report
- Diagnosis Related Grouping reports

MCCT examined this process thoroughly to find the root cause of the reports’ tardy completion. Department meetings were scheduled on a first-come/first-served basis due to time constraints:
2. MCCT gathered information through interviews with employees in each department. MCCT focused on whom each employee relies on for data, how each person prepares their part of the Senior Plan Report package, and to whom that employee delivers their completed portion. Issues of concentration were:

- Inter- and intradepartmental communication
- Priority of supplements found in the Senior Plan Report
- Turnaround time on requested information (between departments)
- Barriers of work and communication

3. Upon completing each employee interview, MCCT analyzed the information gathered from those employees and noted the significant findings. MCCT looked for opportunities to streamline and/or improve specific processes to reduce wasted time. Ultimately, the goal was to meet or reduce the report’s 45-day turnaround time.

3.3 Personnel

The following individuals contributed to the progress of the M-CARE Senior Plan Report package or were interviewed during MCCT study:

<table>
<thead>
<tr>
<th>Employee</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camille Orso</td>
<td>Data Management &amp; Reporting (Client Manager)</td>
</tr>
<tr>
<td>Kristen Wentzel</td>
<td>Senior Management Engineer (Project Coordinator)</td>
</tr>
<tr>
<td>Marilynn Crowley</td>
<td>Camille Orso’s Assistant (Project Director)</td>
</tr>
<tr>
<td>Steve Pert</td>
<td>Data Management &amp; Reporting</td>
</tr>
<tr>
<td>Tracy Stewart</td>
<td>Data Management &amp; Reporting</td>
</tr>
<tr>
<td>Linda Cox</td>
<td>Health Services</td>
</tr>
<tr>
<td>Ken O’Brien</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Troy Milke</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Carol Martin</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Lisa Nickerson</td>
<td>Finance</td>
</tr>
<tr>
<td>Bill Costello</td>
<td>Finance</td>
</tr>
<tr>
<td>Lynette Chekan</td>
<td>Finance – Provider Contracting</td>
</tr>
<tr>
<td>Jen Bash</td>
<td>Finance - Accounting</td>
</tr>
<tr>
<td>Penny Rozek</td>
<td>Care Management</td>
</tr>
<tr>
<td>Mary Korr</td>
<td>Network Development</td>
</tr>
</tbody>
</table>

After meeting with these M-CARE employees and compiling and analyzing their responses, MCCT was able to get a better understanding of the way data actually flow through the current report package compiling system and was able to suggest changes to improve information flow.
4.0 Findings

4.1 Analysis of the Senior Plan “Value Chain”

As mentioned before, MCCT’s analysis of the information flow included employee interviews from each department involved in compiling the Senior Plan Report package. MCCT identified several extra individuals that contribute to the process during the analysis. MCCT has determined that the following employees are responsible for the production of the Senior Plan Reporting process and are a part of its “Value Chain”:

- Linda Cox Health Services
- Penny Rozek Care Management
- Lisa Nickerson Finance
- Lynette Chekan Finance - Provider Contracting
- Jen Basch Finance - Accounting
- Ken O’Brien Information Systems
- Carol Martin Information Systems
- Steve Pert Data Management & Reporting
- Tracey Stewart Data Management & Reporting
- Mary Korr Network Development

4.2 The Senior Plan Information Flow

MCCT’s Senior Plan study revealed several bottlenecks that have prevented MCARE from meeting the 45-day deadline. After assessing the Senior Plan Report package information flow, MCCT realized that the process was significantly different than originally perceived. By referring to Appendices 1 and 3 (the original and actual flow charts, respectively), one will note that the Year End Senior Plan was completed in approximately 55 days after the year’s end (approximately 10 days late).

When comparing the processes of the original and actual gantt charts in Appendices 2 and 4, respectively, it is plain to see that there is significant lag time involved in each process (actual work times are indicated by white bars, lag times are indicated by black arrows). MCCT has documented the major problems causing these lag times in Section 4.3.

4.3 Key Issues Affecting the Senior Plan Report Process

1. Senior Plan Reporting Process Technological Constraints
MCCT has targeted Cost Utilization and Incurred But Not Reported (IBNR) factors reporting as major bottlenecks in the information flow process which contributes to the delayed delivery of the Senior Plan Report package.

Cost Utilization reports, run for the previous month, (until February 1999) could not be completed until the Monday following the second weekend of the month due to CPU constraints. Therefore, depending on the month, Cost Utilization could not be completed until the 17th of the following month. Also due to CPU constraints, IBNR factors cannot be completed until the Monday after the first weekend following the previous month. Therefore, depending on the month, IBNR factors may not be completed until the 10th of the following month. The constraints contributing to these delays include:

- Billing and Capitation Cycles - These cycles take precedence over Cost Utilization and IBNR factors reporting. These cycles can be finished faster and with greater ease (prior to the end of the month) with the addition of Provider Care Physician Plus (PCP+) piping programming.

