



User Manual III: Revenue Cycle Cube Basics

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Summary:
The **Revenue Cycle** portion of MARS encompasses all clinical activity transacted in both IDX 4.0 and GEGB 4.3 once it is recognized as a receivable (i.e. it hits the billing and accounts receivable (B/AR) module), from July 2006 to present day. This manual documents the key date and FSC components in the MARS Revenue Cycle analytic database as well as explaining their use so you can derive the most meaningful and accurate analyses in answering your business inquiries.

The nature of business dictates that in order for analytic databases to remain a valuable asset, they consistently undergo development. As business requirements change over time, we will be adding new features or changing existing ones, therefore please check back with the MARS website frequently in order to verify that you have the most recent version of the excel workbooks and this document.

Document Version Control

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INTRODUCTION

What is MARS?

MARS (Management Analytic Reporting System) is simply an analytic tool whose goal is to provide everyday business managers, clinical administrators and executive leadership insight into the performance of USC's clinical enterprise. This analytic tool is made up of many processes and components that together comprise a performance management platform; that is, it provides a central repository for data that is extracted from multiple data sources, cleansed, and made available as a standardized data set, and presented to users throughout the enterprise in various modalities.

What is BI?

Business Intelligence refers to the next stage in the business reporting paradigm that emphasizes user involvement in report generation, and consequently a broader and deeper understanding of business rules and management best practices across the enterprise. No longer captives of the 'canned report', users are free, through the concept of '**Self-service BI**' and analytic databases, to explore the business environment on their own schedule and are rewarded with real-time response and the data necessary to make fact-based decisions.

What is an Analytic Database?

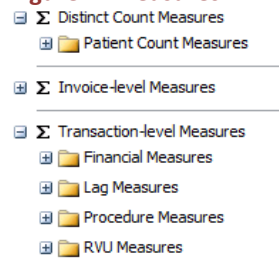
At the highest level, MARS is composed of multidimensional analytic databases. These analytic databases differ from other databases you may be familiar with (such as relational databases created using Microsoft Access or SQL Server) in that they are designed from the ground up for **reporting** purposes and thus consist of pre-aggregated data structures, allowing for the quick and painless analysis of millions of records with instantaneous response times.

Leveraging Microsoft Excel as the main tool used to interact with analytic databases (also known as '*cubes*') is welcome news for business users eager to apply their existing knowledge on a tool they already use, and means little or no training or implementation costs beyond what users already know and have on their PC's.

Revenue Cycle Cube Organization

As mentioned, the Revenue Cycle cube (dealing with billed clinical activity) is designed to be browsed

Figure 1: Measures



using Microsoft Excel, using the built-in Pivot Table feature, which will allow you to interact with the **measures** and **dimensions** of the cube. **Measures** are the numerical facts about the business that we want to track, such as charges, payments, procedure counts, etc. If you can count, add or subtract it, it's a measure. In MARS, measures are subdivided into *measure groups* that distinguish the source of the measure. And for measure groups with numerous or distinct kinds of measures, we have grouped them into subject-

oriented folders, making them easier to manage (See Figure 1: Measures).

Dimensions are the ways that you can use to filter, group and label the measures, and represent a specific entity such as provider, department, location, date, etc. Most dimensions in MARS are composed of *hierarchies* that are made up of *levels*. Date dimensions are often used to explain hierarchies because they are composed of hierarchies with levels that most people are familiar with: that years contain quarters, quarters contain months, and months contain days, etc. A simple definition of a hierarchy then would be that the top level contains all succeeding 'child' levels and that each child level only has one 'parent' level in that hierarchy (there are many January 1st's but only one January 1, 2011). It is no coincidence that as time plays a central role in our lives, it would also play a central role in creating meaningful reports out of the data accessible through MARS. The single most important consideration you should give when sitting down to create a report in MARS is the selection of a *date dimension*, and the availability of those date dimensions will be managed by the particular *perspective* of MARS you are currently working with.

Analytic Themes (Perspectives)

In order to make the analysis of a complex enterprise possible, we have broken down the various patient tracking and billing activities into major **analytic themes**, which are called *perspectives* in MARS. These perspectives limit the available measures and dimensions to only contain those that are applicable for that particular analytic purpose. For instance, the **Scheduling perspective** (reflecting patient appointment scheduling activity) does not contain a *Date of Posting* dimension because that is out of scope for that particular activity (it belongs to the **Revenue Cycle perspective**, the main focus of this document).

KEY CONCEPTS

Why am I reading this?

Imagine that you have access to over 30 million BAR line items covering half a decade of transactional billing activity. Now imagine that looking through that MOUNTAIN of data is as easy as clicking and dragging items from a pivot table list in Excel. Getting the data is no longer the problem, but making sure it is correct or it is telling you what you need – that part you are still responsible for.

This document is structured to introduce the basics *and* the key concepts. The basics you can pick up in an afternoon (or less if you are already familiar with Excel pivot tables). The key concepts are not hard to grasp but, because of the large number of possible combinations, can get complex. To help defray that complexity, we have created Excel starter reports (available on the MARS website) for each of the “**analytic paths**” you are most likely to need to report on (such as charge activity, provider activity, etc.).

So what are the key concepts then? They have to do with the best way to get the answer you are looking for, which would also be how the Excel report is set up. I am referring to the *dimensions* you will use to filter and label your report. More than likely you will only be interested in a narrow sliver of the data – therefore you will filter that MOUNTAIN we spoke of to only give you the dates you care about by using a date dimension...but will you want to run your report by the Date of Service or the Date of Posting? How are date dimensions affected by *posting lag* and *charge correction*? What about FSC? Do you want to run your report by the original FSC, the invoice FSC or the transaction FSC?

Although the Excel starter reports available on the website will accurately set you on the correct analytic path, you will still want to understand the ramifications of these choices so that you can not only “get it right” but also understand how these choices shape our data and the answers we glean from it. Read this document at least once so you understand the scope, but keep it as a reference so that you can go back when you need to know how different choices in date dimensions or insurer Financial Status Classifications (FSC) will affect the insight you seek.

REVENUE CYCLE DIMENSIONS

Date Dimensions in MARS

As mentioned previously, **dimensions** are the components in MARS that allow you to group, label and filter the data (such as charges and payments). In other words, dimensions answer the questions like *who*, *where*, and specifically for the date dimension, *when* something happened.

Date Dimensions Are Event Based

As you would expect, date dimensions allow you to slice business facts by date components like days, months, quarters, years, etc. Each event, such as the date of service or the date a payment posted into the system is considered a separate event and therefore has its own date dimension. Some guiding principles in helping you decide on which dimension to use are covered in the following sections.

Dimension Structure - Hierarchies

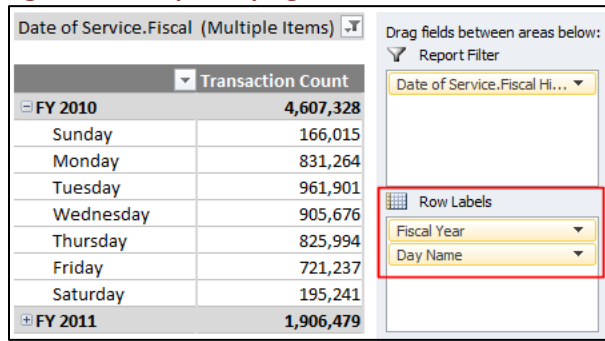
Dimensions contain attributes, such as year, quarter, month, etc. In order to make these attributes more useful, MARS organizes these attributes as *levels* within *hierarchies*. Allowing lower levels to be contained (or summarized) within higher levels is what makes hierarchies valuable when performing analysis over millions of transactions, because detail data can now be **summarized** at various levels of a hierarchy. Hierarchies are also the way MARS optimizes query responsiveness by *pre-aggregating* (pre calculating and storing) values at every level of a hierarchy, so that when a user decides to compare 4

Figure 2: A Date Hierarchy

Procedure Units	
+ FY 2009	2,298,295
- FY 2010	2,613,250
+ FQ1 2010	599,088
+ FQ2 2010	624,932
- FQ3 2010	695,838
+ Jan 2010	226,595
- Feb 2010	210,936
02/01/2010	4,305
02/02/2010	8,997
02/03/2010	26,793
02/04/2010	6,528

years of data (at the year level) the result can be returned in a matter of seconds. If the user then decides that they want to see that data broken out by quarters (or months, or even days), the fact that all levels have been pre-aggregated means that the query will again only take a couple of seconds to complete when the user **drills in** by clicking the 'plus' icon (+) on the hierarchy members (See Figure 2: A Date Hierarchy.) It is this ability to customize and drill in, working at the speed of *your* inquiry that makes reporting with an analytic database a lot more valuable than traditional static reports.