- End of the Month Processes - These processes generate several reports (i.e. membership and authorization) that also take precedence over Cost Utilization and IBNR factors reports. The processes could be run a day earlier (on average) with the addition of PCP+ and additional CPU space.

- CPU Space and Time - Due to the CPU space that the End of the Month Processes, Cost Utilization and IBNR factors demand, each process had to be run over a weekend (taking approximately 2-3 days to run). Concerns regarding normal network usage forces these reports to be run on the weekend. With the addition of CPU space and the implementation of a schedule, Cost Utilization could be completed by the 7th of the following month, depending on the month (shaving approximately a maximum of 10 days off Cost Utilization reporting).

2. Time Lost Due to Rework

Another bottleneck affecting the completion of the Senior Plan Report package is time lost due to errors which causes rework in the reporting process upstream. Several problems MCCT identified include:

- Duplication of service lines for Durable Medical Equipment services
- Chargebacks on Profit and Loss Reports not appearing for several IPAs

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1 M-CARE employees have addressed several technological problems contributing to the Cost Utilization’s tardiness. Cost Utilization for the prior month should presently be completed no later than the 7th of the following month.

2 Cost Utilization and IBNR factors reports can be run simultaneously. However, this may cause delay depending on claim volume and CPU utilization.
Management fees expenses not included on Profit and Loss Reports
Expenses on Profit and Loss reports do not match expenses on Cost Utilization reports
Added claims incurred through January 1999, and changed IBNR factors
Duplicate Service claims reported on Cost Utilization reports

Rework on data and figures can cost M-CARE several days (depending on the month and errors) in the Senior Plan Report process. Early error identification and response time could shorten the information flow.

3. Lack of Employee Awareness and Miscommunication

During the analysis of the Senior Plan Report information flow process, MCCT found that several M-CARE employees did not realize their monthly deliverables impacted the Senior Plan Report package. MCCT noted that communication appeared to be a major problem throughout the entire process. Employees within the “Value Chain” were uncertain what other employees were responsible for within the process. MCCT believes that this lack of communication and awareness contributes to the time lost because of errors causing rework.

4. Soft Deadlines

MCCT discovered that deadlines were not enforced throughout the “Value Chain”. This may be due to several factors. One factor relies on Cost Utilization and IBNR data being delivered at inconsistent times (due to system priorities). Soft deadlines are understandably present when constraints on deliverables change on a monthly basis. This deadline problem appears to find its way into all the departments within the “Value Chain”. This “snowball” effect adds unnecessary delay to the completion of the Senior Plan Report package.

5.0 Discussion of Recommendations

Upon analysis of the Senior Plan Report package process flow, MCCT is recommending that the following changes be made to expedite the delivery of the report package.

5.1 Report Team and Bi-weekly Meetings

The Report Team will be comprised of employees from each department that contributes to the Senior Plan Report package. These key players will act as liaisons between the Report Team and their respective department. The team will meet on a bi-weekly basis to discuss report error issues with each other. If all of the departments meet together at once on a regular basis, it will create a horizontal
department structure within M-CARE as opposed to the vertical structure existing today. This will break down the Senior Plan “Value Chain” (to a horizontal structure), which will allow the Senior Plan Report process to have a smoother transition. This is similar to “simultaneous engineering” concepts applied in manufacturing environments. MCCT recommends that the following Senior Plan Report employees comprise the Report Team:

**Report Team:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracey Stewart</td>
<td>Data Management &amp; Reporting</td>
</tr>
<tr>
<td>Ken O’Brien</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Troy Milkey</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Carol Martin</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Linda Cox</td>
<td>Health Services</td>
</tr>
<tr>
<td>Penny Rozek</td>
<td>Care Management</td>
</tr>
<tr>
<td>Lisa Nickerson</td>
<td>Finance</td>
</tr>
<tr>
<td>Lynette Chekan</td>
<td>Finance – Provider Contracting</td>
</tr>
</tbody>
</table>

The majority of problems seem to stem from the lack of communication between departments. Implementing this recommendation will solve most of the communication problems currently visited.

Estimated Time Saved: 5 days

Note: This is derived by taking 1-2 days off long lag times in the entire process

### 5.2 Schedule of Events (Timetable per Month)

MCCT recommends that each department present their monthly Senior Plan reporting process itinerary to the Report Team during these bi-weekly meetings. This is similar to target dates that Information Systems has set for their report production and database updates. By having a set schedule for each department and sharing the schedule in regular meetings, it will ensure that all parties involved in contributing to the Senior Plan will have a clear understanding of deliverables and expectations for that month.