Figure 3: Roll-Up Grouping



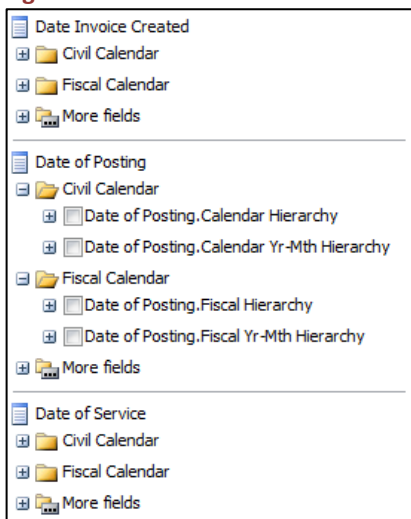
Although not pre-aggregated by the system, you can create custom ‘hierarchy-like’ groupings that are useful in summarizing your analytic goal. Any time you stack dimension members in the Row or Column Label boxes of the Pivot Table Field List with 2 or more members, you are creating a report that allows you to drill in to successive levels of detail, much like you can using

hierarchies (in this case, all *Day Name* activity will roll up to *Fiscal Year* - See Figure 3: Roll-Up Grouping).

The 3 Revenue Cycle Date Dimensions

The Revenue Cycle perspective contains **3 date dimensions**: *Date of Service*, *Date of Posting* and *Date Invoice Created*. Although each one of these date dimensions reflects a separate timeline (when the patient is seen by a provider, when a transaction is recognized as a receivable, and when the invoice is created) they all contain the same dimensional structure. In other words, although each one of these

Figure 4: Date Dimension Calendars

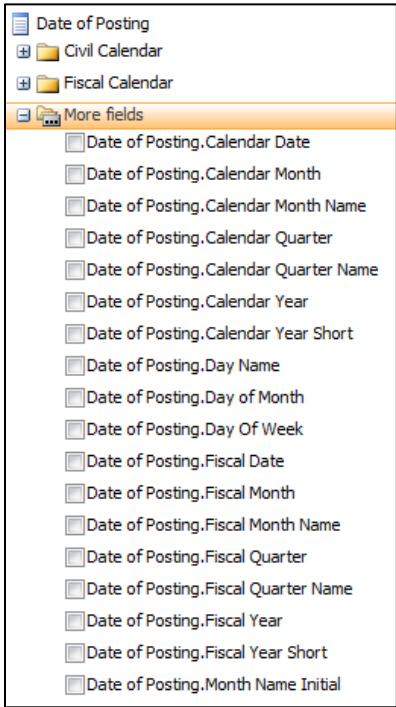


date dimensions are used for different analytic purposes, they all have the same number of hierarchies and all the hierarchies and other date components are structured in a similar fashion. Since the date dimensions are identical in structure (but not purpose), each component in them is preceded by the dimension’s full name in order to maintain its uniqueness. So, if you want to break out data by the fiscal year, when you use the *Fiscal Year* component you will see it listed as “*Date of Posting.Fiscal Year*”. This helps insure you do not inadvertently mix components from the *Date of Posting* dimension with components of the *Date of Service* dimension (mixing members from different date

dimensions can be done but is an advanced topic and only makes sense in a couple of analytic cases – most of the time it will just yield unexpected results, something you want to avoid.)

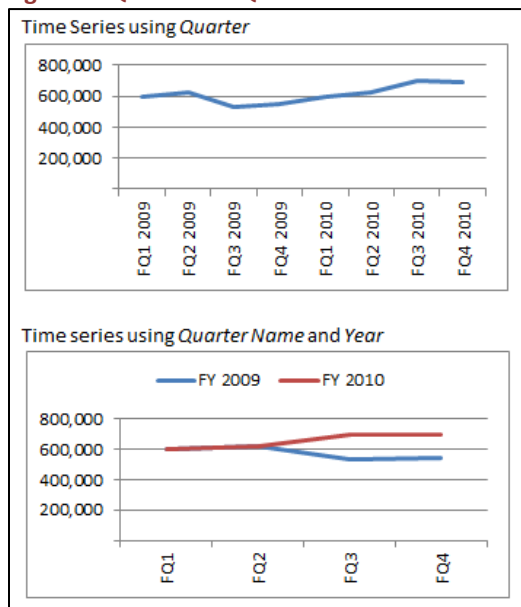
All 3 Revenue Cycle date dimensions are composed of 2 calendars, 4 hierarchies, and 18 individual date components. The *Civil Calendar* starts January 1st and ends on December 31st, while the *Fiscal Calendar* starts on July 1st and ends on June 30th of the following year, reflecting our financial reporting period. Each calendar folder contains 2 hierarchies that are organized with the following levels: in the Civil Calendar there is *Calendar Hierarchy* which is arranged with *Calendar Year*, *Calendar Quarter*, *Calendar Month* and *Calendar Date* levels. The second hierarchy, *Calendar Yr-Mth Hierarchy* is just an abridged version of the first hierarchy and contains only 2 levels, *Calendar Year* and *Calendar Month*, useful if you know you will not need to break out data into quarters or drill down to a specific date. The Fiscal Calendar folder likewise has 2 hierarchies that mirror the civil calendar, but are based on our enterprise fiscal year. *Fiscal Hierarchy* contains Fiscal Year, Fiscal Quarter, Fiscal Month, and Fiscal Date. Similarly, *Fiscal Yr-Mth Hierarchy* is an abridged version containing only Fiscal Year and Fiscal Month levels (refer to Figure 4: Date Dimension Calendars).

Figure 5: More Date Components



Having 2 predefined hierarchies is handy, but what happens if you have to customize a report that only includes month and date, or what if you need other date-related components, like the *day of month* or the *day of week*? If you select the *...More Fields* button in any dimension, you will see a list of all available dimension components, some which were used to create the existing hierarchies and others which you will use to customize your reports in a variety of useful ways (refer to Figure 5: More Date Components). Just as the revenue cycle date dimensions are divided into civil and fiscal calendars, so is each set of components: you will notice that all civil calendar components begin with the word 'Calendar', and all fiscal components begin with the word 'Fiscal'. When you are performing analysis using a particular calendar, you should **only** use components from that calendar, exceptions being *Day Name*, *Day of Month*, *Day of Week* and *Month Name Initial*, which are not calendar specific, and can be used with either calendar.

Figure 6: Quarter vs. Quarter Name



How each of these components work is fairly self-explanatory except *Month Name* and *Quarter Name* (for both calendars). The standard *Month* and *Quarter* components follow our hierarchy rule: the top level contains all succeeding 'child' levels and each child level only has one 'parent' level. Each *Month* and *Quarter* belong to one and only one year, and they are labeled as such (FQ1 2010, FQ2 2010, etc.), creating 4 quarter members (and 12 month members) for each year. On the other hand, *Quarter Name* only has 4 members for all years (Quarter 1 through 4), and *Month Name* only has 12. In order to create a line chart that compared quarterly activity year over year, you would have to use *Quarter*

Name which will display all 'Quarter 1' activity together. You can then use *Year* as a series to display one year over the other, creating a more impactful comparison (see Figure 6: Quarter vs. Quarter Name).

Comparing Revenue Cycle Date Dimensions

As stated previously, the Revenue Cycle perspective allows you to slice, label and filter data with your choice of 3 different event timelines: the date of a patient encounter (*Date of Service*), the date a billable item posted into the practice management system as a receivable (*Date of Posting*), and a way of grouping together all transactions in an invoice, regardless of when the service was rendered or when it posted (*Date of Invoice Creation*). Deciding on which of these 3 dimensions to use should be the first consideration given when you are starting an analytic inquiry because this choice will affect your results and the 'correctness' of these results will depend on the goal you are trying to accomplish (each date dimension has its strengths and weaknesses). By and large, however, *Date of Posting* should be used if you are reporting on any financial activity or if it is important that your reports tie to existing 'fiscally oriented' reports. You should consider using *Date of Service* when it is essential that you reflect your practice's seasonality, but you should be aware of the caveats in using either dimension as outlined below. *Date of Invoice Creation* is a third option that will allow you to match charges to payments, helpful if you need to know how procedures are getting paid from an invoice perspective.