Estimated Time Saved: 5-10 days depending on the department

### 5.3 Log Problems into a Senior Plan Database

MCCT recommends creating a database for M-CARE to keep a log on its Senior Plan Report process problems. By allowing all Senior Plan personnel access to this database, it will allow M-CARE to maintain a history of problems on the reporting process. Problems can be reviewed and discussed on a bi-weekly to monthly basis by the Report Team when applicable. MCCT recommends using a pareto chart to depict what problems are being experienced the most. Problem
resolutions should be used by applying the 80/20 rule (80% of the problems can usually be solved by attacking the top 20% of causes).

Estimated Time Saved: It will vary depending on the problem.

5.4 System Audits

M-CARE should perform system audits on a monthly basis. Currently, Profit & Loss statements pulled from the Physician Financial System (PFS) and the Cost-Utilization Database expense dollars do not match approximately 25% of the time. MCCT recommends writing additional code in the reporting program to ensure that no duplicates are pulled and that dollars match. In doing so, rework time (in process two) between Information System and Data Management & Reporting can be reduced by almost a week.

Estimated Time Saved: 5 days

5.5 Discuss Priority of Reports/Files

Due to limited time and CPU constraints, certain reports and files will take precedence over the Senior Plan Reports.

<table>
<thead>
<tr>
<th>Reports (in order of priority)</th>
<th>Run Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. End-of-Month (eom)</td>
<td>2 to 3 nights</td>
</tr>
<tr>
<td>2. Billing</td>
<td>2 nights</td>
</tr>
<tr>
<td>3. Capitation</td>
<td>2 nights</td>
</tr>
<tr>
<td>4. Cost Utilization and IBNR (Senior Plan)</td>
<td>3 nights</td>
</tr>
</tbody>
</table>

MCCT recommends discussing the current priority of these reports, reestablishing their priority, and notifying all M-CARE employees of their obligations. MCCT feels that rearranging report priorities should be considered if meeting the 45-day deadline is a high priority. Realizing that M-CARE runs on a tight schedule, the report might not be feasibly completed within 45 days. MCCT recommends the Report Team discuss the priorities of the reports on a month to month basis. This allows for a more flexible scheduling.

Estimated Time Saved: 2-3 days

5.6 Projects Underway

Information Systems Target Dates

Starting with the month of February, Information Systems has implemented a fixed schedule for report production and database update run times. So far,
Information Systems has been able to stick to the schedule and delays have been cut back dramatically (especially for updating the Cost Utilization database). As a result, Cost Utilization can now be updated by the 7th of the following month (this also depends on the month).

Estimated Time Saved: 10 days

**Merge Physician Financial System and Cost Utilization Database**
Currently, PFS and Cost Utilization are two separate systems that pull data from the mainframe, the Amisyss system. Sometimes the dollar amounts in the two systems do not match up even though they are pulled from the same predecessor. Therefore, merging these systems into one will eliminate the mismatch problem. Not only will this reduce the errors in the system but it should also free up desired CPU space.

Estimated Time Saved: 5 days

**Revamping the Cost Utilization Program**
Currently, there are counter errors in the Cost Utilization extraction program contributing to the extra night of necessary run time. Once the program is revamped, the extra night will not be necessary and the total run time will be reduced to two nights. However, there is the possibility that this project will be put on hold due to the PFS and Cost Utilization database merging project. If M-CARE is successful in merging the two database systems, then revamping the Cost Utilization program will be unnecessary.

Estimated Time Saved: 1 day

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**6.0 Conclusions**

Based on MCCT's findings, the Senior Plan Report package 45-day deadline could be met if the recommendations mentioned previously are implemented. Please note that the estimations of time saved are not cumulative. Some recommendations should be conducted simultaneously. The estimation of time saved is read as if each recommendation was run separately. Eventually, the most effective way to meet the deadline is: (1) by adhering to a strict schedule that all departments must follow and (2) communicating possible reporting errors in bi-weekly meetings. If this is achieved, lag times will be reduced (indicated by the black arrows in Appendix 4) leading to an earlier delivery time. The bottom line is, reducing lag times will help M-CARE meet the 45-day deadline. MCCT did not devise a scheduling plan because it felt that Report Team employees are more qualified to do so. MCCT feels that the bi-weekly meetings will provide departments with an opportunity to discuss and create a plan that is feasible for all parties involved in completing the Senior Plan Report package.
7.0 Appendices