Posting Lag and Date Dimensions

The biggest difference between *Date of Service* and *Date of Posting* (besides them reflecting separate timelines) is in how each dimension reacts to **posting lag**. Posting lag can be described as the number of

Figure 7: Posting Spread for Date of Service Activity

% Of Charges Posted	Date of POSTING							
Date of SERVICE	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010	Jan 2011	
Jul 2010	54%	33%	7%	3%	1%	1%	1%	
Aug 2010	0%	54%	34%	6%	4%	1%	1%	
Sep 2010	0%	0%	54%	37%	5%	3%	1%	
Oct 2010	0%	0%	0%	57%	35%	7%	1%	
Nov 2010	0%	0%	0%	0%	60%	35%	5%	
Dec 2010	0%	0%	0%	0%	0%	61%	39%	
Jan 2011	0%	0%	0%	0%	0%	0%	100%	

days it takes a patient encounter from the date of service to the date it posts in the billing system as an account receivable. The main benefit of using *Date of Service* in your analysis will be in

reflecting the practice’s true seasonality; however, because not all charges are available in the system (posting lag) the most recent months to the current month will not reflect all activity. How badly does posting lag affect analysis by date of service? It depends on department and month, but on average, about 55% of charges will be posted in the same month the service occurred, 35% will be posted in the following month, 6% will be posted 2 months out and the remainder will trickle in over several months (see Figure 7: Posting Spread for Date of Service Activity).

Date of Posting, on the other hand, does not suffer from posting lag per se, because its job is to simply record any charges or payments that were entered to BAR during a posting period (note that since the introduction of GECEB 4.3, posting periods are synchronous with calendar months). Since posting periods are used primarily for financial reporting purposes, activity in that period is finalized at period close and no additional activity ‘trickles in’ over later months. This is beneficial from a reporting standpoint because it is now possible to compare activity to previous periods with the assurance that a valid comparison is being made, even with the current period (the main drawback when seeing things by date of service). However, since a particular posting period will contain activity from multiple dates of service, it is not possible to infer any clinical seasonality when using the date of posting dimension – what you get instead is simply what posted into the system (irrespective of when the patient was seen).

Date of Invoice Creation behaves a little like both the posting and service date dimensions. Since most invoices are created as a result of the first posted charge transaction, the posting date and invoice creation date will be the same, but only for charges. That means that charges by invoice creation date and posting date will be identical. All other transactions will have their own posting dates but will have the same invoice creation date as the invoice to which they belong to, making it possible to match payments (and any other transactions) to the charges that spawned them. *Date of Invoice Creation*

behaves like the service date in that other transactions (such as payments) will continue to trickle in as they are entered in the system until the invoice is closed.

Charge Correction and Date Dimensions

Another important difference between *Date of Posting* and *Date of Service* dimensions is how they work in the face of invoice **charge correction**. Charge correction is how GECB 4.3 handles changes to invoices

Figure 8: Invoice Correction Components

Group	USC CARE MEDICAL GROUP INC (3)
Department	All Viewable Departments
Source System	GECB Current System
Date of Service.Fiscal Yr-Mth	FY 2011

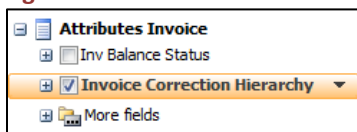
Row Labels	Invoice Count
Active	409,258
Inactive	9,731
Replaced Invoice	367
Voided Invoice	4,845
Voiding Invoice	4,519
Grand Total	418,989

that have already posted to BAR but need to be corrected.

Any material change to an invoice such as a change in provider, procedure, diagnosis, etc., requires it to go through a “charge correction” process which typically results in the automatic creation of two additional invoices. Thus, the net result when an invoice is corrected is the existence of 3 invoices in the system for the same

encounter: the original invoice with the ‘mistake’ (voided invoice), a balancing invoice that offsets the original invoice with negative values (voiding invoice), and a new invoice with the corrections - the new ‘active’ invoice. There are many other scenarios that may or may not result in the creation of exactly 3 invoices (such as the correction of a correction (also known as a ‘Replaced Invoice’) that is beyond the scope of this document). Does charge correction matter? Overall, charge correction only affects 2-3% of invoices (see Figure 8: Invoice Correction Components) however it could vary by department or time period, and it will make a material difference if you are trying to tie to GECB (posting date) reports.

Figure 9: Invoice Correction



For reports created using *Date of Service* and *Date of Invoice Creation*, these additional invoices are considered noise and need to be filtered out. The only relevant invoice when looking at things by these 2 date dimensions is the current **active invoice**. Conversely, when you are using

the *Date of Posting* dimension, you will want to keep the charge correction invoices so the voided and voiding invoices can balance out within their posting period. Keeping the charge corrections is the default behavior so when you are using date of posting, you do not need to do anything special.

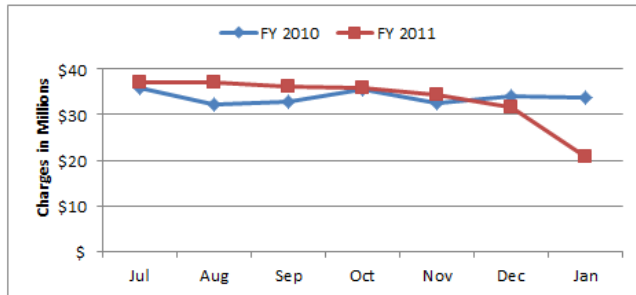
Excluding charge corrections, **which you should do when using date of service or invoice creation**, is achieved by using the *Invoice Correction Hierarchy* of the *Attributes Invoice* dimension as a filter (see Figure 9: Invoice Correction).

Date Dimension Usage Scenarios

If your analytic goal is to reflect patient encounters as they occurred, you will want to structure your report by *Date of Service*. When you are using date of service (remember to filter out charge

Figure 10: Post Lag Effect on *Date of Service*

Date of Service.Fiscal Hierarchy (Multiple Items)
 Invoice Correction Hierarchy Active *--Filter Corrections*

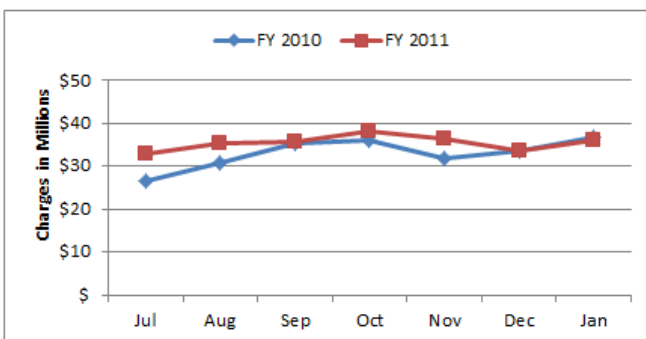


corrections, keeping only active invoices) you will get an accurate rendition of the **actual clinical activity** when it was performed, but you will only see the clinical activity that has made it into the system up to the date you last refreshed your report. Because of our organizational posting lag, it can take a couple of months (from the most current month) to get the majority of data into the system. The

analytic bottom line is that if you look at the current month (and up to 2 months back) that data will not be complete - as it is still being 'worked', and you should be cautious about making any inferences for the 2 or 3 most recent months because you do not have all the activity that took place in those service dates nor do you know how much of it is still outstanding (see Figure 10: Post Lag Effect on *Date of Service*, displaying the use of the charge correction hierarchy showing only active invoices and the obvious effect posting lag has on the most recent months depicted for January charges).

Figure 11: Post Lag Effect on *Date of Posting*

Date of Posting.Fiscal Hierarchy (Multiple Items)



If your analytic goal is instead to report on financial activity (or clinical activity framed within a financial reporting context) more than likely you will want to use the *Date of Posting* dimension. When you are using date of posting, you will not have to worry about data trickling in after you have run your report, but you will have to remember that a posting period contains activity with dates of

service many months into the past. From a financial analysis standpoint, being able to compare posting periods does give you an idea of the health of the business by looking at charges that went out and payments received in each posting period (a 'cash flow-like' view) – but it is important to understand that the clinical activity reflected in a posting period *will not* be synchronous to actual activity in the

practice. For example, if the practice had a particularly good month in terms of patient visits, depending on how long it takes to get those encounters into the system your report will probably show moderate increases over the following 2 or 3 posting periods, which is not what actually happened. Either way you look at it (by date of posting or service), posting lag is the biggest impediment to getting timely performance information out of MARS, and of being able to make accurate assumptions about what is truly going on in the business (see Figure 11: Post Lag Effect on *Date of Posting*, which shows that posting lag does not *explicitly* affect the most recent months since they simply contain activity that was entered into the system during a posting period. Posting lag affects date of posting *implicitly* by the spread between the actual date of service and the date when the charge item finally posted).