Appendix 1
Senior - Monthly / Quarterly Reporting Process

**Process**

**#1**

**Info Systems:**
- Bed Day Tracking Report
- Authorizations (Linda Cox)
  - by 25th of the month for previous month

**Finance:**
- 1. AE Bed Day Fund Reconciliation
  - by end of month
  - Tracey Stewart
  - Tracey notifies Steve when ready
  - Steve runs PFS reports (3)

**Data Management & Reporting:**
- Copies to Steve to graph
  - Steve graphs age/gender
  - Steve runs ranking reports

**#2**

**Cost Util Update**
- 1st week of month for previous month

**PFS Update**
- IBNR Factors
  - (Heather Ray/Lynette Chekan)
  - Tracey notifies Steve when ready

**#3**

**Pharmacy Reports in ERM**
- Steve to print reports from ERM

**Notes:** Marilynn will collect all pieces, copy and distribute everything to analysts asap.

Goal is for all to be completed and distributed - Pharmacy reports can lag behind the rest of the packet.

Priority for Senior Plan reports is HIGH. Generally, should take priority over anything else.

Those reports with "*" are completed for quarterly packages only.
Appendix 2
### Gantt Chart

**Original Gantt Chart**

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Process #1</td>
<td>23d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>2</td>
<td>Information Systems</td>
<td>3d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>3</td>
<td>Linda Cox - Bed Day Tracking Report</td>
<td>3d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>4</td>
<td>Finance</td>
<td>17d</td>
<td>Wed 1/6/99</td>
</tr>
<tr>
<td>5</td>
<td>Lisa Nickerson - AE Bed Day Fund Reconciliation</td>
<td>17d</td>
<td>Wed 1/6/99</td>
</tr>
<tr>
<td>6</td>
<td>Lisa Nickerson - Equivalency Calculation</td>
<td>17d</td>
<td>Wed 1/6/99</td>
</tr>
<tr>
<td>7</td>
<td>Bill Costello - Enrollment by Age/Rate Class</td>
<td>17d</td>
<td>Wed 1/6/99</td>
</tr>
<tr>
<td>8</td>
<td>Data Management &amp; Reporting</td>
<td>3d</td>
<td>Thu 1/28/99</td>
</tr>
<tr>
<td>9</td>
<td>Steve Pert - Graphs Age/Gender</td>
<td>3d</td>
<td>Thu 1/28/99</td>
</tr>
<tr>
<td>10</td>
<td>Steve Pert - Graphs AEBD vs. Plan (Tracey Stewart)</td>
<td>3d</td>
<td>Thu 1/28/99</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Process #2</td>
<td>20d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>13</td>
<td>Information Systems</td>
<td>10d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>14</td>
<td>Carol Martin - Cost Utilization Update</td>
<td>7d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>15</td>
<td>Ken O'Brien - PFS Update (Troy Miken)</td>
<td>3d</td>
<td>Tue 1/12/99</td>
</tr>
<tr>
<td>16</td>
<td>Finance</td>
<td>5d</td>
<td>Fri 1/15/99</td>
</tr>
<tr>
<td>17</td>
<td>Lynette Chakos - IBNR Factors</td>
<td>5d</td>
<td>Fri 1/15/99</td>
</tr>
<tr>
<td>18</td>
<td>Data Management &amp; Reporting</td>
<td>6d</td>
<td>Fri 1/22/99</td>
</tr>
<tr>
<td>19</td>
<td>Steve Pert - Run PFS and Ranking Reports (Tracey Stewart)</td>
<td>1d</td>
<td>Fri 1/29/99</td>
</tr>
<tr>
<td>20</td>
<td>Tracey Stewart - Initial Review</td>
<td>4d</td>
<td>Sat 1/23/99</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Process #3</td>
<td>8d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>23</td>
<td>Information Systems</td>
<td>8d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>24</td>
<td>Jim Troiano - Pharmacy Reports in ERM</td>
<td>5d</td>
<td>Fri 1/1/99</td>
</tr>
<tr>
<td>25</td>
<td>Data Management &amp; Reporting</td>
<td>3d</td>
<td>Fri 1/8/99</td>
</tr>
<tr>
<td>26</td>
<td>Steve Pert - Prints Reports from ERM</td>
<td>3d</td>
<td>Fri 1/8/99</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Marilyn collects reports and assembles Senior Plan Report package</td>
<td>10d</td>
<td>Tue 2/2/99</td>
</tr>
</tbody>
</table>

**Notes:**
- This is the initial Senior Plan Flow Process given to the MCT by M-CARE.
- Notice that the entire cycle time is about 45 days and shows no rework.

**Project:** original flow chart MPP
**Date:** Thu 4/22/99
Appendix 3
Appendix 4