The *Date of Invoice Creation* dimension is a third option that is sort of a hybrid of the service and posting date dimensions. As its name implies, this dimension brings all transactions back to the invoice header's creation date (which more than likely corresponds with the posting date of the first charge on the invoice). When you look at activity by posting date, the transactions are not related to each other in any way but by coincidence of having made it into the system on a particular posting period. If, however, you bring all transactions in an invoice to a date they have in common, it is now possible to see all related activity together. One scenario where this is useful is in allowing you to match charges to payments. That means that by creating a report by invoice creation date you would know that the payments you would show would be resulting from those specific charges. Another scenario where you would want to group all activity by one 'base date' would be if you wanted to see how particular invoices were being paid over time...in short there are a multitude of scenarios where this capability would be useful. If you think that the date of service could also qualify as a date all related transactions would have in common, you would be partially correct. Indeed you can match charges to payments by service date; however there are thousands of invoices with transactions with multiple dates of service. This means is that if you are looking at activity by month, there may be situations where a few transactions might fall on a different month and therefore be excluded from your analysis. In addition, only charge and payment transactions have a date of service; adjustments, credits, debits (or any other pay code category) do not, so seeing any other activity by date of service might be misleading. The one reliable way of seeing activity grouped by a particular date is by using the *Date of Invoice Creation*. The drawback of course will be that since invoice creation mimics the posting date of the first charge, the activity by date of invoice creation will not reflect the practice's actual service activity or seasonality.

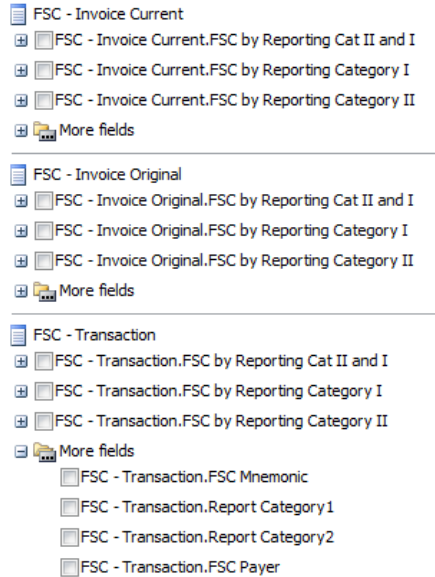
FSC Dimensions in MARS

Having covered the difficult topic of date dimensions, posting lag and charge correction we can now cover a somewhat simpler set of dimensions: *FSC – Invoice Current*, *FSC – Invoice Original* and *FSC – Transaction*. The dimension *FSC – Invoice Original* refers to the original payer an invoice is classified under. *FSC – Transaction* represents all financial transactions by payer. *FSC – Invoice Current* allows you to see to whom the balance is currently assigned to as of the close of business the prior day. Another way to describe *FSC – Invoice Current* would be to say that it is the last (or most current) *FSC - Transaction*.

FSC Dimension Structure

Just like the date dimensions previously mentioned, all 3 Financial Status Classification dimensions are structured similarly but each serves a different purpose. That is, their hierarchies and attributes are

Figure 12: The 3 FSC Dimensions



structurally identical, except for the name used to designate them and the purpose each is used for. As in the date dimensions, the name of the hierarchies and other attributes will be preceded by the dimension name to help you avoid mixing components from the 3 FSC dimensions. Mixing these components can be done but is an advanced topic and only makes sense in a couple of analytic cases – most of the time it will produce unexpected results.

All FSC dimensions are composed of 4 attributes and 3 hierarchies. The attributes (accessible by clicking the ‘More fields’ icon) are Reporting Category II, Reporting Category I, FSC Mnemonic, and FSC Payer, which are used to construct the hierarchies. Reporting Category I and II are GECB FSC grouping categories and their definition is beyond the scope of this document. The hierarchies are *FSC By Reporting Category I* and *FSC By Reporting Category II* that allow you to drill down to the individual *FSC Payer* and a third hierarchy that is a combination of both *Reporting Category II* and *Reporting Category I* and *FSC Payer* (see Figure 12: The 3 FSC Dimensions).

Comparing Revenue Cycle FSC Dimensions

One way to think of the relationship between the 3 FSC dimensions is along a timeline. Patients provide insurance information when they are initially registered, and this becomes the original FSC. Looking at data by *FSC – Invoice Original* will give you an idea of the primary payer at the time of registration. If along the invoice adjudication process it is discovered that the patient’s primary payer is a different insurance carrier (for instance, it turns out that it is actually a workers comp claim) the patient will still reflect their personal carrier as the original FSC but there will be a FSC transfer to a workers comp FSC that will be reflected in *FSC – Invoice Current*. If partial payment is received and it is determined that the patient’s secondary insurance is responsible for a portion of the charges, another FSC transfer will move the balance and *FSC – Invoice Current* will now reflect the secondary payer. After the secondary insurance pays their portion, any remaining balance becomes the responsibility of the patient and the FSC is transferred to a self-pay FSC, reflected by *FSC – Invoice Current*. All those FSC transfers and any

Figure 13: Adjudication of an Invoice

		MEDICARE PART B (501)					
Fiscal Date	Transaction FSC	Charge Amount	Payment Amount	Credit Amount	Debit Amount	Adjustment Amount	Balance Amount
11/19/2010	USC SENIOR CARE (248)	\$1,300	\$	\$	\$1,300	\$	\$1,300
12/07/2010	MEDICARE PART B (501)	\$	\$239	\$	\$	\$1,001	(\$1,240)
	USC SENIOR CARE (248)	\$	\$	\$60	\$60	\$	\$
02/22/2011	USC SENIOR CARE (248)	\$	\$60	\$	\$	\$	(\$60)
Grand Total		\$1,300	\$299	\$60	\$1,360	\$1,001	\$

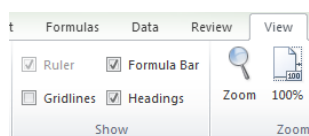
other financial activity involving FSCs are captured by *FSC – Transaction*. Since this FSC dimension holds all transactional activity, it can be used to show all the transfers that occurred in a particular invoice over time, or see all the transactional activity for a particular payer. As

Figure 13: Adjudication of an Invoice demonstrates using the Transaction FSC as row labels, a patient with USC Senior Care as the original invoice FSC generated a charge that posted on 11/19/10. On 12/7/10 a payment of \$239 was received from Medicare and an adjustment was made to the account for \$1,001. On the same date, the FSC was transferred to USC Senior Care and on 2/22/11 payment was received that brought down the balance to \$0.

Other Report Considerations

As has been mentioned in a couple of places in this document, we have made available on the MARS website Excel starter reports that are organized along the most common analytic paths you will encounter. These reports will get you started in the right direction in terms of having the correct dimensional setup (date of service vs. posting vs. invoice creation, FSC, etc.). However, there are dimensions that merit special mention since they will probably be on most of your Excel workbooks.

View Headings



Not really a dimension but an important Excel setting you will want to modify once you download a starter report from the MARS website

(<https://mars.usc.edu/>). Go to your Excel menu and click on the “View” tab, then **put** a check mark in the “Headings” checkbox...this will allow you to see the headings in your workbook which will allow you to resize columns, etc.

Group

GE Centricity Business (the source of the data in MARS) is used to bill encounters by several ‘Groups’. For most analysis related to USC Care (the faculty practice) you will want to limit the data to **group 3** which is USC CARE MEDICAL GROUP INC.

Department

Depending on your need, you may want to filter data for a particular department. Even if you want to see activity for ‘all’ departments, you will still have to filter out the following: None, Unknown, Specialty Billing (21), TES Invalid Entry (9999), USC Care Medical Group (22), and USC Care Practice Admin (23). If you are trying to tie to published reports, you will also want to exclude Occupational Therapy (18) and Physical Therapy (17).

Source System

The data available in MARS consists of data from the legacy system (IDX 4.0) that goes back to July 2006 at the transaction level and to 1998 at the invoice header level. That system was replaced by the newer version of the system starting in July 2009 so if you do not need to query data from the legacy system, you will want to filter that out.

SUMMARY

In order to keep documentation easy to consume and therefore understand, this guide deals with a small portion of the concepts and features comprising the MARS performance management platform. Please visit <https://mars.usc.edu/> to find other focused concept guides or contact us if you need assistance to best use MARS in achieving your analytic objectives.